

# **STODDARD HAZARD MITIGATION PLAN UPDATE 2013**

**Stoddard, New Hampshire**

**FEMA Approval August 22, 2013**



*Photo Credit: Town of Stoddard Website*

**Prepared by the:**

**Town of Stoddard Hazard Mitigation Committee**

**&**

**Southwest Region Planning Commission**

**20 Central Square, 2<sup>nd</sup> Floor**

**Keene, NH 03431**

**(603) 357-0557**

**[www.swrpc.org](http://www.swrpc.org)**

## TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	v
<b>I. INTRODUCTION.....</b>	<b>1</b>
Background.....	1
What is Hazard Mitigation.....	1
Authority.....	1
Funding Source.....	1
Purpose.....	1
Scope of the Plan.....	1
Methodology.....	2
Public Participation.....	2
Plan Updates.....	4
Resources Used in the Plan.....	5
Acknowledgements.....	5
Hazard Mitigation Goals of Stoddard, NH.....	6
Resource List for Hazard Mitigation Committee.....	7
<b>II. COMMUNITY PROFILE.....</b>	<b>8</b>
Town Overview.....	8
Disaster Risk.....	9
Development Patterns.....	9
Consideration for Development.....	10
Current Development Trends.....	11
Road Improvement.....	12
Development in Hazard Areas.....	12
National Flood Insurance Program (NFIP).....	12
Continued Compliance with NFIP Requirements.....	13
<b>III. HAZARD IDENTIFICATION.....</b>	<b>14</b>
List of Hazards.....	14
Estimating Potential Losses.....	14
Past and Potential Hazards.....	15
Flooding – Disaster Declarations.....	15
Flooding- Localized –High Risk.....	15
Drought - Low-Medium Risk.....	19
Extreme Heat - Medium Risk.....	20
Wildfire – Medium-High Risk.....	20
Lightning Strikes – Low-Medium Risk.....	22
Tornado - Low Risk.....	22
Hurricane – Medium-High Risk.....	22
Earthquake – Low Risk.....	23
Severe Wind/Downburst – Medium-High Risk.....	24
Extreme Winter Weather – Medium-High Risk.....	25
Man-Made Hazards / Hazardous Materials – Medium Risk.....	26
Snow Avalanche - Low Risk.....	26
Subsidence – Low-Medium Risk.....	26
Radon - Low Risk.....	26
Man-Made Hazards / Dams – Medium-High Risk.....	27
Map of Stoddard Dams.....	28
Map of Stoddard Bridges and Culverts.....	29

<b>IV. ASSESSING PROBABILITY, SEVERITY AND RISK; ESTIMATING POTENTIAL LOSSES.....</b>	<b>30</b>
Assessing Probability, Severity, and Risk Chart .....	30
<b>V.CRITICAL FACILITIES .....</b>	<b>31</b>
Category 1 – Emergency Response Services.....	31
Emergency Operations Center .....	31
Fire Station .....	31
Police Station .....	31
Emergency Shelters.....	31
Primary Evacuation Routes.....	31
Bridges Located On Primary Evacuation Routes.....	31
Communications .....	32
Hospitals.....	32
Helicopter Landing Sites .....	32
Category 2 – Non-Emergency Response Facilities .....	32
Water Supply.....	32
Problem Culverts.....	32
Category 3 – Facilities/Populations to Protect.....	32
Special Needs Population.....	32
Recreation Areas .....	32
Schools/Day Care Facilities .....	32
Historic Buildings/Sites .....	32
Category 4 – Potential Resources .....	33
Hospitals/Medical Supplies.....	33
Gas .....	33
Building Material and Heavy Equipment Supplies.....	33
Small Equipment.....	33
Snow Removal .....	33
Critical Facilities within Hazard Areas.....	33
<b>VI. EXISTING MITIGATION STRATEGIES &amp; PROPOSED IMPROVEMENTS.....</b>	<b>34</b>
Description of Existing Programs.....	34
Status of Previous Mitigation Actions .....	37
<b>VII. PROPOSED MITIGATION STRATEGIES.....</b>	<b>40</b>
Preventative (Programs/Policies).....	40
Training .....	40
Public Education & Information.....	40
Engineering.....	41
Property Protection .....	41
Structural Projects.....	41
Potential Hazard Location Mitigation Actions .....	41
Potential Hazards Actions Matrix.....	42
<b>VIII. PRIORITIZED IMPLEMENTATION SCHEDULE AND ACTION PLAN.....</b>	<b>44</b>
STAPLEE Chart .....	45
Implementation Schedule and Action Plan.....	46
<b>IX. ADOPTION, MONITORING, UPDATES, AND IMPLEMENTATION.....</b>	<b>48</b>
Adoption .....	48

Monitoring & Updates .....	48
Implementation of the Plan through Existing Programs.....	48
Continued Public Involvement .....	49
Certificate of Adoption.....	50

**APPENDICES**

Appendix A- Hazard Descriptions	
Appendix B- Resources	
Appendix C- Hazard Mitigation Resources Profiles	
Appendix D- Matrix of Federal All Hazard Grants and Funding Sources	
Appendix E- Documentation of the Planning Process	
Appendix F- Project Status Sheets	

## EXECUTIVE SUMMARY

The Stoddard Hazard Mitigation Plan serves as a means to reduce future losses from natural or man-made hazard events before they occur. The Plan was developed by the Stoddard Hazard Mitigation Committee and contains statements of policy adopted by the Board of Selectmen.

Natural hazards are addressed as follows:

- Flooding (Riverine, Ice/Snow Melt)
- Wind (Downburst, Tornado & Hurricane)
- Wildfire
- Tornadoes
- Severe Winter Weather
- Subsidence
- Radon (Air/Water)
- Drought
- Extreme Heat
- Earthquakes
- Lightning
- Snow Avalanches
- Severe Wind
- Man-Made (Hazardous Materials/Dam Breach)

The Stoddard Hazard Mitigation Committee, as shown per Chapters III and IV, identified “Critical Facilities” and “Areas at Risk” as follows:

### Critical Facilities

- Emergency Operations Center
- Fire Station
- Police Station
- Dry Hydrants/Fire Ponds/Water Sources
- Evacuation Routes & Bridges (Primary)
- Communications
- Hospitals
- Helicopter Landing Sites
- Emergency Shelters (not Red Cross approved)
- Water Supplies
- Problem Culverts
- Special Needs Populations
- Recreation Areas
- Schools/Daycare
- Historic Buildings/Sites
- Hospital/Medical Supplies
- Gas
- Heavy/Small Equipment
- Snow Removal Services

### Areas at Risk

- Highland Lake
- Island Pond
- NH 123 North over Highland Lake
- East side of Granite Lake
- North Shore Road
- Center Pond Road
- NH 123 South of NH 9
- Barrett Pond Road
- NH 123 North near Marlow Town Line
- Private Road east of Island Pond
- Bridge Hill Road
- Juniper Hill Road
- Old Forest Road
- NH 123 North, King’s Highway Area
- Mount Stoddard Road
- Old Antrim Road, Mill Village Area
- King’s Highway (many areas including area near NH 123 North and near Copeland Hill)
- Bailey Brook Road
- Highland Lake Boat Landing
- Myrtle Road
- Shedd Hill Road
- Western shore of Highland Lake
- NH 9 east of NH 123 North
- Bacon Ledge
- Chalet Drive
- Andorra Forest
- Woods Mill Area – Aten Rd
- Boulder Road
- Birch Point (Island Pond)

The Stoddard Hazard Mitigation Committee identified existing hazard mitigation programs as follows:

- School Evacuation Plan
- Emergency Back-up Power
- Local Road Design Standards
- Local Bridge Maintenance Program
- Local Road Maintenance Program
- Winter Storm Operation Plan
- Town Master Plan
- Mutual Aid – Police and Fire
- Fire Pond Program
- Hazardous Materials Spill Prevention Control & Counter Measures Plan
- Town Radio System
- Wild Water Fowl Feeding Prevention Program
- Ambulance
- State of New Hampshire Strike Force Team
- Fire Warden
- Health Officer
- Emergency Operations Plan

The Committee prioritized identified hazard mitigation strategies as follows:

Continue to develop and implement Dry Hydrant Plan
Fire department needs to be notified by NH Dams Bureau prior to water draw-down events.
Outreach efforts on Waterfowl Feeding Ordinance- including newsletter to lake associations, signs, etc.
Develop a town warning system (digital sign, website, etc.)
<u>Townwide:</u> Fuel load monitoring after severe weather events to prevent wildfires
Keep Communications open with NH DES regarding balance of outflow and inflow of floodwaters of Island Pond
Maintain ditches along Juniper Hill Road and Old Forest Road
North Shore Road: Communicate with Granite Lake Village District Commissioners regarding Dam control
Maintain compliance w/ NIMS training for EMS, EMD, Fire Dept., Police, Town Officials
Raise the road and replace existing culverts with larger ones in the Old Antrim Road Mill Village Area
Develop town-sponsored safety awareness program for public workers and public buildings
Maintain training of Fire & Police Depts. and EMD on evacuation & safety
Outreach & education for residents about protecting their homes from wildfires such as cleaning pine needles off of roofs, clean gutters, clear brush away from homes, etc (website, newsletter, events)
Public outreach & education on fire safety – carbon monoxide and smoke detectors, fire extinguishers, burn permit requirements, etc.
Outreach & education of emergency preparedness and hazard mitigation methods for residents-
Continue FEMA and state emergency management training
Build a new fire station
Increase size of culverts to prevent flooding on King’s Highway (2 Locations)
Add Future Land Use Plan to Master Plan
Continue to communicate with NH DOT to improve maintenance of culverts and shoulders along NH 123south of NH 9

## **CHAPTER I INTRODUCTION**

### **Background**

The Federal Emergency Management Agency (FEMA) has mandated that all communities within the State of New Hampshire establish local hazard mitigation plans as a means to reduce future losses from natural or man-made hazard events before they occur. In response to this mandate, the NH Bureau of Emergency Management (BEM) contracted the Southwest Region Planning Commission (SWRPC) to develop a program that would achieve this goal. SWRPC prepared a hazard mitigation planning handbook to be used by local communities as a guide in the preparation of hazard mitigation plans. SWRPC then facilitated two hazard mitigation planning processes with selected communities as pilot projects. The resulting plans laid the foundation in an effort to enable all New Hampshire Regional Planning Commissions, through education outreach, the capability to assist their local communities, such as the Town of Stoddard, in the preparation of local hazard mitigation plans.

### **What is Hazard Mitigation?**

“Hazard Mitigation means any action taken to reduce or eliminate the long-term risk to human life and property from natural hazards” (44 CFR 206.401).

### **Authority**

This Hazard Mitigation Plan was prepared under the authority of the Planning Mandate of Section 409 of Public Law 93-288 as amended by Public Law 100-707, the Robert T. Stafford Act of 1988, hereinafter referred to as the "Stafford Act." Accordingly, this All-Hazard Mitigation Plan will be referred to as the "Plan."

### **Funding Source**

This Plan Update was funded by NH Homeland Security and Emergency Management, with grants from the Flood Mitigation Assistance (FMA) Program. An in-kind match was provided by the Town of Stoddard by use of staff and volunteer time involved in developing the plan.

### **Purpose**

The Stoddard All-Hazard Mitigation Plan is a planning tool to be used by the Town of Stoddard, as well as other local, state and federal governments, in their efforts to reduce the effects from natural and man-made hazards. This plan does not constitute any sections of Stoddard's Master Plan or Town Ordinances.

### **Scope of the Plan**

The scope of this Plan includes the identification of natural hazards affecting the Town of Stoddard, as identified by the Hazard Mitigation Committee. The hazards were reviewed under the following categories as outlined in the State of New Hampshire's Natural Hazards Mitigation Plan:

- I. Flood, Erosion, Drought, Extreme Heat and Wildfire.**
- II. Geological Hazards** (Earthquake, Subsidence, and Radon).
- III. Severe Wind** (Tornado, Hurricane, Thunderstorm, Downburst and Lightning).
- IV. Winter Weather** (Snow, Ice Storm and Extreme Cold).

The Committee also discussed man-made hazards such as Dams and Hazardous Materials Spills.

### **Methodology**

Using the Guide to Hazard Mitigation Planning for New Hampshire Communities handbook, the Stoddard Hazard Mitigation Committee developed the content of the Stoddard Hazard Mitigation Plan by following the ten step process set forth in the handbook. The Committee held monthly meetings, open to the public including area business owners, schools, organizations and communities, starting May 9, 2012 through August 22, 2012, in order to develop the Plan. On April 22, 2013, the Stoddard Board of Selectmen adopted the Plan.

#### **The following are dates of Committee meetings and sub-committee meetings.**

Working committee meetings held at Stoddard Fire Station from 7-9pm on the following dates May 9, 2012; June 20, 2012; July 11, 2012, and August 22, 2012.

A mailing was made to each committee member, prior to each meeting that contained information from the previous meeting, an agenda (Appendix E), and information to be covered.

#### **Public Meetings with the Board of Selectmen:**

**April 22, 2013:** The Board of Selectmen adopted the Stoddard Hazard Mitigation Plan Update 2013.

#### **Public Participation:**

An article was printed in the Southwest Region Planning Commission Newsletter prior to the first meeting to inform the members of the community as well as surrounding communities and other interested stakeholders in participating in this plan update. Copies of the newsletter are sent to the 35 towns within the region, the Cheshire County Office, businesses, and other interested parties. It is also available on the Southwest Region Planning Commission Website.

The public was invited to participate through a posting at the Town Office prior to the first meeting. A copy of the Agenda for each meeting was also posted at the Town Offices for public viewing prior to each meeting to encourage public participation.

A copy of the draft plan was made available for public review and input at the Town Offices and on the town web page from September 10, 2012 to October 1, 2012. There were no comments by the public for the plan. A copy of the notice can be found in Appendix E.

The public will be invited to participate in the annual reviews and future updates by a notice in the local town webpage and by public notice at the Town Office.

**The Committee developed this Plan as a result of following the described meeting procedures and planning steps:**

### **Ten Step Process**

The Committee developed this Plan as a result of following the described meeting procedures and planning steps:

**Step 1: Establish a Hazard Mitigation Planning Committee**

Prior to the first public informational meeting on the *original* Hazard Mitigation Plan, the Police Chief contacted concerned residents who might wish to volunteer their time and serve on a committee. A public meeting was held on December 20, 2004. Five people signed up at that meeting to serve on the Committee and additional members were appointed; two of the five live in neighboring towns. The committee members for this update include five of the same members as the original plan and two new members.

**Step 2: Identification of Critical Facilities**

The Committee members identified the critical facilities within the Town. These were identified using four categories:

- Category 1 – Emergency Response Facilities & Services
- Category 2 – Non-Emergency Response Facilities
- Category 3 – Facilities/Populations to Protect; and
- Category 4 – Potential Resources

**Step 3: Identification of Past and Potential Hazards**

The Committee members identified hazards that could or have affected the Town of Stoddard and the locations of these past and/or potential events:

Information about all past and potential hazards is provided in Chapter III. The Hazard Mitigation Map at the end of the printed Plan shows the locations of all past and potential hazards and critical facilities.

**Step 4: Analyze Land Use and Development Trends**

The Committee was asked to determine where future development would most likely take place in town. The information was compared to other documents such as Town Reports and the Town Master Plan. Chapter II, “Community Profile,” provides this information.

**Step 5: Risk Assessment**

The Committee members completed a Risk Assessment for all of the types hazards identified in Step 3 in order to assess probability, severity and risk. Potential human impact, property impact and business impact for each hazard type were determined in addition to the likelihood of the hazard occurring within the next 25 years. Severity and risk were then calculated.

**Step 6: Identifying What Mitigation Actions are already in Place**

The Committee identified plans and policies that are already in place to reduce the effects of hazards. The Committee evaluated the effectiveness of the existing measures to identify where they can be improved. The results are found in Chapter V, “Existing Mitigation Strategies.” The Committee also identified programs in place that would not be categorized as mitigation strategies.

**Step 7: Identify the Gaps in Protection**

For each general hazard type or specific potential hazard location identified in Step 3, the Committee identified possible mitigation actions not currently in place. Each was identified using the following categories: Preventative (Programs & Policies); Property Protection; Structural; Emergency Services; and/or Public Education & Information.

**Step 8: Prioritizing Proposed Mitigation Actions**

The Committee ranked the proposed mitigation actions developed in Step 7 using the STAPLEE method which analyzes the Social, Technical, Administrative, Political, Legal, Economic and Environmental aspects of each action.

### **Step 9: Develop an Implementation Plan**

Using the prioritized list of mitigation actions identified in Step 8, the Committee developed a clear strategy that outlines who is responsible for implementing each project, as well as when and how the actions will be implemented. A review of the cost-benefits associated with each mitigation action is also presented.

### **Step 10: Adopt and Monitor the Plan**

The Committee members reviewed and approved the Plan following its completion. After acceptance by the Committee, the Plan was submitted to New Hampshire Homeland Security and Emergency Management for initial review, and then forwarded to FEMA, for formal approval. Once approved, the Plan was formally adopted by the Board of Selectmen. It is important that this plan be monitored and updated annually or after a presidentially declared disaster. Chapter VIII addresses this issue. The Town of Stoddard, NH Hazard Mitigation Plan must be reviewed, revised as appropriate, and resubmitted to FEMA for approval every **five years** in order to maintain eligibility for Pre-Disaster Mitigation Competitive (PDM-C) and Hazard Mitigation Grant Program project grants.

The Committee approved the "Prioritized Mitigation Projects" list, which identifies responsibility, funding, support and timeframe for each project. Other projects that may develop with the support of Stoddard's Emergency Management Director shall be led by the head of the department that shares that responsibility. The Selectmen's Secretary should be tasked with requesting annual reports as to the progress of each project.

It is important to the Town of Stoddard that this plan be monitored and updated annually or after a presidential disaster declaration. Chapter IX addresses this issue.

### **FEMA Final Approval: August 22, 2013**

#### **Plan Updates**

During the planning process, the Committee reviewed relevant portions of the previous hazard mitigation plan and updated those portions accordingly. Unchanged sections were incorporated into the plan while other sections were amended to reflect changes. Particular attention was given to the previous mitigation strategies that have been completed and to give a status update on those that remain on the list. The 10 step process was followed during the meetings. The original plan was used as a base to begin the update. Amendments were made in each chapter to reflect changes that have occurred during the five year period. Included in the changes were:

- Ch. I Introduction- updated Methodology, Acknowledgements, etc., and added Plan Updates;
- Ch. II Community Profile - NFIP policies updated, added Continued Compliance with NFIP;
- Ch. III Hazard Identification - updated hazards and their locations;
- Ch. IV Assessing Vulnerability - updated risk assessment and valuation;
- Ch. V Critical Facilities - updated locations and map;
- Ch. VI Existing Mitigation Strategies and Proposed Improvements - updated chart and other data, added chart for Status of Previous Mitigation Action Items;
- Ch. VII Mitigation Strategies - updated STAPLEE chart;
- Ch. VIII Prioritized Implementation Schedule - updated Action Plan;
- Ch. IX Adoption, Implementation, Monitoring and Updates - Adoption certificate, updated information;
- Appendices - agendas, resources, updated information.

This update was prepared with assistance from Planners at Southwest Region Planning Commission trained in Hazard Mitigation Planning. Data and maps used to prepare this plan are available at their office and should be used in preparing future updates.

### **Resources Used in Plan Preparation**

In addition to the Handbook that was used as a framework for this plan, additional resources used included the Town Report, Stoddard Assessment Data, Town Master Plan, NH Hazard Mitigation Plan (2010), NH DES Dam Classifications, 2010 US Census Data, the FEMA Community Information System website (to obtain data about the town's National Flood Insurance Program status), and a number of the resources identified in **Appendix C**.

### **Acknowledgements**

The Stoddard Board of Selectmen extends special thanks to the Stoddard Hazard Mitigation Committee:

Richard Gariepy, Stoddard Emergency Management Director  
Arnie Antak, Stoddard Emergency Management Deputy Director  
John Halter, Stoddard Selectmen  
PJ Lamothe, Stoddard Fire Chief and Forest Fire Warden  
Joe Sarcione, Stoddard Deputy Fire Chief and Forest Fire Warden  
David Vaillancourt, Stoddard Police Chief & Road contractor  
Ruth Ward, Stoddard Planning Board

The Stoddard Board of Selectmen offers thanks to the New Hampshire Department of Homeland Security and Emergency Management for developing the State of New Hampshire Natural Hazards Mitigation Plan <http://www.nh.gov/safety/divisions/hsem/> which served as a model for this plan. In addition, special thanks are extended to the staff of the Southwest Region Planning Commission for professional services, process facilitation and preparation of this document.

## HAZARD MITIGATION GOALS

The Stoddard Hazard Mitigation Committee reviewed the Goals set forth in the New Hampshire Hazard Mitigation Plan – 2010. The committee concurs with those goals and has adopted them as part of this plan.

### Town of Stoddard, NH

The overall Goals of the Town of Stoddard with respect to Hazard Mitigation are stipulated here:

1. To improve upon the protection of the general population, the citizens of the Town of Stoddard and guests, from all natural and man-made hazards.
2. To reduce the potential impact of natural and man-made disasters on the Town of Stoddard's Emergency Response Services, Critical Facilities, and infrastructure.
3. To reduce the potential impact of natural and man-made disasters on the Town of Stoddard's economy, natural resources, historic/cultural treasures, and private property.
4. To improve the Town of Stoddard's Emergency Preparedness and Disaster Response and Recovery Capability.
5. To reduce the Town of Stoddard's liability with respect to natural and man-made hazards through a community education program.
6. To identify, introduce and implement cost-effective Hazard Mitigation measures so as to accomplish the Town's Goals and Objectives and to raise the awareness of and acceptance of Hazard Mitigation opportunities generally.
7. To address the challenges posed by climate change as they pertain to increasing risks in Stoddard's infrastructure and natural environment.
8. To work in conjunction and cooperation with the State of New Hampshire's Hazard Mitigation Goals.

## Resource List for Hazard Mitigation Committee

Stoddard's Emergency Management Director (EMD), or designee, reviewed and coordinated with the following agencies in order to determine if any conflicts existed or if there were any potential areas for cooperation. All agencies mentioned below were contacted by Stoddard's EMD and either attended committee work sessions or provided valuable input and guidance through telephone conversation or printed data. Training support has been offered by some of those on this resource list.

### **New Hampshire Homeland Security and Emergency Management:**

33 Hazen Drive, Concord, NH 03305

**Field Representative:** Danielle Morse 603-223-3613

**Mitigation Planner:** Elizabeth Peck 603-223-3655

### **USDA, Natural Resources Conservation Service**

NRCS and Cheshire County Conservation District

11 Industrial Park Drive

Walpole, NH 03608-9744

**Field Representative:** Holly Umphrey 603-756-2988 ext. 119

### **New Hampshire Department of Transportation:**

Doug Graham (District 4) Swanzey, NH 03446 603-352-2302

### **Public Service of New Hampshire:**

Sue Blothenberg Keene, NH 03431 357-7309 Ext. 5115  
1-800-662-7764

### **Stoddard School Principal:**

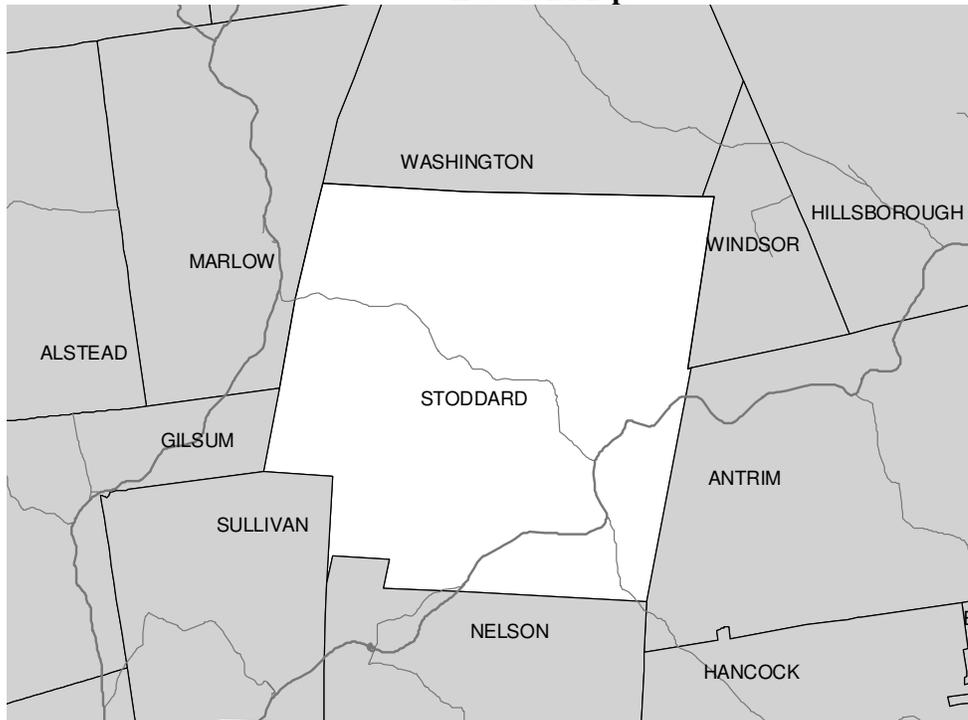
Mark Taft  
(James Faulkner Elementary School) 200 School Street 603-446-3348  
Stoddard, NH 03464

## CHAPTER II COMMUNITY PROFILE

### Town Overview

The Town of Stoddard is located in the northeastern portion of Cheshire County, in Southwest New Hampshire. Stoddard is bounded on the north side by Washington, easterly by Windsor and Antrim, southerly by Nelson and Sullivan, and westerly by Marlow and Gilsum. The Town population is 1,232.<sup>1</sup>

Location Map



The Town of Stoddard consists of 53.9 square miles of area of which 3.3%, or 1.8 square miles is inland water. Stoddard has several significant water bodies, such as Highland Lake, Island Pond, and Robb Reservoir. The northern half of Granite Lake is located in Stoddard, whereas the southern half is located in Nelson. Otter Brook begins at the outlet of Chandler Meadow in Stoddard and travels 13.2 miles to join the Minnewawa in Keene to form the Branch River. The North Branch River, a major tributary of the Contoocook River flows 16 miles from Highland Lake in Stoddard to the main stem of the Contoocook River in Hillsboro. Additionally, Stoddard has large amounts of undeveloped land: 958 developed acres and 32,385 undeveloped acres.<sup>2</sup>

A majority of Stoddard has a slope greater than 25%. The topography varies, ranging from a series of steep hills located throughout the community, Mt. Stoddard and Pitcher Mountain, to the flatter areas surrounding water bodies referenced above.

<sup>1</sup> Population data from 2010 US Census data

<sup>2</sup> 2000 data from the Town of Stoddard Master Plan Update (2005)

Stoddard has a mid-latitude climate. Average summer high temperature is 77 degrees Fahrenheit and average summer low temperature is 57 degrees Fahrenheit; average winter high temperature is 31 degrees Fahrenheit and average winter low temperature is 16 degrees Fahrenheit. Average annual precipitation is 46 inches.

A three-member Board of Selectmen governs the Town of Stoddard. The Town has a part-time Administrative Assistant to the Selectmen, an on-call Fire Chief and on-call volunteer Fire Department, a part-time Police Chief, a part-time police officer and a part-time road contractor. Area hospitals include the Cheshire Medical Center/Dartmouth-Hitchcock located in Keene, approximately 19 miles southwest of Stoddard, and the Monadnock Community Hospital is located in Peterborough, approximately 20 miles southeast of Stoddard.

### Disaster Risk

Stoddard is prone to a variety of man-made and natural hazards. These include: vehicle accidents, flooding, severe wind events, wildfire, and ice and severe winter storms.

Flooding, whether from snow run-off or heavy rains, carries the greatest risk for Stoddard. Seasonal flooding of the many small streams and wetlands has not been recorded.

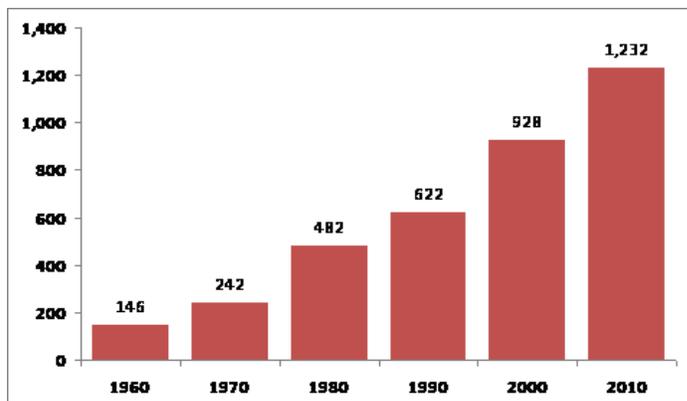
Severe wind events and hurricane residuals have caused damage to Stoddard. Several severe wind events in the past 20 years have caused some damage to structures, blown down trees and wires.

Wildfire has taken its toll on the timber stock of Stoddard as well. There have been several documented wild fires throughout town in the past 70 years. All of the eastern half of Stoddard, as well as Pitcher Mountain and some of the northwest corner of Stoddard suffered from the fires in 1941 and is still potentially at high risk due to significant slash in the area, the result of a severe ice storm in 2008.

Winter weather has proven to be a regular hazard throughout the town of Stoddard each year. Stoddard is susceptible to receiving large volumes of snow from Nor'easters due to its geographical close proximity to the east coast where these storms track. The town has also received a fair share of damage from ice storms in winter months.

### Development Patterns

Stoddard has the ninth largest percent change in the state of New Hampshire over the past 50 years. The population changed from 146 in 1960 to 1,232 in 2010. The population density and land area in 2010 was 24.2 people per square mile of land area.<sup>3</sup>



<sup>3</sup> Economic & Labor Market Information Bureau, 2011

Examination of the Town's existing land use as shown in the 2005 Stoddard Master Plan indicates that most of the Town's land area (about 94%) is undeveloped. A majority of the undeveloped land is conservation land, including land that is in current use. Conservation lands that are protected are undevelopable, while lands that are in current use may have substantial development constraints.

#### Residential

Residential uses comprise the most significant amount of developed land in terms of "active" development. The pattern of land use has not changed appreciably over the last twenty-five years; the residential uses have extended along the road frontages in all sections of town, with an increasing rate of conversion of seasonal homes to year-round use.

#### Protected Lands & Agriculture

Land in Current Use and Conservation lands as well as other undeveloped or wooded lands occupies the largest land area in town. The town had limited designated agricultural land. Agricultural activity consists primarily of small-scale, homestead farming.

#### Commercial & Industrial

Most of the businesses in Stoddard are of a home-based nature. There are a number of commercial establishments in Town. The Mill Village has a general store that has gas pumps, limited grocery items, and houses the Post Office. On Route 9, outside of the village area, are a convenience store with gas pumps, automobile repair facility, land contractors, Champney Meat-Cutting, and a boat sales and repair store. Highland Lake Marina is a full-service marina. Restoration Lumber, Inc is the only industrial use in Town.

#### Recreational

Recreational uses do not occupy a large amount of land in Town. However, the vast undeveloped land areas are interconnected trails used for recreation including hiking and snowmobiling. Stoddard has a number of lakes and ponds, including Highland Lake and Island Pond, used for a variety of recreational purposes: swimming, fishing and boating.

#### Roads and Highways

While not typically thought of as a land "use", roads and highways do take up nearly 250 acres of land.

#### Public and Semi-Public Uses

Public and semi-public uses consist of the Town Hall with offices, Fire Station, Police Department, Transfer Station/Recycling Center, Library, elementary school, and several churches and cemeteries. A post office is housed in the Village Store located in the center of town.

### **Consideration for Development**

Several factors have played, and will continue to play, an important role in the development of Stoddard. These include: the existing development pattern and availability of land for future development; the present road network; physical factors such as steep slopes, soil conditions, wetlands, and aquifers; and, land set aside for conservation. These factors have an impact, both individually and cumulatively, on where and how development occurs.

## **Current Development Trends**

Overall, land use patterns in Stoddard are dominated by single family residential development, with fairly significant seasonal, lakefront residential use. This general pattern is not expected to change. The Town has more than 22,000 acres (64%) in conservation agreements or current use designation that will limit development and promote the preservation of habitat for generations to come.

Significant features of the built environment include the Mill Village and Stoddard Center. Stoddard's 2005 Master Plan includes a policy for exploring the possibility of establishing a Historic District to preserve these areas. The Master Plan also includes a policy to develop land use regulations that guide development away from viewshed, many of which are hillsides with steep slopes.

Based on data collected and analyzed in the Land Use Analysis chapter of Stoddard's Master Plan (2005), certain assumptions can be made in anticipating future development in Stoddard:

- Stoddard should not experience any significant increase in population.
- A caveat to the assumption above, however, is the high proportion of seasonal housing around the lakes. If occupied year-round, this would have the potential to greatly impact the Town, in terms of population density around sensitive shorelines, increased numbers of school children, and demand for police, fire, highway, and other municipal services.
- The road network in and through Stoddard will remain unchanged over the next 10-15 years, aside from regular maintenance and improvements. The roads carrying traffic through Stoddard, i.e., NH 9 and NH 123, will continue to serve as subregional arterials and local collectors.

Stoddard's Hazard Mitigation Committee concurred with the Planning Board's concern that growth is primarily occurring through the addition of single-family homes along existing Class V roads. In addition, the conversion of seasonal homes to year-round use is increasing populations around all of the Town's lakes and ponds. Some potential exists along several lakes and ponds for new development. The Committee identified four significant cluster developments ranging from 5-15 lots established in the Town in the last 15-20 years.

- The Hidden Lake Development, a large subdivision located on the western shore of Highland Lake is an area of concern for erosion and flooding. There are a number of existing structures and the potential for several more homes to be built on predetermined lots.
- On the east side of Highland Lake, up to the marina, there have been a number of new homes built for year round use.
- On the northeast and northwest shores of Highland Lake, in the area inaccessible from Stoddard, there has been an increase in year round housing.
- In the southern region of Town, just northwest of Granite Lake, there is an area of new year round housing development.

As noted above, increased year round occupation of homes in Stoddard may have large impacts on Town infrastructure and services.

## **Road Improvements**

Current projects include repaving of 1.4 miles of King's Highway, a town maintained road. The Town has also encouraged the state to improve portions of Route 9 due to the winding nature of the road being incompatible with the high traffic volume. In 2006, the state completed routine maintenance known as "major resurfacing" which includes replacing guardrails, repaving, improving ditches and repairing shoulders along parts of NH 9 in Stoddard. More recently, in 2009, the state completed the repaving of NH 123.

## **Development in Hazard Areas**

Some hazards identified in this plan are regional risks and, as such, all new development falls into the hazard area. The exception to this is flooding. According to FEMA's Community Information System (CIS), as of February 9, 2009 there are 625 structures in FEMA designated Special Flood Hazard Areas (SFHs) and there have been no development permits and no variances granted within the SFHA since 1987, the earliest records kept in the CIS for the Town of Stoddard. Flooding around Highland Lake and Island Pond has the potential to threaten future development along the shorelines.

## **National Flood Insurance Program (NFIP)**

After the approval of the last Hazard Mitigation Plan, Stoddard became a participating member of the National Flood Insurance Program. Since it was identified as a priority Mitigation Action item, the town joined on the NFIP on August 3, 2010. According to information supplied by FEMA's Community Information System (November 8, 2011), there are two policies with a value on \$525,000. There are currently no "Repetitive Loss Properties" within the Town. Flood Insurance Rate Maps, all bearing the effective date of May 23, 2006, are used for flood insurance purposes and are on file with the Stoddard Planning Board. Original maps were issued on January 1, 1976. The current FIRM maps are dated May 23, 2006.

## **Continued Compliance with NFIP Requirements**

The Town of Stoddard acknowledges the importance of maintaining requirements set forth in the National Flood Insurance Program. As such, the town took several steps related to continued compliance with the program that will help to reduce or eliminate the potential for loss of life and property due to flooding.

- Joined the NFIP
- Participate in NIMS training and other training for emergency personnel
- Maintained ditches along Juniper Hill Road and Old Forest Road
- Communicated with DOT to raise road and upsize culverts also NH 123. DOT performed the work in 2011

While this update continues with structural projects, public outreach and education are also seen as a key to providing information to residents by raising an awareness of measures that they can take. NFIP training for town staff, Boards, and Commissions is another important step. Both of these have been included in the Plan: Mitigation Strategies, Chapter VII, and the Action Plan in

Chapter VIII. Many of these items will be on-going actions to maintain awareness and continued monitoring.

### **CHAPTER III HAZARD IDENTIFICATION**

The following is a list of natural and manmade disasters, and the areas affected by them, that have or could affect the Town of Stoddard. These hazards were identified from the State of New Hampshire Hazard Mitigation Plan (2010) and the Federal Emergency Management Administration website.

#### **Hazards**

Flooding- Disaster Declarations  
Flooding- Localized areas  
Drought  
Extreme Heat  
Wildfires  
Lightning  
Tornadoes  
Hurricanes  
Earthquakes  
Severe Wind/Downbursts  
Extreme Winter Weather  
Hazardous Materials Incidents  
Snow Avalanche  
Subsidence  
Radon  
Dams

#### **Estimating Potential Losses**

In order to determine estimated losses due to natural and man made hazards in Stoddard, each hazard area was analyzed. Human losses were not calculated during this exercise, but could be expected to occur depending on the type and severity of the hazard. Most of these figures exclude both the land value and contents of the structure. The value of all structures, including exempt structures such as schools and churches, is \$282,912,770, as of June 30, 2012, Annual Report. The median value of a home in Stoddard is \$219,397<sup>4</sup>. The data below was calculated using FEMA's Understanding Your Risks: Identifying Hazards and Estimating Losses (August 2008).

---

<sup>4</sup> Median home value from city-data.com 2009 data may not fully reflect current median home values. In the event of a hazard incident, a current home value data should be used to estimate losses.

<b>Hazard</b>	<b>Date</b>	<b>Location</b>	<b>Severity Remarks/Description of Areas Impacted</b>
<b>FLOODING- DISASTER DECLARATIONS</b>			
Flood	1927	Southern NH	Damage to Road Network. Many roads wash outs.
Flood	March 11-21, 1936	NH State	Damage to Road Network. Flooding caused by simultaneous heavy snowfall totals, heavy rains and warm weather. Run-off from melting snow with rain overflowed the rivers.
Flood/ Severe Storm	August 27, 1986	Cheshire, Hillsborough Counties, NH	FEMA Disaster # 771-DR (Presidentially Declared Disaster) \$1,005,000 in damage.
Flood / Severe Storm	April 16, 1987	Cheshire, Carroll, Grafton, Hillsborough, Merrimack, Rockingham, & Sullivan Counties, NH	FEMA Disaster Declaration # 789- DR (Presidentially Declared Disaster). Flooding of low-lying areas along river caused by snowmelt and intense rain. \$4,888,889 in damage.
Flood	August 7-11, 1990	Belknap, Carroll, Cheshire, Coos, Grafton, Hillsborough, Merrimack & Sullivan Counties, NH	FEMA Disaster Declaration # 876. Flooding caused by a series of storm events with moderate to heavy rains. \$2,297,777 in damage.
Storms/ Flood	January 3, 1996	Carroll, Cheshire, Coos, Grafton, Merrimack, Sullivan Counties, NH	FEMA Disaster Declaration # 1077-DR. Damage amount \$2,220,384.
Flood	July 2, 1998	Southern NH	FEMA Disaster Declaration # 1231. Severe storms and flooding
Heavy Rain/ Flood	September 18-19, 1999	Belknap, Cheshire, Grafton Counties, NH	FEMA Disaster Declaration # DR-1305-NH. Heavy rains associated with Tropical Storm/Hurricane Floyd.
Severe Storm/ Flood	September 12, 2003	Cheshire and Sullivan Counties, NH	FEMA Disaster Declaration # 1489-DR. Damage amount \$1,300,000.
Flood	October 26th 2005	Cheshire, Grafton, Merrimack, Sullivan, and Hillsborough Counties, NH	FEMA Disaster Declaration # 1610. Severe storms and flooding.
Flood	May 26-30, 2011	Coos and Grafton County	FEMA Disaster Declaration #DR- 4006. May flooding event.
Flood	May 29-31, 2012	Cheshire County	FEMA Disaster Declaration #DR-4065.
<b>FLOODING- LOCALIZED- HIGH RISK</b>			
Flooding	October 2005 and Potential Occurrences	Highland Lake	Highland Lake water levels north of the dam rose significantly due to heavy rains and runoff. Lake cottage basements within an approximately 50-foot buffer around the lake were affected. Lake cottages, basements and vehicles have the potential to be affected in future events.

<b>Hazard</b>	<b>Date</b>	<b>Location</b>	<b>Severity Remarks/Description of Areas Impacted</b>
Flooding	October 2005 and Potential Occurrences	Island Pond	Island Pond water levels rose significantly due to heavy rains and runoff. Structure basements within an approximately 100-foot buffer around Island Pond were affected. Lake cottages, basements and vehicles have the potential to be affected in future events. Increased coordination of dams on Highland Lake and Island Pond, controlling inflow and outflow has improved and was demonstrated during Hurricane Irene.
Flooding	October 2005 and potential Occurrences	NH 123 North at Boat Landing	Water overflowed the culvert and flowed across the road. No structures were affected, but approximately 20 structures have the potential to be affected. At 100% damage to 100% of the structures, estimated cost of repairing or replacing to be \$4,387,940. Cost for repairing or replacing the power lines, telephone lines, road and contents of structure are not included. Flooding of road - due to accumulation of heavy rain and runoff. Damage/repair to the road surface. Occasional road repair is required due to spring storm patterns during spring runoff and mud season.
Flooding	October 2005 and Potential Occurrences	West Shore Road	Lake stream flooded beyond banks and into adjacent yards. No structures were affected, but approximately 20 structures have the potential to be affected in future events. At 100% damage to 100% of the structures, estimated cost of repairing or replacing to be \$4,387,940. Cost for repairing or replacing the power lines, telephone lines, road and contents of structure are not included.
Flooding	October 2005 and Potential Occurrences	Center Pond Road	Water from Center Pond flooded onto the road. One structure was affected. 4 structures have the potential to be affected in a future event. At 100% damage to 100% of the structures, estimated cost of repairing or replacing to be \$950,000. Cost for repairing or replacing the power lines, telephone lines, road and contents of structure are not included.
Flooding	October 2005, past and Potential Occurrences	NH 123 South of NH 9	Flooding of wetland and streams onto NH 123 South has occurred and has the potential to occur annually in this area due to accumulation of heavy rain and runoff. This section of NH 123 South is located in the 100-year floodplain. Although past flooding has occurred along the road in this area, there is no record of damage to structures. Occasional road repair is required due to spring storm patterns, plugged culverts during spring runoff and mud season. Snow melt and accumulated runoff from heavy rains causes erosion of conveyance ditch and road along NH 123 South.

<b>Hazard</b>	<b>Date</b>	<b>Location</b>	<b>Severity Remarks/Description of Areas Impacted</b>
Flooding	October 2005, past and Potential Occurrences	Barrett Pond Road	Flooding of wetland and streams onto Barrett Pond Road has occurred and has the potential to occur annually in this area due to accumulation of heavy rain and runoff. This section of Barrett Pond Road is not located in the 100-year floodplain. Although past flooding has occurred along the road in this area, there is no record of damage to structures. Cost for repairing or replacing the bridges, power lines, telephone lines, road and contents of structures are not included. Currently, this part of Barrett Pond Road is unmaintained by the Town. No homes were or could be affected at this location.
Flooding	October 2005 and Potential Occurrences	NH 123 North, near Marlow Town Line	Water from a nearby stream flowed across NH 123. Access to several homes was affected. There is potential for approximately 12 homes to be affected by a future event. At 100% damage to 100% of the structures, estimated cost of repairing or replacing to be \$2,750,000.
Flooding	October 2005 and Potential Occurrences	Treelyn Road (Private Road)	The culvert overflowed and water flooded the road. No homes were affected, but access to 40-50 homes was affected and could be affected by a future event. The culvert was replaced with 2 larger culverts in 2006.
Flooding	Past and Potential Occurrences	Bridge Hill Road (Private Road)	A private bridge was damaged from the large amount of flowing water. Currently, emergency equipment cannot pass over the bridge. Access to 3-5 homes was affected and could be threatened by a future event.
Flooding	Past and Potential Occurrences	Juniper Hill Road	Extensive damage resulted from a road washout in this location. Access to 20 homes was affected. A larger culvert was added in 2005 to improve this location.
Flooding	Past and Potential Occurrences	Old Forest Road	Water flooded over the road. Access to approximately 6 homes could be affected by a future event.
Flooding	October 2005 and Potential Occurrences	NH 123 North, King's Highway Area	A clogged culvert on private property caused sheet flow across 123 near the intersection of King's Highway. No homes were affected, but 10 homes could be affected by a future event. At 100% damage to 100% of the structures, estimated cost of repairing or replacing to be \$2,277,000. Cost for repairing or replacing the power lines, telephone lines, road and contents of structure are not included.

<b>Hazard</b>	<b>Date</b>	<b>Location</b>	<b>Severity Remarks/Description of Areas Impacted</b>
Flooding	October 2005, past and Potential Occurrences	Mount Stoddard Road	Flooding of wetland and streams onto Mount Stoddard Road has occurred in this area due to accumulation of heavy rain and runoff. This section of Mount Stoddard Road is located in the 100-year floodplain. Although past flooding has occurred along the road in this area, there is no record of damage to structures, but access to 10 houses has been a flood-related problem in the past.
Flooding	October 2005, past and Potential Occurrences	Old Antrim Road, Mill Village Area	Flooding of Island Pond onto Old Antrim Road has occurred and has the potential to occur in this area due to accumulation of heavy rain and runoff. This section of Mount Stoddard Road is not located in the 100-year floodplain. No structures have been or could be affected by a flood incident. Cost for repairing or replacing the power lines, telephone lines, road and contents of structure are not included. Snow melt and accumulated runoff from heavy rains causes erosion of conveyance ditch and road along Hancock Road.
Flooding	October 2005, past and Potential Occurrences	King's Highway	Flooding of undersized twin culverts onto Kings Highway has occurred and has the potential to occur in this area due to accumulation of heavy rain, and runoff. This section of King's Highway is not located in the 100-year floodplain. Although past flooding has occurred along the road in this area, there is no record of damage to structures, however access to 150 homes would be threatened if severe flooding occurred.
Flooding	October 2005, past and Potential Occurrences	King's Highway (Near NH 123 North)	Flooding of undersized twin culverts onto Kings Highway has occurred and has the potential to occur in this area due to accumulation of heavy rain, and runoff. This section of King's Highway is not located in the 100-year floodplain. Although past flooding has occurred along the road in this area, there is no record of damage to structures, however access to 150 homes would be threatened if severe flooding occurred.
Flooding	October 2005 and Potential Occurrences	Bailey Brook Road	Water flowed over the bank and across the road. No homes were affected but access to 4 homes could be affected in a future event.

<b>Hazard</b>	<b>Date</b>	<b>Location</b>	<b>Severity Remarks/Description of Areas Impacted</b>
Flooding	October 2005, past and Potential Occurrences	Highland Lake Marina	Flooding of Highland Lake has occurred every three to four years and has the potential to occur in this area due to accumulation of heavy rain and runoff. This area of Highland Lake is not located in the 100-year floodplain. The store and marina have been impacted in the past and will be affected by a flood incident. There is the possibility that 6 structures could be affected by flooding in this area. The estimated cost of repair is unknown.
Flooding	October 2005, past and Potential Occurrences	King's Highway (Near Copeland Hill)	Road wash-out along King's Highway has occurred and has the potential to occur annually in this area due to accumulation of heavy rain and runoff. This section of King's Highway is not located in the 100-year floodplain. There are no structures in this area that have been or could be affected by a flood incident, though access for one home has and may be affected in the future.
Flooding	Past and Potential Occurrences	North Shore Road	Flooding from Granite Lake onto North Shore Road has occurred and has the potential to occur annually in this area due to accumulation of heavy rain and runoff, and the lower elevation of this part of the road. This location is not within the 100-year floodplain. There are 60-80 structures that could be affected by a flood incident. At 100% damage to 100% of 60 structures, estimated cost of repairing or replacing to be \$13,163,820.
Flooding	October 2005, past and Potential Occurrences	Murdough Road	High water from Island Pond which floods onto Murdough Road has occurred and has the potential to occur in this area due to accumulation of heavy rain and runoff. This section of Myrtle Road is located in the 100-year floodplain. There are 6 structures in this area that has been affected by a past flood incident. There are 9 structures in this area that could be affected by a future flood incident. At 100% damage to 100% of the structure, estimated cost of repairing or replacing to be \$1,974,573.
Flooding	Potential	Shedd Hill Road	Potential of bridge being impacted by debris blocking outlet and may flood lower village. This could result in the loss of the fire station and over 200 homes. (greater than \$4 million).
<b>DROUGHT- LOW-MED RISK</b>			
Drought	1929-1936	Statewide	Regional. Recurrence Interval 10 to > 25 years.
Drought	1939-1944	Statewide	Severe in southeast and moderate elsewhere. Recurrence Interval 10 to > 25 years.
Drought	1947-1950	Statewide	Moderate. Recurrence Interval 10 to > 25 years.

<b>Hazard</b>	<b>Date</b>	<b>Location</b>	<b>Severity Remarks/Description of Areas Impacted</b>
Drought	1960-1969	Statewide	Regional longest recorded continuous spell of less than normal precipitation. Encompassed most of the Northeastern US. Recurrence Interval > 25 years.
Drought	2001-2002	Statewide	Fourth worst drought on record, exceeded only by the drought of 1956-1966 and 1941-1942.
Drought	Spring 2012	Statewide	Considered to be drier than the drought of 1941.
<b>EXTREME HEAT- MEDIUM RISK</b>			
Extreme Heat	July, 1911	New England	11-day heat wave in New Hampshire.
Extreme Heat	Late June to September, 1936	North America	Temps to mid 90s in the northeast.
Extreme Heat	Late July, 1999	Northeast	13+ days of 90+ degree heat.
Extreme Heat	Early August, 2001	New Hampshire	Mid 90s and high humidity.
Extreme Heat	August 2-4, 2006	New Hampshire	Regional heat wave and severe storms.
In Stoddard, elderly are at risk. Quantity of and access to water sources throughout town reduces potential risk.			
<b>WILDFIRES- MEDIUM-HIGH RISK</b>			
Wildfire	1941	Marlow, Stoddard NH	A severe wildfire destroyed timber and structures throughout the northwest, northeast and southwest parts of Stoddard in April 1941. The hurricane of 1938 left behind much dry deadfall trees. A portable sawmill brought into the woods to clear the dead trees sparked and ignited the fire. Six buildings in Stoddard were burned during the fire in addition to two sawmills. A smaller second fire in May 1941 burned additional acreage in eastern Stoddard. The Marlow-Stoddard Fire April 28-30 map that shows the area through which the fire spread is located in Appendix F.
Wildfire	1995	East of Shedd Hill Road	A Public Service of New Hampshire wire break started a brush fire that burned 4-5 acres in 1995. No structures were affected.
Wildfire	2000	Western Shore of Highland Lake	A lightning strike caused a half-acre wildfire in 2000 which did not affect any structures.
Wildfire	Past and Potential Occurrences	Along NH 9 east of NH 123 North	Discarded cigarettes have caused, and have the potential to cause, brushfires along NH 9 in the past. No structures have been affected.

<b>Hazard</b>	<b>Date</b>	<b>Location</b>	<b>Severity Remarks/Description of Areas Impacted</b>
Wildfire	2001	Western Shore of Highland Lake Area, South of NH 123 North	An illegal burn caused a quarter-acre wildfire in 2001. No structures were affected.
Wildfire	Past and Potential Occurrences	Bacon Ledge	Campfires that cause brush fires have been a recurring issue at Bacon Ledge. No structures have been affected.
Wildfire	Past and Potential Occurrences	Chalet Drive	Campfires causing brush fires have been a recurring issue at this location. No structures have been affected.
Wildfire	Past and Potential Occurrences	Andorra Forest	Campfires around Pitcher Mountain and along trails within Andorra Forest, set by hikers, are an ongoing issue in Stoddard. There are approximately 10 camps that have been affected in the past and approximately 15 homes that have the potential to be affected throughout Andorra Forest. Total estimated cost of damage is unknown.
Wildfire	Past and Potential Occurrences	Peirce Preserve	Peirce preserve is held in easement by the Society for the Protection of NH Forests. There have been fires in the past started by hikers and campfires. No structures have been affected in the past, but 3 structures have the potential to be affected.
Wildfire	n/a	North Shore Road	A lightening strike caused a small brush fire in which one house was destroyed.
Wildfire	2004	Old Antrim Road	A one acre wildfire was caused by an illegal burn of hazardous materials in 2004. No structures were affected.
Wildfire	n/a	Bowlder Road	Several acres were burned from a fire that originated in Sullivan, NH. No structures were affected.
Wildfire	2005	Shedd Hill Road by Stacy Hill	A Public Service of New Hampshire wire break caused a quarter acres wildfire in 2005. No structures were affected.
Wildfire	n/a	Woods Mill Area - Aten Road	Illegal debris burns resulted in small brush fires in this location. No structures were affected.
Wildfire	2012	Turtle Rock Road	2 acres burned due to drought conditions.
Wildfire	July 2012	Pickerel Cove	Difficult access/ subterranean fire.
<p>As timber harvesting is reduced, wood roads close, and debris builds up on the ground, potential for wildfire increases town-wide. A severe ice storm incident in 1998 and 2008 created significant quantities of slash, thus increasing the potential for wildfire in this area. Entire town - limited forest fire protection (dependent on on-call firefighters and problems with accessibility). Forested areas with high fuel content have more potential to burn. Limited access for reaching a wildfire in this area. Risk increases for wooded areas with higher elevation.</p>			

<b>LIGHTNING- LOW-MEDIUM RISK</b>			
Lightning	n/a	NH 123 South of NH 9	A lightning strike was reported to have occurred in this area, though it is unclear when the incident occurred. No fire resulted and no structures were affected.
Lightning	1991	Western Shore of Highland Lake	A lightning strike in 1991 destroyed a house. No cost for repairing or replacing the structure is available.
Lightning	1998	Birch Point (Island Pond)	A lightning strike in 1998 did not cause a fire, but did result smoke damage to a house.
Lightning	2000	Western Shore of Highland Lake	A lightning strike caused a half-acre wildfire in 2000 which did not affect any structures.
Lightning	n/a	North Shore Road	A lightning strike caused a small brush fire which destroyed one house. The date of this incident is unknown. No cost for repairing or replacing the structure is available.
<b>Hazard</b>	<b>Date</b>	<b>Location</b>	<b>Severity Remarks/Description of Areas Impacted</b>
<b>TORNADOS (1950-2003, Fujita Scale given if known)- LOW RISK</b>			
Tornado	September 15, 1922	Cheshire County	F2
Tornado	September 13, 1928	Cheshire County	F2
Tornado	August 13, 1963	Cheshire County	F2
Tornado	June 6, 1963	Cheshire County	F2
Tornado	July 2, 1997	Cheshire County	F1
Tornadoes rarely occur in this part of the country; therefore, assessing damages is difficult. Buildings have not been built to Zone 2, Design Wind Speed Codes. Estimated damages to 10% of structures with 20% damages is \$3,257,000. Estimated cost does not include building contents, land values or damages to utilities.			
<b>HURRICANES (Category given if known) and TROPICAL STORMS- MEDIUM-HIGH RISK</b>			
Hurricane	August, 1635	n/a	
Hurricane	October 18-19, 1778	n/a	Winds 40-75 mph
Hurricane	October 9, 1804	n/a	
Gale	September 23, 1815	n/a	Winds > 50mph
Hurricane	September 8, 1869	n/a	
Hurricane	September 21, 1938	Southern New England	Flooding caused damage to road network and structures. 13 deaths, 494 injured throughout NH. Disruption of electric and telephone services for weeks. 2 Billion feet of marketable lumber blown down. Total storm losses of \$12,337,643 (1938 dollars). 186 mph maximum winds.
Hurricane (Carol)	August 31, 1954	Southern New England	Category 3, winds 111-130 mph. Extensive tree and crop damage in NH, localized flooding.
Hurricane (Edna)	September 11, 1954	Southern New England	Category 3 in Massachusetts. This Hurricane moved off shore but still cost 21 lives and \$40.5 million in damages throughout New England. Following so close to Carol it made recovery difficult for some areas. Heavy rain in New Hampshire.

<b>Hazard</b>	<b>Date</b>	<b>Location</b>	<b>Severity Remarks/Description of Areas Impacted</b>
Hurricane (Donna)	September 12, 1960	Southern and Central NH	Category 3 (Category 1 in NH). Heavy flooding in some parts of the State.
Tropical Storm (Daisy)	October 7, 1962	Coastal NH	Heavy swell and flooding along the coast.
Tropical Storm (Doria)	August 28, 1971	New Hampshire	Center passed over NH resulting in heavy rain and damaging winds.
Hurricane (Belle)	August 10, 1976	Southern New England	Primarily rain with resulting flooding in New Hampshire. Category 1.
Hurricane (Gloria)	September, 1985	Southern New England	Category 2, winds 96-110 mph. Electric structures damaged; tree damages. This Hurricane fell apart upon striking Long Island with heavy rains, localized flooding, and minor wind damage in New Hampshire.
Hurricane (Bob)	August 19, 1991	Southern New England	Structural and electrical damage in region from fallen trees. 3 persons were killed and \$2.5 million in damages were suffered along coastal New Hampshire. Federal Disaster FEMA-917-DR.
Hurricane (Edouard)	September 1, 1996	Southern New England	Winds in NH up to 38 mph and 1 inch of rain along the coast. Roads and electrical lines damaged.
Tropical Storm (Floyd)	September 16-18, 1999	Southern New England	FEMA DR-1305-NH. Heavy Rains.
Tropical Storm (Tammy)	October 5-13, 2005	East Coast of US	Remnants of Tammy contributed to the October 2005 floods which dropped 20 inches of rain in some places in NH.
Tropical Storm (Irene)	August 20, 2011	Cheshire County	FEMA Emergency Declaration # EM-3333 Heavy rains dumped more than 6 inches of rain in a short period of time causing flooding, power outages, severe erosion, and road washouts. No specific local damage.
<p>Stoddard's location in southwestern New Hampshire reduces the risk of extremely high winds that are associated with hurricanes. The Town has experienced small blocks of downed timber and uprooting of trees. Hurricanes can and do create flooding. Estimated wind damage 5% of the structures with 10% damage is \$418,148. Estimated flood damage 10% of the structures with 20% damage is \$3,257,000. Cost of repairing or replacing the roads, bridges, utilities, and contents of structures is not included.</p>			
<b>EARTHQUAKES (Magnitude given if known)- LOW RISK</b>			
Earthquake	1638	Central New Hampshire	6.5-7
Earthquake	October 29, 1727	Off NH/MA coast	Widespread damage Massachusetts to Maine.
Earthquake	December 29, 1727	Off NH/MA coast	Widespread damage Massachusetts to Maine.

<b>Hazard</b>	<b>Date</b>	<b>Location</b>	<b>Severity Remarks/Description of Areas Impacted</b>
Earthquake	November 18, 1755	Cape Ann, MA	6.0, much damage.
Earthquake	1800s	Statewide New Hampshire	83 felt earthquakes in New Hampshire.
Earthquake	1900s	Statewide New Hampshire	200 felt earthquakes in New Hampshire.
Earthquake	March 18, 1926	Manchester, NH	Felt in Hillsborough County.
Earthquake	December 20, 1940	Ossipee, NH	Both earthquakes of magnitude 5.5, both felt for 400,000 sq miles, structural damage to homes, damage in Boston MA, water main rupture.
Earthquake	December 24, 1940	Ossipee, NH	
Earthquake	December 28, 1947	Dover-Foxcroft, ME	4.5
Earthquake	June 10, 1951	Kingston, RI	4.6
Earthquake	April 26, 1957	Portland, ME	4.7
Earthquake	January 3, 2011	Northwest of Laconia	2.5
Earthquake	August 23, 2011	Travelled up the east coast from Virginia to New Hampshire	5.8
Earthquake	April 10, 1962	Middlebury, VT	4.2
Earthquake	June 15, 1973	Near NH Quebec Border, NH	4.8
Earthquake	January 19, 1982	Gaza (west of Laconia), NH	4.5, walls and chimneys cracked, damage up to 15 miles away in Concord.
Earthquake	October 20, 1988	Near Berlin, NH	4
Potential for serious damage in village portion of town and around lakes. Structures are mostly of wood frame construction estimated loss 20% of town assessed structural valuation \$56,582,554. Costs of repairing or replacing roads, bridges, power lines, telephone lines, or the contents of the structures are not included			
<b>SEVERE WIND/DOWNBURST- MEDIUM-HIGH RISK</b>			
Severe Wind	1985	Mill Village/Island Pond Area	Wind sheer in 1985 near Mill Village caused damaged to one structure.
Severe Wind	1991	NH 123 North, North of Cold Spring Pond	Wind sheer across NH 123 in 1991 caused no damaged to structures.
Severe Wind	1996	Sandy Beach Road	Stoddard experienced a wind sheer incident in the late 1996. No structures were affected by the incident. Downed branches and power lines.
Town at risk from severe localized blasting winds. Structural damage potential; such events cause small blocks of downed timber. High elevations at greatest risk. Old trees along roads at risk of falling and causing damage to structures during wind events. Potential for loss of electricity.			

EXTREME WINTER WEATHER- MEDIUM-HIGH RISK			
Ice Storm	December 17-20, 1929	New Hampshire	Unprecedented disruption and damage to telephone, telegraph and power system. Comparable to 1998 Ice Storm (see below).
Blizzard	February 14-17, 1958	New Hampshire	20-30 inches of snow in parts of New Hampshire.
Snow Storm	March 18-21, 1958	New Hampshire	Up to 22 inches of snow in south central NH.
Snow Storm	December 10-13, 1960	New Hampshire	Up to 17 inches of snow in southern NH.
Snow Storm	January 18-20, 1961	New Hampshire	Up to 25 inches of snow in southern NH.
Snow Storm	February 2-5, 1961	New Hampshire	Up to 18 inches of snow in southern NH.
Snow Storm	January 11-16, 1964	New Hampshire	Up to 12 inches of snow in southern NH.
Blizzard	January 29-31, 1966	New Hampshire	3rd and most severe storm of 3 that occurred over a 10-day period. Up to 10 inches of snow across central NH.
Snow Storm	December 26-28, 1969	New Hampshire	Up to 41 inches of snow in west central NH.
Snow Storm	February 18-20, 1972	New Hampshire	Up to 19 inches of snow in southern NH.
Snow Storm	January 19-21, 1978	New Hampshire	Up to 16 inches of snow in southern NH.
Blizzard	February 5-7, 1978	New Hampshire	New England-wide. Up to 25 in of snow in central NH.
Snow Storm	February, 1979	New Hampshire	President's Day storm.
Ice Storm	January 8-25, 1979	New Hampshire	Major disruptions to power and transportation.
Snow Storm	April 5-7, 1982	New Hampshire	Up to 18 inches of snow in southern NH.
Ice Storm	February 14, 1986	New Hampshire	Fiercest ice storm in 30 yrs in the higher elevations in the Monadnock region. It covered a swath about 10 miles wide from the MA border to New London NH.
Extreme Cold	Nov- Dec, 1988	New Hampshire	Temperature was below 0 degrees F for a month.
Ice Storm	March 3-6, 1991	New Hampshire	Numerous outages from ice-laden power lines in southern NH.
Ice Storm	January 15, 1998	New Hampshire	Federal disaster declaration DR-1199-NH, 20 major road closures, 67,586 without electricity, 2,310 without phone service, \$17+ million in damages to Public Service of NH alone. The incident affected the entire town except for a portion in the southern part. No damage to structures was caused by the incident. See Appendix G for affected areas map.
Snow Storm	March/April 2001	New Hampshire	Several multiple-feet snow events.
Ice Storm	December 2008	New Hampshire	Power outage in Stoddard for 5-14 days; downed power lines, restricted access to homes, significant amount of downed timber.
Snow Storm	October 29-30, 2011	Hillsborough and Rockingham County	FEMA Disaster Declaration #4049; Several feet of snow in a 24 hour period.

Three types of winter events are heavy snow, ice storms and extreme cold. These random events make it difficult to set a cost to repair or replace any of the structures or utilities affected.

**HAZARDOUS MATERIALS SPILLS- MEDIUM RISK**

HAZMAT Spills	1970s	NH 123 North, East of Highland Lake Bridge	An oil truck drove off the road into a house, leaking exhaust and gas, and pushed tanks from the house into Highland Lake on the south side of NH 123 North.
HAZMAT Spills	1991	NH 9	An accident on NH 9 in 1991 resulted in a gas leak but no spill. No structures were affected.
HAZMAT Spills	2002	NH 9, East of Old Center Road	Oil from a tractor trailer leaked into the swamp south of NH 123 North in 2002. No structures were affected.
HAZMAT Spills	2006	NH 123 North, East of Highland Lake Bridge	Oil tank in a house leaked into the lake, north of NH 123.
HAZMAT Spills	n/a	North of Marina, Highland Lake	Fuel from a boat which sank near the marina spilled into the water.
HAZMAT Spills	n/a	Carr Avenue	The gas tank of a modular home punctured during delivery, leaked into Highland Lake.

Public transportation of hazardous materials on NH 9 and NH 123, and other town roads by truck is a concern.

**SNOW AVALANCHE- LOW RISK**

If a snow avalanche were to occur, it could cause damage to roads, bridges, utilities, houses, and other structures. Steep slopes throughout the Town make avalanches a potential risk. The Town has no history of avalanche events.

**SUBSIDENCE- LOW RISK**

Subsidence is not known to have occurred but does have the potential to occur in the future. Predictable areas susceptible to subsidence could be along old river channels, quarries or old land fills.

**RADON- LOW-MEDIUM RISK**

**Summary Table of Short-term Indoor Radon Test Results in NH's Radon Database (5/7/99)**

County	# Tests	G. Mean	Maximum	% > 4.0 pCi/l	% > 12.0 pCi/l
Belknap	744	1.3	22.3	14.4	1.3
Carroll	1042	3.5	478.9	45.4	18
<b>CHESHIRE</b>	<b>964</b>	<b>1.3</b>	<b>131.2</b>	<b>15.6</b>	<b>2.3</b>
Coos	1072	3.2	261.5	41	17
Grafton	1286	2.0	174.3	23.2	5.2
Hillsborough	2741	2.1	202.3	29.6	6.8
Merrimack	1961	2.0	152.8	25.2	6
Rockingham	3909	3.0	155.3	40	9.5
Strafford	1645	3.4	122.8	44	13
Sullivan	466	1.4	29.4	15.7	2.1
<b>STATEWIDE</b>	<b>15860</b>	<b>2.4</b>	<b>478.9</b>	<b>32.4</b>	<b>8.6</b>

No known records of illness can be attributed to radon. Stoddard residents should be aware that radon is present. Houses with granite and dirt cellars are at increased risk.

**MAN MADE HAZARDS- DAMS- MEDIUM-HIGH RISK**

The State of New Hampshire classifies dams into the following four categories:

NM – Non-menace                      S – Significant hazard                      Blank- Non-Active  
 L – Low hazard                              H – High Hazard

Generally, all Class H dams need to have Emergency Action Plans, and most Class S dams also require them. According to the Department Of Environmental Services Dam Bureau, the Highland Lake Dam/Dike is the only class S dam in Stoddard. Class S and H dams require an Emergency Action Plan and the delineation of an inundation zone (see Past and Potential Hazards Map). The table below shows all the dams in the Town of Stoddard.

Dam #	Class	Status	Name	Owner	Height (ft)	Impdt (Acres)
223.01	H	Active	Highland Lake Dam/Dike	NH DES Water Division	11	711
223.02	L	Active	Robb Reservoir Dam	NH Fish & Game Dept.	11	97
223.03		Ruins	Island Pond Dam	Mr. George Preston	8	
223.04	L	Active	Island Pond Dam	NH DES Water Division	7	158
223.05		Ruins	Upper Falls Hydro Dam	Stoddard Main Company		
223.06		Ruins	Unnamed Stream Dam	Unknown		
Dam #	Class	Status	Name	Owner	Height (ft)	Impdt (Acres)
223.07	NM	Active	Otter Brook @ Woods Mill Dam	Mr. Donall Healy	9	5
223.08		Ruins	Lower Chandler Meadow Dam	Unknown	5.5	
223.09	L	Active	Cold Spring Pond Dam	Andorra Forest	9	30
223.10	NM	Active	Andorra Pond Dam	Andorra Forest	10	4.38
223.11		Breached	Chandler Pond Dam	Mr. Donall Healy	10	
223.12		Removed	By Pass Pond Dam	Town of Stoddard	8	0.08
223.13	L	Active	Hidden Pond Dam	Hidden Lake Civic Assoc.	15.5	16.4
223.14		Exempt	Upton Pond Dam	Dr. Cahill	3	14.96
223.15	NM	Active	Williams Dam	Stoddard Main Company	16	0.25
223.16	NM	Active	Pratt Wildlife Pond Dam	Terry & Martha Halvonik	8	3.5
223.17	L	Active	Pioneer Lake Dam	Sweet Water Trust	17	49
223.18		Exempt	Recreation Pond Dam	Mr. Charles Chastain	4	0.02
223.19		Exempt	Center Pond Fish Barrier	NH Fish & Game Dept	4	0.01
223.20		Exempt	Reads Pond Dam	Joan Read	5	5
223.21	NM	Active	Highland Lake South Dike	NH DES Water Division	5.5	712

The Highland Lake dam is threatened by debris. If this dam were to fail, the entire center of town would be threatened.

The Past and Potential Hazards Map depicts the location of several dams within the Town of Stoddard.  
 Source: Dam information provided by the NH Dam Bureau in 2012 and will be verified by Town officials

***The following two pages include maps of the dams, bridges and culverts in Stoddard.***

### Map of Dams in Stoddard



Town of Stoddard Dams	
	Dams
	Town Boundaries
	100-year Floodplain
	Dam Inundation
	Streams
	Ponds
	Wetlands
	NW Wetlands

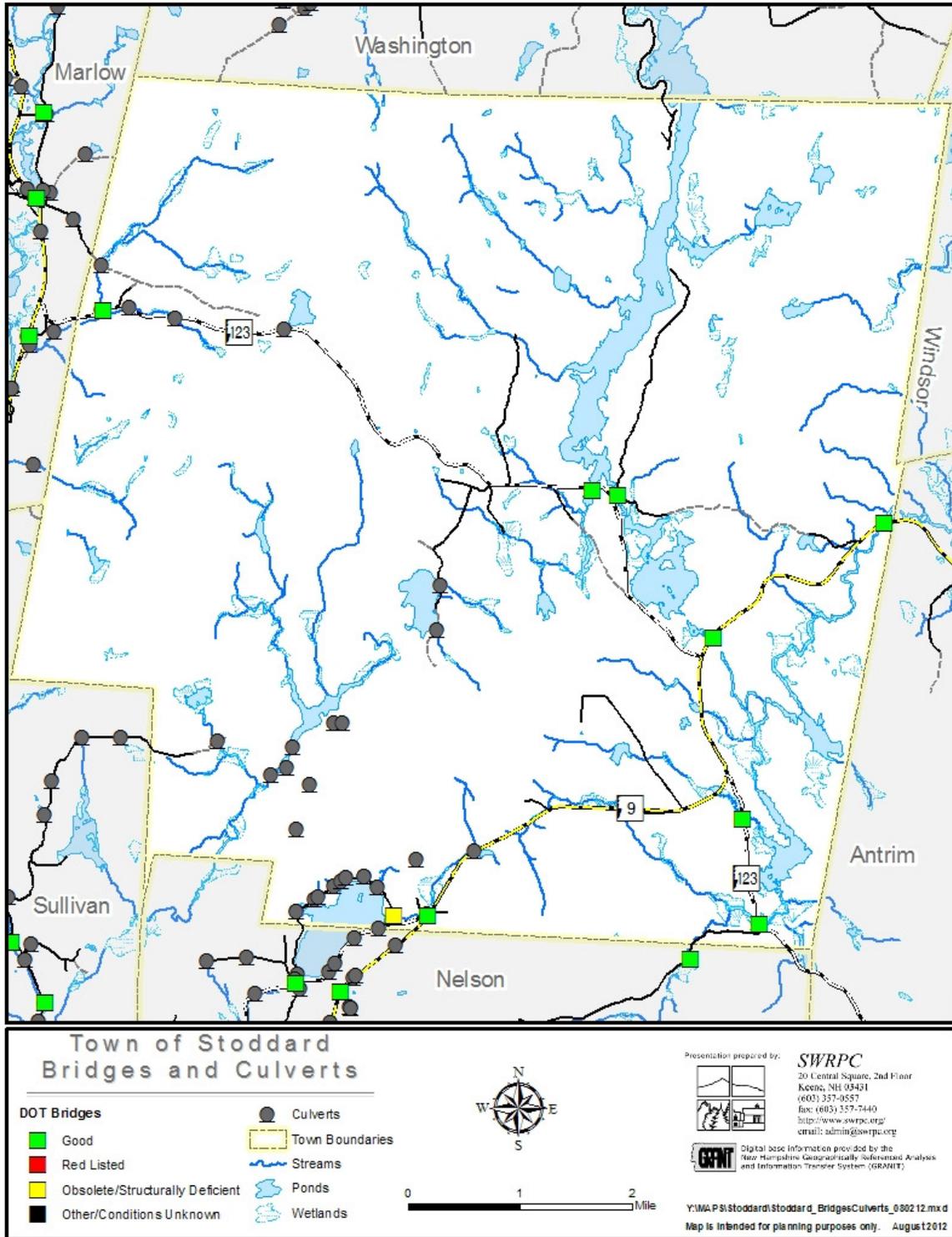
Prepared in cooperation with  
  
**SWRPC**  
 77 Centre Square, South Ferris  
 Keene, NH 03504  
 (603) 337-3557  
 Fax: (603) 337-4490  
 www.swrpc.org  
 email: info@swrpc.org

Data base information courtesy of  
 the New Hampshire Department of  
 Resources and Planning (DOR)

August 2012

Map is intended for planning purposes only.  
 Y:\MAPS\Stoddard\Stoddard\_Dams\_080212.mxd

## Map of Bridges and Culverts in Stoddard



## CHAPTER IV: ASSESSING PROBABILITY, SEVERITY AND RISK ESTIMATING POTENTIAL LOSSES

The Committee members completed Risk Assessment Worksheets for all of the types hazards identified in Chapter III. The process involved assigning Low, Medium, or High values (numerically 1, 2 or 3) to each hazard type for its possible impact to Human, Property, and Business factors. (A score of zero was given if the hazard was non-applicable). To assess probability, a 1, 2, or 3 value was assigned to each hazard type with respect to the likelihood that the hazard would occur in the next 25 years. The Severity was calculated by determining the average of the Human, Property, and Business impacts. Risk was calculated by multiplying severity by probability. Low-Medium-High risk was assigned as shown below. Estimated potential losses and areas of greatest risk are included in the table below.

0-1.9- Low      2.0-3.9- Low-Med      4-5.9- Med      6-7.9- Med-High      8-9- High

	<b>Human Impact</b>	<b>Property Impact</b>	<b>Business Impact</b>	<b>Probability</b>	<b>Severity</b>	<b>Risk</b>	<b>Risk</b>	
	Probability of death or injury	Physical Losses and damages	Interruption of Service	likelihood this will occur in 25 years	Avg. of Human/Property/Business	Severity x Probability (Relative Threat)		
Flooding	2	3	3	3	2.67	8.01	High	Highland & Granite Lakes, Island Pond
Erosion	1	3	3	3	2.33	6.99	Med-High	Town-wide
Landslide	1	1	1	1	1	1	Low	Town-wide
Drought	1	1	1	3	1	3	Low-Med	Town-wide
Extreme Heat	1.5	1	2	3	1.5	4.5	Med.	Elderly
Wild Fire	2	3	1	3	2	6	Med-High	Town-wide
Lightning	1	2	1	3	1.33	3.99	Low-Med	Town-wide
Tornado	1	1	1	1	1	1	Low	Town-wide
Hurricane	1	2	3	3	2	6	Med-High	Town-wide
Earthquake	1	1	1	1	1	1	Low	Town-wide
Subsidence	1	1	1	1	1	1	Low	Old river channels, quarries or land fills
Radon	1	1	1	3	1	3	Low-Med	Town-wide
Severe Wind	1	2	3	3	2	6	Med-High	Town-wide
Extreme Winter Weather	2	2	3	3	2.33	6.99	Med-High	High Elevation
Avalanche	1	1	1	1	1	1	Low	Town-wide
HazMat Spills	1.5	1	2	3	1.5	4.5	Med.	Town-wide
Dam Failure	3	3	3	2	3	6	Med-High	Town-wide

## CHAPTER V CRITICAL FACILITIES

A Critical Facility is defined as a building, structure, or location which:

- Is vital to the hazard response effort
- Maintains an existing level of protection from hazards for the community
- Would create a secondary disaster if a hazard were to impact it

### Critical Facilities

The Critical Facilities List for the Town of Stoddard has been identified using a Critical Facilities List provided by the State Hazard Mitigation Officer. Stoddard's Hazard Mitigation Committee has divided this list of facilities into four categories. The first category contains facilities needed for Emergency Response in the event of a disaster. The second category contains Non-Emergency Response Facilities that have been identified by the Committee as non-essential. These are not required in an emergency response event, but are considered essential for the everyday operation of Stoddard. The third category contains Facilities/Populations that the Committee wishes to protect in the event of a disaster. The fourth category contains Potential Resources, which can provide services or supplies in the event of a disaster. A table at the end of this section identifies critical facilities located in potential hazard areas.

#### **Category 1 - Emergency Response Services:**

The Town has identified the Emergency Response Facilities and Services as the highest priority in regards to protection from natural and man-made hazards.

#### **1. Emergency Operations Center**

James Faulkner Elementary School—200 School Street

#### **2. Fire Station**

New Hampshire Route 123 North

#### **3. Police Station**

Old Forest Road

#### **6. Red Cross Approved Emergency Shelters**

There are no Red Cross approved shelters. The school could be used as a limited shelter since it has installed a generator.

#### **8. Primary Evacuation Routes**

NH 123 South to Route 9  
NH 123 North to Route 10

#### **9. Bridges Located on Primary Evacuation Routes**

NH 9 near Antrim town line  
Shedd Hill Road in Mill Village  
NH 123 South near Nelson town line  
NH 9 near Antrim town line

**10. Communications**

Pitcher Mountain tower for State Police and New Hampshire Department of Resources and Economic Development, Division of Forests and Lands.

**11. Hospitals**

Cheshire Medical Center (to the Southwest in Keene)  
Monadnock Community Hospital (located to the Southeast in Peterborough)  
Concord Hospital (to the Northeast in Concord)

**12. Helicopter Landing Sites**

Fields at Pitcher Mountain (either side of NH 123 North)  
James Faulkner Elementary School (School Street)  
Intersection of NH 123 North and NH 9  
Intersection of NH 123 South and NH 9  
Mr. Mike's Gas Station, NH 9 (requires gas tanks to be shut down)  
At the bottom of Nelson bypass on NH 9 near the NH State Highway Garage

**Category 2 - Non Emergency Response Facilities:**

The town has identified these facilities as non-emergency facilities; however, they are considered essential for the everyday operation of Stoddard.

**1. Water Supply**

Lakes and Ponds (Highland Lake, Island Pond, Granite Lake, Center Pond, Robb Reservoir)

**2. Problem Culverts**

On NH 9 near Nelson town line  
Kings Highway- 2 locations, each with undersized double culverts

**Category 3 - Facilities/Populations to Protect:**

The third category contains people and facilities that need to be protected in event of a disaster.

**1. Special Needs Populations**

Aten Road

**2. Recreation Areas**

Highland Lake Marina/ Carr's Landing  
Pitcher Mountain (includes snowmobiling, Hiking, ATV, Blueberry picking)  
Granite Lake  
Island Pond  
Ballfields at Elementary School (School Street)  
Hidden Lake-Tennis/Pool facilities (Private facilities, east of Kings Highway)

**3. School/Daycare**

James Faulkner Elementary School (School Street)

**4. Historic Buildings/Sites**

Twin Stone Arch Bridge (NH 9)  
Town Hall

**Category 4 - Potential Resources:**

Contains facilities that provide potential resources for services or supplies.

**1. Hospitals/Medical Supplies**

- Cheshire Medical Center (Keene)
- Monadnock Community Hospital (Peterborough)
- Concord Hospital (Concord)

**2. Gas**

- State facilities in Hillsborough, Swanzey – Base Hill Road
- Land contractors identified in the Town’s Emergency Operations Plan
- Mr. Mike’s (NH9)

**3. Heavy Equipment Suppliers**

- Land Contractors Co. (NH 9, Stoddard)
- J & S Cordwood (NH 123)
- Town road contractor
- John Lightbody

**4. Small Equipment**

- Town road contractor
- John Lightbody

**5. Snow Removal**

- Land Contractors Co. (NH 9, Stoddard)
- Town road contractor
- J & S Cordwood (NH 123)
- John Lightbody
- Phil Hamilton

**Critical Facilities within Hazard Areas**

Some hazards identified in this plan are regional risks and, as such, all critical facilities fall into the hazard area. The exception to this is flooding. There are no identified critical facilities that fall within the 100-year floodplain.

**Critical Facilities and Evacuation Routes Potentially Affected by Hazard Areas**

Hazard Type	Hazard Area	Critical Facilities Affected	Evacuation Routes Affected
Flooding	NH 123 east of Doe Road	None Affected	NH 123 (P*)
	NH 123 South	Primary Evacuation Route Bridge	NH 123 (P)
	King’s Highway	Critical Culvert	None
	King’s Highway	Critical Culvert	None
	NH 123 and Old Forest Road	Police Station	NH 123 (P)
	NH 123 by Highland Lake	Critical Culvert	NH 123 (P)
	Highland Lake Flooding	Areas of Population- Recreational Facilities	None
	NH 9, South of Island Pond	None Affected	NH 123 (P)
	NH 123 and Kings Street	None Affected	NH 123 (P)
	Murdough Road and NH 123 North	None Affected	NH 123 (P)

\*(P)= primary evacuation route

## CHAPTER VI EXISTING MITIGATION STRATEGIES AND PROPOSED IMPROVEMENTS

This step involves identifying existing mitigation strategies and Town programs, and evaluate their effectiveness. This section outlines those programs and recommends improvements to ensure the highest quality emergency services possible.

### Existing Mitigation Strategies and Proposed Improvements

Existing Protection	Description /Area Covered	Responsible Local Agent	Effective -ness	Proposed Improvements and Comments
<b>School Evacuation Plan</b> – Designated plan to evacuate the Elementary schools in the event of an emergency or disaster addressing bussing, transportation routes (primary and alternative), traffic & crowd control, end destination and parental notification. Stoddard’s School Evacuation Plan has served as a model plan for several surrounding communities. The Stoddard Fire, Police, and School Departments are responsible for implementing this plan	Elementary School	School Superintendent SAU 24	Good	Needs to be shared with Police Department, Fire Department, and Emergency Services. Review to see if tests for effectiveness may be good strategy. A secondary road has been added for access.
<b>Emergency Back-up Power Program</b> – The Town has one 11+/- KW generator for emergency back-up power at the school which serves as the Emergency Operation Center. The Fire Department has two portable generators and a larger one for the fire station.	School, fire station, and 2 portable generators	Fire Dept.	Average	Can run Town Hall or schools as limited shelter Town Hall is wired for generator.
<b>Local Road Design Standards</b> – Standards set by the town and the Highway Department to ensure a constant construction benchmark	Town-wide	Planning Board	Average	Follows State standards and Incorporate access management and road cut specifications in to regulations on Town Class V highways
<b>Local Bridge Maintenance Program</b> – All local bridges in Stoddard are inspected annually and maintained by the NH Department of Transportation. Guidelines and schedules for annual upkeep are established by NH DOT	Shedd Hill Road North Shore Road	Town Selectmen	Good	Both replaced recently Shedd Hill Road – 10 years North Shore Road – 20 years DOT inspects annually
<b>Local Road Maintenance Program</b> - Stoddard allocates funds each year to various roadway projects, such as resurfacing, culvert replacement and repair. The amount allocated for the FY 11/12 Summer Maintenance program is \$150,000 and for the Winter Maintenance program, \$48,000	Town-wide	Selectmen/ Town Meeting Vote	Average – Good	Project prioritized annually by Selectmen with input from public and Road contractor (contractor) Most roads are gravel and dirt
<b>Winter Storms Operations Plan</b> – A set of guidelines for the Highway Department and town personnel to follow during times of extreme winter weather	Town-wide	Selectmen/Con tractor	Good	DOT Plans 9/123 Contractor has routine for clearing during school time of day

Existing Protection	Description /Area Covered	Responsible Local Agent	Effective -ness	Proposed Improvements and Comments
<p><b>Town Master Plan</b> – A Guidance document to ensure that overall development in town is sustainable, meeting the needs of the citizens by setting forth steps and guidelines for a sound living environment through well planned growth. Reviewed annually by Planning Board</p>	Town-wide	Planning Board	Good	Updated 2005. Need a Future Land Use Plan
<p><b>Mutual Aid</b> – Provides assistance to all aspects of Stoddard’s Emergency Management Services in town. Southwest New Hampshire Fire Mutual Aid (SWNHFMA) and the Cheshire County Sheriff’s Department provide mutual aid to Stoddard. SWNHFMA serves 83 cities and towns and the Cheshire County Sheriff’s Department serves all communities within Cheshire County. Also member of NH Strike Force Team</p>	Town-wide	Fire and Police	Good	Southwest New Hampshire Fire Mutual Aid Area accessed by Washington is handled by Hillsborough Dispatch and the Town of Washington Daytime coverage is limited. Also, member of State of NH Strike Force Team. Washington area covered by Washington PD Cheshire County Sheriff’s Dept. Limited coverage all the time
<p><b>Fire Pond Management Plan</b> - This designates a maintenance schedule for the local dry hydrants used by the Fire Department for water supply for fire prevention and suppression</p>	Town-wide – Large Ponds	Fire Department	Average	Occasionally contact Selectmen to contact State to raise lake level by replacing boards for dams
<p><b>Hazardous Materials Spill Prevention Control and Counter Measures Plan</b> – This plan is on hand with the Fire Dept in the event that there is an incident. Personnel in the Fire Dept receive regular training for handling hazardous materials spills. SWNHFMA’s Haz-Mat Team is called upon in the event of a major spill</p>	Town-wide	Fire Department	Good	Fire Department is trained to identify and secure HazMat incidents Keene HazMit Team responds
<p><b>Town Radio System</b> – The Town has both mobile and portable radios for the Police Department. The Fire Department utilizes analog radios with digital capabilities</p>	Town-wide	Fire Department Police Department	Average	Mobiles and Portables Fire on analog but capable of going digital. Grant funding provided new radios. EMD has pager. Antenna has been added to EOC
<p><b>Wild Water Fowl Feeding Prevention Policy</b> – The Water Fowl Feeding Policy is meant to deter people from feeding the fowl, causing them to linger. The water fowl defecate about 20 times a day, according to NH DES. They pose a hazard to the water quality by the large amounts of E Coli bacteria that come from their waste. Causing them to linger, awaiting the next hand-out is a serious health problem</p>	Town-wide	Selectmen	Average	Stoddard passed an ordinance against feeding waterfowl to protect surface water quality.
<p><b>Ambulance Service</b> – The Town currently contracts with the Town of Antrim for its Ambulance services. Additional ambulance service is provided by Diluzio Ambulance Service</p>	Town-wide through Mutual Aid	Antrim Ambulance, Washington Ambulance	Good	Washington Service provides services for west and east side of Highland Lake from Merrywood Rd to NH 31

Existing Protection	Description /Area Covered	Responsible Local Agent	Effective -ness	Proposed Improvements and Comments
<b>Forest Fire Warden</b> – Duties of the Forest Fire Warden include fire prevention, preparedness and suppression. The Warden also grants burn permits to residents	Town-wide	Fire Warden	Good	Lots of forested and wooded land Very good communication/cooperation with Police and Fire Depts. Five deputy wardens with specific tasks
<b>Health Officer</b> – The Town’s Health Officer routinely inspects all failed septic systems, wells, and other inspections as required.	Town-wide	Health Officer	Good	Health Officer was appointed in July 2006.
<b>Emergency Operations Plan</b> – The town’s Emergency Operations Plan establishes protocol for all town departments in the event of an emergency	Town-wide	Selectmen Emergency Management Director	Good	Put to use during ’05 – ’06 flood, 2008 ice storm, and 2011 Tropical Storm Irene. Review per state regulations annually
<b>Building Codes</b> - Stoddard follows the State Building Codes	Town-wide	Fire Chief/NH Fire Marshall	Average	State Codes used
<b>Emergency Services</b> - Fire, Police and Emergency Management	Town-wide	Fire, Police, EMD	Good	Updates have been made to Police & Fire. More upgrades needed-ongoing to meet town needs.

**Status of Previous Priority Mitigation Actions**

The following table provides a status update for the Priority Mitigation Actions identified in the original *Plan*. Previously identified mitigation actions are noted as completed, deleted, or deferred to the updated *Plan's* new mitigation strategies list.

MITIGATION ACTION	STATUS	EXPLANATION OF STATUS
School Evacuation Plans: Develop and share with Police and Fire Departments	Completed	Completed
Add Future Land Use Plan to Master Plan: The master plan was recently updated but a Future Land Use Plan should be developed	Deferred	Updates needed; will remain on list
Emergency Operations Plan: Plan should be updated and reviewed as required.	Completed	Completed; awaiting approval
Identify other medical professionals in town who could be called in the event of a hazard incident	Completed	List completed
Emergency Power: Purchase generators for school	Completed	Generator installed at the school
Road Design Specifications: Incorporate Access Management and road cut specifications in local ordinance	Completed	Added to local regulations/ordinances
Develop a campaign to recruit volunteers	Completed	Completed
Keep Communications open with NH DES regarding balance of outflow and inflow of floodwaters of Island Pond	Completed	Completed and ongoing
Develop town-sponsored safety awareness program	Completed	Completed and continue outreach efforts.
Purchase antenna for radio communications on the school	Completed	Completed in 2006-07
Maintain compliance with FEMA and state training, including NIMS training	Completed	Completed and ongoing
Move the Emergency Operations Center from flood prone area	Completed	School is new Emergency Operations Center (EOC)
Build a new fire station	Deferred	Lack of funding. Will remain as an Action Item.
Purchase supplies for the Emergency Operation Center	Completed	Completed
Join the National Flood Insurance Program	Completed	Stoddard joined NFIP August 3, 2010
Develop and Improve communication among and between departments regarding capital spending	Completed	Completed

MITIGATION ACTION	STATUS	EXPLANATION OF STATUS
Investigate developing a town warning system	Deferred	Lack of funding. Town will continue to develop a warning system.
Improve communication between Police and other emergency services, Planning and Zoning boards and Selectmen	Completed	Completed and ongoing.
Develop a short and long range plan for Police	Completed	Upgrades to staffing and equipment. Plans will continue to develop to meet town needs.
Train Fire and Police Department and Emergency Management on evacuation and safety	Completed	Completed and ongoing.
Adopt building codes including state and residential	Completed	Action completed. Will use updates as they become available.
Maintain ditches along Juniper Hill Road and Old Forest Road	Completed	Completed and ongoing.
Continue current monitoring of Island Pond and Highland Lake Dams; use mutual aid system to bring in other boats to assist in an emergency	Completed	Completed and ongoing during storms and high water events.
North Shore Road: Communicate with Granite Lake Village District Commissioners regarding Dam control	Deferred	Added as an Action Item in this plan.
Communicate with DOT to improve maintenance of culverts and shoulders along NH 123 S of NH 9	Completed	Completed and ongoing as required.
NH 123 North at Boat Landing: Communicate with DOT to raise the road, improve culverts under NH 123	Completed	Road raised and new culverts installed in 2011.
<u>Townwide:</u> Selective cutting and fuel load monitoring to prevent wildfires	Completed	Load monitoring done after storm events.
Andorra Forest: Public awareness regarding burning and restrictions on fire setting	Completed	Outreach and education; fire sign monitored regularly.
Increase public awareness about the possibility of fire in the area of Peirce Preserve	Completed	Outreach and education; fire sign monitored regularly.
Provide information to residents and business owners about evacuation routes and emergency procedures for NH 9, NH 123 and other town roads	Completed	Done during emergencies with signs.
Raise the road and replace existing culverts with larger ones in the Old Antrim Road Mill Village Area	Deferred	Funding needed; keep as Mitigation Action Item.
Increase public awareness regarding possible flooding at Highland Lake Marina	Deleted	Flooding in this area not a threat.

MITIGATION ACTION	STATUS	EXPLANATION OF STATUS
Communicate with the NH DES regarding increasing outflow of Island Pond at Murdough Road (open gates sooner)	Completed	Gates are opened sooner and has been effective in recent storm events.
Increase public awareness regarding the possibility of flooding danger at NH 123 North near Marlow Town line, Treelyn Rd, Bridge Hill Rd, Mt. Stoddard Rd, Bailey Brook Rd-	Completed	Public awareness done during recent storm events due to flooding experienced.
Increase size of culverts to prevent flooding on King's Highway (2 Locations)	Deferred	Added as an Action Item in this plan.
Increase public awareness regarding the importance of keeping private culverts clean on NH 123 North near King's Highway:	Completed	Public awareness done during recent storm events due to flooding experienced (Hurricane Irene)
<u>West Shore Road, Highland Lake and Island Pond (all around):</u> 1) Public awareness of possibility of flooding. 2) Consider stricter building setbacks	Completed	Setbacks are stricter due to NH State Shoreland Protection Act.
Establish the School as a cooling center in the case of extreme heat	Deleted	Not a suitable location for cooling. The school does not have air conditioning.

## CHAPTER VII PROPOSED MITIGATION STRATEGIES

The Hazard Mitigation Committee held a brainstorming session during the second committee meeting. In order to determine mitigation projects, the Committee used the following objectives:

**Preventative (Programs & Policies)**  
**Training**  
**Public Education & Information**  
**Engineering Projects**  
**Property Protection**  
**Structural Projects**

With these in mind, the Committee reviewed their overall goals and the hazards, both man-made and natural, as identified in Chapter III. The Committee created a list of possible projects from the types of hazards for which Stoddard is at risk. These non-prioritized items are in the directory below. A prioritized list and implementation schedule is included in the next chapter.

### **Preventative (Programs/Policies):**

- Maintain communication between and among departments regarding capital spending needs.
- Continue town-sponsored safety awareness programs, such as health awareness, fire awareness and evacuation.
- Continue developing a town warning system.

### **Training:**

- Maintain training of Fire Department, Police Department and Emergency Management on evacuation and safety.
- Continue to train volunteer Emergency Medical Services and Fire Fighters one time per month.
- Continue with FEMA and state emergency management training.
- Maintain compliance with National Incident Command System (NIMS) training for EMS, Emergency Management Director, Fire Department, Police, Town Officials.

### **Public Education & Information:**

- Inform public about protecting homes from wildfires (“Wildland/Urban Interface”), such as keeping pine needles off roof, clean gutters, clearing brush away from homes, etc.
- Educate public on the importance of and how to properly install and use carbon monoxide and smoke detectors, and fire extinguishers.
- Education on evacuation procedures.
- Coordinate dissemination of safety/hazard awareness information.
- Develop an ongoing campaign to recruit volunteers for all areas.
- Continue educating public regarding fire/burn permit requirements.

**Engineering:**

- Keep communications open with NH DES regarding balancing outflow and inflow of floodwaters of Island Pond.
- Communicate with NH Department of Environmental Services to assess the viability of the Island Pond Dam.
- Raise NH 123 North from Fire Station to NH 9, and Boat Landing. These areas flood with heavy rains.

**Property Protection:**

- Continue communicating with NH Department of Environmental Services regarding the installation of weather station at the marina on Highland Lake.
- Fire Department needs to be notified from NH Dam Bureau prior to water draw downs.

**Structural Projects:**

- New Fire Station. October 2005 floods washed away much of the fill on which the building is sitting, causing settling and instability in the foundation in the back of the Station.

**Potential Hazard Location Mitigation Actions**

The Stoddard Hazard Mitigation Committee identified mitigation actions for the locations identified as possible future hazard areas identified in Chapter III. The Potential Hazard Actions Matrix on the following page identifies these proposed mitigation actions. The matrix includes the hazard type (Column 1), location (Column 2), objective (Column 3), risk(s) (Column 4), mitigation actions (Column 5), and comments (Column 6). Mitigation actions identified in the matrix are further considered in Chapter VII, and where determined feasible, have been integrated into the Hazard Mitigation Implementation Schedule.

The Hazard Mitigation Committee made it a priority to focus the town's hazard mitigation efforts on hazards most likely to affect the community. Therefore, some hazards which have the potential to occur town-wide, but are unpredictable in terms of when, where, and how it would affect the community if it did occur, may not have identified mitigation strategies. The Committee agreed that potential mitigation strategies for each hazard type should be further considered during the annual review of the plan.

## POTENTIAL HAZARDS ACTION MATRIX

Hazard Type	Location	Objective	Risk(s)	Mitigation Actions	Comments
Flooding	North Shore Road near Granite Lake	Reduce threat to driver safety, access to homes, and access to evacuation routes caused by flooding on the road.	60-80 homes	Communicate with Granite Lake Village District Commissioners regarding Dam Control through village district	Outreach & education through lake association newsletter
	Old Antrim Road, Mill Village Area	Reduce threat to driver safety, access to homes, and access to evacuation routes caused by flooding on the road.	0 homes	Raise the road, and replace existing culverts with larger ones	Current mitigation action item
	Kings Highway, Twin Culverts	Reduce threat to driver safety, access to homes, and access to evacuation routes caused by flooding on the road.	Access to ~150 Homes	Increase size of undersized culverts.	Stormwater Management
	Kings Highway near NH 123 North	Reduce threat to driver safety, access to homes, and access to evacuation routes caused by flooding on the road.	Access to ~150 Homes	Increase size of undersized culverts	Stormwater Management
	Highland Lake (All Around)	Reduce threat to resident safety, access to homes, and access to evacuation routes caused by flooding of Highland Lake.	Lake cottages, basements, vehicles threatened	Keep communications open with NH DES for inflow and outflow.	Building setbacks are now stricter from high-water mark due to Shoreland Protection Act.
	Island Pond (All Around)	Reduce threat to resident safety, access to homes, and access to evacuation routes caused by flooding of Highland Lake.	Lake cottages, basements, vehicles threatened	Keep communications open with NH DES for inflow and outflow.	Building setbacks are now stricter from high-water mark due to Shoreland Protection Act.
	Center Pond Road	Reduce threat to driver safety, access to homes, and access to evacuation routes caused by flooding on the road.	4 homes	Public awareness of possibility of flooding danger. Consider stricter building setbacks from high water mark	Outreach and education.
	Juniper Hill Road	Reduce threat to driver safety, access to homes, and access to evacuation routes caused by flooding on the road.	Access to ~ 20 homes	Maintain ditch along sides of road	Culvert upsized in 2005
	Old Forest Road	Reduce threat to driver safety, access to homes, and access to evacuation routes caused by flooding on the road.	Access to ~ 6 homes	Maintain ditch along sides of road	Stormwater Management
Drought	Town-wide	n/a	Low-Med	This town-wide issue is unpredictable in terms of when, where, and how it would affect the community. Outreach and education.	Outreach and education.
Extreme Heat	Town-wide	If persistent, establish a place where residents can escape from the heat	Medium	Identify populations at risk	Outreach and education.
Wildfires	Town-wide	Protect structures from the effects of wildfire.	Med-High	Fuel load monitoring after weather events to prevent forest fires.	Monitor after weather events.
	Peirce Preserve	Protect structures from the effects of wildfire.	~3 homes	Continue public awareness regarding burning and restrictions on fire-setting	Fire sign is changed as conditions change.
	Andorra Forest	Protect structures from the effects of wildfire.	~15 homes and 10 camps	Continue public awareness regarding burning and restrictions on fire-setting	Fire sign is changed as conditions change.
Lightning Strikes	Town-wide, high elevations	n/a	Low-Med	This town-wide issue is unpredictable in terms of when, where, and how it would affect the community. Outreach and education.	Outreach and education.

Hazard Type	Location	Objective	Risk(s)	Mitigation Actions	Comments
Earthquakes	Town-wide	n/a	Low	This town-wide issue is unpredictable in terms of when, where, and how it would affect the community. Outreach and education.	Outreach and education.
Tornado	Town-wide	n/a	Low	This town-wide issue is unpredictable in terms of when, where, and how it would affect the community. Outreach and education.	Outreach and education.
Subsidence	Old river beds	n/a	Low	Outreach and education.	Outreach and education.
Radon Air/Water	Town-wide	n/a	Low-Med	This town-wide issue is unpredictable in terms of when, where, and how it would affect the community. Outreach and education.	Outreach and education.
Hurricane	Town-wide	n/a	Med-High	This town-wide issue is unpredictable in terms of when, where, and how it would affect the community. Outreach and education.	Outreach and education.
Severe Wind/Downburst	Town-wide	n/a	Med-High	This town-wide issue is unpredictable in terms of when, where, and how it would affect the community. Outreach and education.	Outreach and education.
Extreme Winter Weather	Town-wide	n/a	Med-High	Monitor the weather from the EOC. Develop an early warning system for notifying residents of pending extreme weather incidents. Provide information regarding shelter locations and emergency procedures both in advance of and during an incident.	Consider methods of notifying residents such as website, emails, etc.
Snow Avalanches	Town-wide	n/a	Low	This town-wide issue is unpredictable in terms of when, where, and how it would affect the community. Outreach and education.	Outreach and education.
Man-Made Hazards – Hazardous Materials Hazards	Along NH 9, NH 123 and other town roads	Prevent hazardous materials hazards that could threaten the health and safety of residents and business owners/employees	Med	1) Continue mutual aid with the Keene Hazardous Response team, 2) Provide information to residents and business owners about evacuation routes and emergency procedures	Mutual Aid
Man-Made Hazards – Dams	Island Pond Dam	Prevent a dam breach that could affect life safety and/or cause property damage.	Med-High	Continue current monitoring the level of the Lake. Utilize Mutual Aid system to bring in other boats to assist.	Breach would threaten NH 9
	Highland Lake Dam	Prevent a dam breach that could affect life safety and/or cause property damage.	Med-High	Continue current monitoring the level of the Lake. Utilize Mutual Aid system to bring in other boats to assist. Fire Department must follow Highland Lake Dam procedure	Breach would threaten NH 9, NH 123, Center of Town, and downstream into Antrim; Fire Dept. needs to be notified by NH Dam Bureau prior to water draw-downs.

## CHAPTER VIII

### PRIORITIZED IMPLEMENTATION SCHEDULE AND ACTION PLAN

#### Preliminary Prioritization

Each proposed mitigation strategy identified in the previous section was ranked in order to determine a prioritized list of strategies to implement. The method of ranking used for this Hazard Mitigation Plan was the STAPLEE method.

**STAPLEE** is an acronym for a general set of criteria common to public administration officials and planners. It stands for the Social, Technical, Administrative, Political, Legal, Economic and Environmental criteria for making planning decisions. Questions to ask about suggested actions include:

Each mitigation strategy was evaluated and assigned a score (Good = 3, Average = 2, Poor = 1) based on the STAPLEE criteria. The committee filled in the following table to reach a total score. Each strategy is prioritized according to the total score. The highest scoring strategies are determined to be of most importance, economically, socially, technically, administratively, politically, legally, economically and environmentally.

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

<b>Mitigation Strategy</b>	Is it <b>Socially</b> acceptable?	Is it <b>Technically</b> feasible and potentially successful?	Is it <b>Administratively</b> workable?	Is it <b>Politically</b> acceptable?	Is there <b>Legal</b> authority to implement?	Is it <b>Economically</b> beneficial?	Is it <b>Environ-mentally</b> beneficial?	Total Score
Continue to develop and implement Dry Hydrant Plan	3	3	3	3	3	3	3	21
Fire Department needs to be notified by NH Dam Bureau prior to water draw downs.	3	3	3	3	3	3	3	21
Increase size of culverts to prevent flooding on King's Highway (2 Locations)	3	3	3	3	3	3	3	21
Add Future Land Use Plan to Master Plan	3	3	3	3	3	3	3	21
Continue to communicate with NH DOT to improve maintenance of culverts and shoulders along NH 123south of NH 9	3	3	3	3	3	3	3	21
Outreach efforts on Waterfowl Feeding Ordinance-including newsletter to lake associations, signs, etc.	3	3	3	3	3	3	3	21
Develop a town warning system (digital sign, website, etc.)	3	3	3	3	3	3	3	21
<u>Townwide:</u> Fuel load monitoring after severe weather events to prevent wildfires	3	3	3	3	3	3	3	21
Keep Communications open with NH DES regarding balance of outflow and inflow of floodwaters of Island Pond	3	3	3	3	3	3	3	21
Maintain ditches along Juniper Hill Road and Old Forest Road	3	3	3	3	3	3	3	21
North Shore Road: Communicate with Granite Lake Village District Commissioners regarding Dam control	3	3	3	3	3	3	3	21
Maintain compliance w/ NIMS training for EMS, EMD, Fire Dept., Police, Town Officials	3	2.5	2.5	3	3	3	3	20
Raise the road and replace existing culverts with larger ones in the Old Antrim Road Mill Village Area	3	3	2	3	3	3	3	20
Develop town-sponsored safety awareness program for public workers and public buildings	3	3	2	3	3	3	3	20
Outreach & education for residents about protecting their homes from wildfires such as cleaning pine needles off of roofs, clean gutters, clear brush away from homes, etc (website, newsletter, events)	3	2	2	3	3	3	3	19
Public outreach & education on fire safety – carbon monoxide and smoke detectors, fire extinguishers, burn permit requirements, etc.	3	2	2	3	3	3	3	19
Outreach & education of emergency preparedness and hazard mitigation methods for residents-	3	2	2	3	3	3	3	19
Continue FEMA and state emergency management training	3	3	1.5	3	3	1.5	3	18
Build a new fire station	3	3	2	1.5	3	2	3	17.5

## Implementation Schedule and Action Plan

The Stoddard Hazard Mitigation Committee developing an action plan that outlines who is responsible for implementing each of the prioritized strategies determined in the previous chapters, as well as when and how the actions will be implemented. The following questions were asked to develop an implementation schedule for the identified priority mitigation strategies:

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

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

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

Each strategy's total score from the ranking process is included in the table. As additional information becomes available regarding project leadership, timeline, funding sources, and/or cost estimates, the Plan will be reviewed and amended accordingly.

Mitigation Action	Who (Leadership)	When (Deadline)	How (Cost and Funding Source)	Cost/Benefit Comments
Continue to develop and implement Dry Hydrant Plan	Fire Chief	2013-2018	Grants & Town Budget \$5,000-\$10,000 per unit	Extremely beneficial
Fire Department needs to be notified by NH Dam Bureau prior to water draw downs.	Emergency Management Director	2013-2018/ prior to each draw down	Town Budget; under \$100	Benefits outweigh costs
Increase size of culverts to prevent flooding on King's Highway (2 Locations)	Road contractor/Board of Selectmen	2013-2018	Grants & Town Budget; \$10,000-\$20,000	Very beneficial
Add Future Land Use Plan to Master Plan	Planning Board	2014	Town Budget; under \$100	Benefits outweigh costs
Continue to communicate with NH DOT to improve maintenance of culverts and shoulders along NH 123south of NH 9	Road contractor	Annually; 2013-2018	Town Budget; under \$100	Benefits outweigh costs
Outreach efforts on Waterfowl Feeding Ordinance- including newsletter to lake associations, signs, etc.	Board of Selectmen	Annually; 2013-2018	Town Budget; under \$100	Benefits outweigh costs
Develop a town warning system (digital sign, website, etc.)	Emergency Management Director	2014	Grants & Town Budget \$400-\$1,500	Very beneficial
<u>Townwide:</u> Fuel load monitoring after severe weather events to prevent wildfires	Fire Warden	2013-2018	Town Budget; Under \$500	Benefits outweigh costs

<b>Mitigation Action</b>	<b>Who (Leadership)</b>	<b>When (Deadline)</b>	<b>How (Cost and Funding Source)</b>	<b>Cost/Benefit Comments</b>
Keep Communications open with NH DES regarding balance of outflow and inflow of floodwaters of Island Pond	Emergency Management Director	2013-2018; During weather events	Town Budget; Under \$500	Benefits outweigh costs
Maintain ditches along Juniper Hill Road and Old Forest Road	Road contractor	Annually; 2013-2018	Town Budget; Inc. in annual contract; approx. \$10,000	Very beneficial
North Shore Road: Communicate with Granite Lake Village District Commissioners regarding Dam control	EMD/Board of Selectmen	2013-2018; During weather events	Town Budget; under \$100	Benefits outweigh costs
Maintain compliance w/ NIMS training for EMS, EMD, Fire Dept., Police, Town Officials	Emergency Management Director	Annually; 2013-2018	No cost	Benefits outweigh costs
Raise the road and replace existing culverts with larger ones in the Old Antrim Road Mill Village Area	Road contractor/Board of Selectmen	2016-2018	Town Budget/grants;\$ 15,000-30,000	Very beneficial
Develop town-sponsored safety awareness program for public workers and public buildings	Board of Selectmen	2013	Grants & Town Budget \$1,500	Required
Outreach & education for residents about protecting their homes from wildfires such as cleaning pine needles off of roofs, clean gutters, clear brush away from homes, etc (website, newsletter, events)	Emergency Management Director	Annually; 2013-2018	Town Budget; Under \$500	Benefits outweigh costs
Public outreach & education on fire safety – carbon monoxide and smoke detectors, fire extinguishers, burn permit requirements, etc.	Fire Chief	Annually; 2013-2018	Town Budget; Under \$500	Life Safety- extremely beneficial
Outreach & education of emergency preparedness and hazard mitigation methods for residents-	Emergency Management Director	2013	Town Budget; Under \$500	Life Safety- extremely beneficial
Continue FEMA and state emergency management training	Emergency Management Director	Annually; 2013-2018	Grants & Town Budget; Under \$500	Very beneficial
Build a new fire station	Fire Chief	2013-2018	approximately\$ 1,000,000	Needed to be in compliance

## **CHAPTER IX**

### **ADOPTION, MONITORING, UPDATES AND IMPLEMENTATION**

#### **Adoption**

The Stoddard Board of Selectmen adopted the Stoddard Hazard Mitigation Plan Update 2013 on April 22, 2013. A copy of the resolution can be found at the end of this chapter. Adopted policy addresses the actions for implementation set forth in the chart “Implementation Strategy for Priority Mitigation Actions” in Chapter VIII and in the “Monitoring & Updates” sub-section contained in this Chapter. All other sections of this Plan are supporting documentation for information purposes only and are not included as the statement of policy.

#### **Monitoring & Updates**

Recognizing that many mitigation projects are ongoing, and that while in the implementation stage communities may suffer budget cuts, experience staff turnover, or projects may fail altogether, a good plan needs to provide for periodic monitoring and evaluation of its successes and failures and allow for updates of the Plan where necessary.

In order to track progress and update the Mitigation Strategies identified in the Action Plan (Chapter VII), the Town Hazard Mitigation Team will revisit the Stoddard Hazard Mitigation Plan annually, or after a hazard event. The Emergency Management Director is responsible for initiating this review and needs to consult with the Board of Selectmen and other key local officials. Changes should be made to the Plan to accommodate for projects that have failed or are not considered feasible after a review for their consistency with the timeframe, the community’s priorities, and funding resources. Priorities that did not make the implementation list, but identified as potential mitigation strategies, should be reviewed as well during the monitoring and update of this Plan to determine feasibility of future implementation. In keeping with the process of adopting the Stoddard Hazard Mitigation Plan Update 2013, a public hearing to receive public comment on Plan maintenance and updating will be held during the annual review period and the final product adopted by the Board of Selectmen appropriately.

The Town of Stoddard Hazard Mitigation Plan must be reviewed, revised as appropriate, and resubmitted to FEMA for approval every five years in order to maintain eligibility for Pre-Disaster Mitigation Competitive (PDM-C) and Hazard Mitigation Grant Program project grants.  
FEMA Final Approval: **August 22, 2013**

#### **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 Stoddard Hazard Mitigation Plan Update 2013 receives the attention it requires for satisfactory use.

#### **Master Plan**

Implementation of the Master Plan has been ongoing since its most recent adoption in 2005. Recommendations from the Stoddard Hazard Mitigation Plan Update 2013 will be considered for insertion into future updates of the Master Plan. The Planning Board will consider the Plan as an amendment to its Master Plan. The Local Hazard Mitigation Committee will oversee the process to begin working with the Planning Board to ensure that the Stoddard Hazard Mitigation Plan Update 2013 is considered as a chapter or appendix of the Master Plan.

#### **Zoning Ordinance and Regulations**

Some of the implementation strategies proposed involve revisions to the Subdivision Regulations and/or the Site Plan Review Regulations as well as the Zoning Ordinance. The Local Hazard Mitigation Committee will oversee

the process to begin working with the Planning Board to develop appropriate language for the recommended modifications.

**Continued Public Involvement**

On behalf of the Hazard Mitigation Committee, the Emergency Management Director (EMD), 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 the yearly update process, techniques that may be utilized for public involvement include:

- Provide personal invitations to Budget Committee members;
- Provide personal invitations to town department heads;
- Post notices of meetings at the Town Office, Library, and local businesses;
- Post flyers of the project at the Town Office, Library, and local businesses; and
- Submit newspaper articles for publication to the Keene Sentinel and the Monadnock Ledger;
- Post notice on Town website.

A number of Implementation Action items which will be undertaken relate to public education and involvement. Additionally, members of the public including area business owners, schools, communities, and organizations will be invited to participate in the yearly process of updating the Stoddard Hazard Mitigation Plan. These outreach activities will be undertaken during the Plan's annual review and during any Hazard Mitigation Committee meetings the Board of Selectmen calls to order.

**CERTIFICATE OF ADOPTION  
TOWN OF STODDARD NEW HAMPSHIRE  
BOARD OF SELECTMEN  
A RESOLUTION ADOPTING THE  
STODDARD  
HAZARD MITIGATION PLAN UPDATE 2013**

WHEREAS, the Town of Stoddard established a Committee to prepare the Stoddard Hazard Mitigation Plan Update 2013; and

WHEREAS, several public planning meetings were held in 2012 regarding the development and review of the Stoddard Hazard Mitigation Plan Update 2013; and

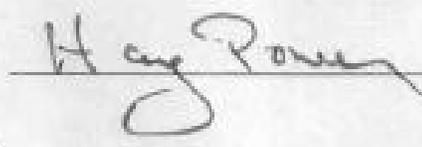
WHEREAS, the Stoddard Hazard Mitigation Plan Update 2013 contains several potential future projects to mitigate hazard damage in the Town of Stoddard; and

NOW, THEREFORE BE IT RESOLVED that the Stoddard Board of Selectmen adopts the Stoddard Hazard Mitigation Plan Update 2013.

ADOPTED AND SIGNED this May 20, 2013

  
Chair  
Board of Selectmen





ATTEST  
  
JAMES E. COFFEY, JR.  
Notary Public / Justice of the Peace  
My Commission Expires January 13, 2015

# **APPENDICES**

**APENDIX A**  
**HAZARD DESCRIPTIONS**

The following list describes hazards that have occurred or have the potential to occur in the Town of Stoddard. The descriptions provided are those used in the State of NH Hazard Mitigation Plan (2010).

### 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. Inland floods are most likely to occur in the spring due to the increase in rainfall and melting of snow; however, floods can occur at any time of the year. A sudden thaw in the winter or a major downpour in the summer can cause flooding because there is suddenly a lot of water in one place with nowhere to go.

#### *100-year Floodplain Events*

- 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. Rather, 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 of flood.” What this means is that there is a 1% chance of a flood of that size happening in a year.

#### *Rapid Snow Pack Melt*

- Warm temperatures and heavy rains cause rapid snowmelt. Quickly melting snow coupled with moderate to heavy rains are prime conditions for flooding.

#### *River Ice Jams*

- Rising waters in early spring breaks 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 collecting in river bends and against structures presents significant flooding threats to bridges, roads, and the surrounding lands.

#### *Severe Storms*

- Flooding associated with severe storms can inflict heavy damage to property. Heavy rains during severe storms are a common cause of inland flooding.

#### *Beaver Dams and Lodging*

- Flooding associated with beaver dams and lodging can cause road flooding or flooding damage to property.

### 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 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.

### Extreme Heat

Extreme heat is characterized by abnormally high temperatures and/or longer than average time periods of high temperatures. These event conditions may impact the health of both humans and livestock. The State Hazard Mitigation Team is conducting additional research to more accurately characterize extreme heat hazards.

### Wildfire

Wildfire is defined as an uncontrolled and rapidly spreading fire.

### *Forest Fires and Grass Fires*

- 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.

### Earthquake

New England is considered a moderate risk earthquake zone. 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, water 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.

### Subsidence

The collapse of the Earth's surface elevation due to the removal of subsurface support. Events range from broad regional lowering of the land surface that occurs over long periods of time, to sudden localized collapse.

### 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 U.S. Environmental Protection Agency's "action level" of four Pico curies per liter for at least some portion of the year. Radon may also enter homes dissolved in drinking water from drilled wells. A higher level of radon in water from individual drilled wells is a common occurrence in New Hampshire.

### Tornado

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.

### Hurricane

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

### Severe Wind

Significantly high winds occur especially during tornadoes, hurricanes, 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 severe wind occurrences.

#### *Downburst*

- 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.

#### Lightning

Lightning is a giant spark of electricity that occurs within the atmosphere or between the atmosphere and the ground. As lightning passes through the air, it heats the air to a temperature of about 50,000 degrees Fahrenheit, considerably hotter than the surface of the sun. Fires are a likely result of lightning strikes, and lightning strikes can cause death, injury, and property damage.

#### Extreme Winter Weather

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

#### *Heavy Snow Storms*

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

#### *Ice Storms*

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

#### *Nor'easter*

- 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. The sustained winds may meet or exceed hurricane force, with larger bursts, and may exceed hurricane events by many hours (or days) in terms of duration.

#### Snow Avalanches

A snow avalanche is a slope failure consisting of a mass of rapidly moving, fluidized snow that slides down a mountainside. The flow can be composed of ice, water, soil, rock and trees.

#### Man-Made Hazards

##### *Hazardous Materials*

- Hazardous materials spills or releases can cause damage or loss to life and property. Short or long-term evacuation of local residents and businesses may be required, depending on the nature and extent of the incident.

##### *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.

**APPENDIX B:**  
**RESOURCES**

## RESOURCES USED IN THE PREPARATION OF THIS PLAN

- NH HSEM's *State of New Hampshire Natural Hazards Mitigation Plan* (2000, 2004, 2007, 2010)  
SWRPC's *Hazard Mitigation Planning for New Hampshire Communities* (10/02)  
BEM's *Hazard Mitigation Plan for New Hampshire Communities* (12/97 draft document)  
BEM/ NH OEP's *Flood Insurance Handbook* (4/94)  
FEMA's *Understanding Your Risks: Identifying Hazards and Estimating Losses*, (August 2001)  
FEMA's *Local Multi-Hazard Mitigation Planning Guidance*, (July 1, 2008)  
FEMA's *Local Mitigation Plan Review Guide*, (October 1, 2011)  
FEMA's *Community Information System* (CIS)  
Town of Stoddard, *Master Plan*  
Town of Stoddard, *Annual Report* (2011)  
Town of Stoddard, NH's *Hazard Mitigation Plan* (2007)

### Agencies

<b>New Hampshire Homeland Security and Emergency Management (HSEM)</b> .....	271-2231
Field Representative Hillsborough County .....	271-2231
Field Representative Cheshire County .....	271-2231
Preparedness Planner: .....	271-2231
<b>Federal Emergency Management Agency (FEMA)</b> .....	877-336-2734
<b>NH Regional Planning Commissions:</b>	
Central NH Regional Planning Commission .....	226-6020
Lakes Region Planning Commission .....	279-8171
Nashua Regional Planning Commission .....	424-2240
North Country Council .....	444-6303
Rockingham Planning Commission .....	778-0885
Southern New Hampshire Planning Commission .....	669-4664
Southwest Region Planning Commission .....	357-0557
Strafford Regional Planning Commission .....	994-3500
Upper Valley Lake Sunapee Regional Planning Commission .....	448-1680
<b>NH Executive Department:</b>	
Governor's Office of Energy and Community Services .....	271-2611
<b>NH Department of Cultural Resources:</b> .....	271-2540
Division of Historical Resources .....	271-3483
<b>NH Department of Environmental Services:</b> .....	271-3503
Air Resources .....	271-1370
Air Toxins Control Program.....	271-0901
Asbestos Program.....	271-1373
Childhood Lead Poisoning Prevention Program.....	271-5733
Environmental Health Tracking Program.....	271-4072
Environmental Toxicology Program .....	271-3994
Health Risk Assessment Program.....	271-6909
Indoor Air Quality Program.....	271-3911
Occupational Health and Safety Program.....	271-2024
Radon Program.....	271-4764
Geology Unit .....	271-3503
Pollution Preventive Program.....	271-6460
Waste Management .....	271-2900
Water Supply and Pollution Control .....	271-3414
Rivers Management and Protection Program .....	271-8801
<b>NH Office of Energy &amp; Planning (OEP)</b> .....	271-2155
Jennifer Gilbert, State Coordinator, Floodplain Management.....	271-1762
<b>NH Municipal Association</b> .....	224-7447
<b>NH Fish and Game Department</b> .....	271-3421
Region 1, Lancaster.....	788-3164
Region 2, New Hampton.....	744-5470
Region 3, Durham .....	868-1095

Region 4, Keene .....	352-9669
<b>NH Department of Resources and Economic Development:</b> .....	271-2411
Economic Development .....	271-2629
Travel and Tourism .....	271-6870
Division of Forests and Lands .....	271-2214
Division of Parks and Recreation .....	271-3556
Design, Development, and Maintenance .....	271-2411
<b>NH Department of Transportation</b> .....	271-3734
<b>Northeast States Emergency Consortium, Inc. (NESEC)</b> .....	(781) 224-9876
<b>US Department of Commerce:</b> .....	(202) 482-2000
NOAA: National Weather Service; Taunton, Massachusetts .....	(508) 824-5116
<b>US Department of the Interior:</b> .....	202-208-3100
US Fish and Wildlife Service .....	225-1411
US Geological Survey .....	225-4681
US Army Corps of Engineers .....	(978) 318-8087
<b>US Department of Agriculture:</b>	
Natural Resource Conservation Service .....	868-7581
Cheshire County, Walpole .....	756-2988
Sullivan County, Newport .....	863-4297
Hillsborough County, Milford .....	673-2409 Ext. #4

### Mitigation Funding Resources

404 Hazard Mitigation Grant Program (HMGP).....	NH Homeland Security and Emergency Management
406 Public Assistance and Hazard Mitigation.....	NH Homeland Security and Emergency Management
Community Development Block Grant (CDBG) .....	NH HSEM, NH OEP, also refer to RPC
Dam Safety Program .....	NH Department of Environmental Services
Emergency Generators Program by NESEC <sup>‡</sup> .....	NH Homeland Security and Emergency Management
Emergency Watershed Protection (EWP) Program.....	USDA, Natural Resources Conservation Service
Flood Mitigation Assistance Program (FMAP) .....	NH HSEM, NH OEP
Flood Plain Management Services (FPMS) .....	US Army Corps of Engineers
Mitigation Assistance Planning (MAP) .....	NH Bureau of Emergency Management
Mutual Aid for Public Works .....	NH Municipal Association
National Flood Insurance Program (NFIP) <sup>†</sup> .....	NH OEP, NH HSEM
Power of Prevention Grant by NESEC <sup>‡</sup> .....	NH Bureau of Emergency Management
Project Impact .....	NH Bureau of Emergency Management
Roadway Repair & Maintenance Program(s).....	NH Department of Transportation
Section 14 Emergency Stream Bank Erosion & Shoreline Protection .....	US Army Corps of Engineers
Section 103 Beach Erosion .....	US Army Corps of Engineers
Section 205 Flood Damage Reduction .....	US Army Corps of Engineers
Section 208 Snagging and Clearing .....	US Army Corps of Engineers
Shoreline Protection Program .....	NH Department of Environmental Services
Various Forest and Lands Program(s) .....	NH Department of Resources and Economic Development
Wetlands Programs .....	NH Department of Environmental Services

<sup>‡</sup>NESEC - Northeast States Emergency Consortium, Inc. is a 501(c)(3), not-for-profit natural disaster, multi-hazard mitigation and emergency management organization located in Wakefield, Massachusetts. Please, contact NH BEM for more information or visit the Consortium's website at <http://www.nesec.org/index.cfm>.

<sup>†</sup> Note regarding **National Flood Insurance Program (NFIP)** and **Community Rating System (CRS)**:

The National Flood Insurance Program has developed suggested floodplain management activities for those communities who wish to more thoroughly manage or reduce the impact of flooding in their jurisdiction. Through use of a rating system (CRS rating), a community's floodplain management efforts can be evaluated for effectiveness. The rating, which indicates an above average floodplain management effort, is then factored into the premium cost for flood insurance policies sold in the community. The higher the rating achieved in that community, the greater the reduction in flood insurance premium costs for local property owners. The NH Office of Energy & Planning can provide additional information regarding participation in the NFIP-CRS Program.

## Websites

<b>Sponsor</b>	<b>Internet Address</b>	<b>Summary of Contents</b>
Natural Hazards Research Center, U. of Colorado	<a href="http://www.colorado.edu/hazards/">http://www.colorado.edu/hazards/</a>	Searchable database of references and links to many disaster-related websites.
National Emergency Management Association	<a href="http://nemaweb.org">http://nemaweb.org</a>	Association of state emergency management directors; list of mitigation projects.
NASA - Goddard Space Flight Center "Disaster Finder:	<a href="http://disasterfinder.gsfc.nasa.gov/Disaster_Management/">http://disasterfinder.gsfc.nasa.gov/Disaster_Management/</a>	Searchable database of sites that encompass a wide range of natural disasters.
NASA Natural Disaster Reference Database	<a href="http://gcmd.gsfc.nasa.gov/index.html">http://gcmd.gsfc.nasa.gov/index.html</a>	Searchable database of worldwide natural disasters.
U.S. State & Local Gateway	<a href="http://www.statelocal.gov/">http://www.statelocal.gov/</a>	General information through the federal-state partnership.
National Weather Service	<a href="http://nws.noaa.gov/">http://nws.noaa.gov/</a>	Central page for National Weather Warnings, updated every 60 seconds.
USGS Real Time Hydrologic Data	<a href="http://waterdata.usgs.gov/nwis/rt">http://waterdata.usgs.gov/nwis/rt</a>	Provisional hydrological data
Dartmouth Flood Observatory	<a href="http://www.dartmouth.edu/~floods">http://www.dartmouth.edu/~floods</a>	Observations of flooding situations.
FEMA, National Flood Insurance Program, Community Status Book	<a href="http://www.fema.gov/fema/csb.shtm">http://www.fema.gov/fema/csb.shtm</a>	Searchable site for access of Community Status Books
Florida State University Atlantic Hurricane Site	<a href="http://www.met.fsu.edu/explores/tropical.html">http://www.met.fsu.edu/explores/tropical.html</a>	Tracking and NWS warnings for Atlantic Hurricanes and other links
National Lightning Safety Institute	<a href="http://lightningsafety.com/">http://lightningsafety.com/</a>	Information and listing of appropriate publications regarding lightning safety.
NASA Optical Transient Detector	<a href="http://thunder.msfc.nasa.gov/research.html">http://thunder.msfc.nasa.gov/research.html</a>	Space-based sensor of lightning strikes
LLNL Geologic & Atmospheric Hazards	<a href="http://www.llnl.gov/hmc/">http://www.llnl.gov/hmc/</a>	General hazard information developed for the Dept. of Energy.
The Tornado Project Online	<a href="http://www.tornadoproject.com/">http://www.tornadoproject.com/</a>	Information on tornadoes, including details of recent impacts.
National Severe Storms Laboratory	<a href="http://www.nssl.noaa.gov/">http://www.nssl.noaa.gov/</a>	Information about and tracking of severe storms.
Earth Satellite Corporation	<a href="http://www.earthsat.com/">http://www.earthsat.com/</a>	Flood risk maps searchable by state.
USDA Forest Service Web	<a href="http://www.fs.fed.us/land">http://www.fs.fed.us/land</a>	Information on forest fires and land management.
FEMA, NFIP Public Awareness (Free) Materials Orders Web Site	<a href="http://www.fema.gov/library/">http://www.fema.gov/library/</a>	FEMA website to order free educational materials
Firewise Communities	<a href="http://www.firewise.org/">http://www.firewise.org/</a>	Information to help reduce risk of wildland fires.
Municipal Research and Services Center of Washington (State) Web Site on Wildfire Prevention	<a href="http://www.mrsc.org/subjects/pubsafe/wildfire.aspx">http://www.mrsc.org/subjects/pubsafe/wildfire.aspx</a>	Excellent number of resources related to wildfire prevention
Franklin County (Washington) Emergency Management, Fact Sheet on Wildland Fires	<a href="http://www.franklinem.org/wildfires.html">http://www.franklinem.org/wildfires.html</a>	Provides information related to reducing risk of wildland fires.

## **APPENDIX C:**

# **HAZARD MITIGATION RESOURCE PROFILES**

The following are fact sheets about the various hazard mitigation grant programs



FEMA

# Program Information Mitigation

## Hazard Mitigation Assistance

The Department of Homeland Security (DHS) Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance (HMA) programs present a critical opportunity to reduce the risk to individuals and property from natural hazards while simultaneously reducing reliance on Federal disaster funds.

### A COMMON GOAL

While the statutory origins of the programs differ, all share the common goal of reducing the risk of loss of life and property due to natural hazards.

### FUNDING DISASTER RECOVERY EFFORTS

The Hazard Mitigation Grant Program (HMGP) may provide funds to States, Territories, Indian Tribal governments, local governments, and eligible private non-profits following a Presidential major disaster declaration .



## The Unified Hazard Mitigation Assistance Grant Programs

### Authorities and Purpose

The Hazard Mitigation Grant Program (**HMGP**) is authorized by Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended (the Stafford Act), Title 42, United States Code (U.S.C.) 5170c. The key purpose of HMGP is to ensure that the opportunity to take critical mitigation measures to reduce the risk of loss of life and property from future disasters is not lost during the reconstruction process following a disaster. HMGP is available, when authorized under the Presidential major disaster declaration, in the areas of the State requested by the Governor. The amount of HMGP funding available to the



Applicant is based upon the total Federal assistance to be provided by FEMA for disaster recovery under the major disaster declaration.

The Pre-Disaster Mitigation (**PDM**) program is authorized by Section 203 of the Stafford Act, 42 U.S.C. 5133. The PDM program is designed to assist States, Territories, Indian Tribal governments, and local communities to implement a sustained pre-disaster natural hazard mitigation program to reduce overall risk to the population and structures from future hazard events, while also reducing reliance on Federal funding from future major disaster declarations.

The Flood Mitigation Assistance (**FMA**) program is authorized by Section 1366 of the National Flood Insurance Act of 1968, as amended (NFIA), 42 U.S.C. 4104c, with the goal of reducing or eliminating claims under the National Flood Insurance Program (NFIP). The Repetitive Flood Claims (**RFC**) program is authorized by Section 1323 of the NFIA, 42 U.S.C. 4030, with the goal of reducing flood damages to individual properties for which one or more claim payments for losses have been made under flood insurance coverage and that will result in the greatest savings to the National Flood Insurance Fund (NFIF) in the shortest period of time. The Severe Repetitive Loss (**SRL**) program is authorized by Section 1361A of the NFIA, 42 U.S.C. 4102A, with the goal of reducing flood damages to residential properties that have experienced severe repetitive losses under flood insurance coverage and that will result in the greatest amount of savings to the NFIF in the shortest period of time.

The Repetitive Flood Claims (**RFC**) program is authorized by Section 1323 of the NFIA, 42 U.S.C. 4030, with the goal of reducing flood damages to individual properties for which one or more claim payments for losses have been made under flood insurance coverage and that will result in the greatest savings to the National Flood Insurance Fund (NFIF) in the shortest period of time.

The Severe Repetitive Loss (**SRL**) program is authorized by Section 1361A of the NFIA, 42 U.S.C. 4102A, with the goal of reducing flood damages to residential properties that have experienced severe repetitive losses under flood insurance coverage and that will result in the greatest amount of savings to the NFIF in the shortest period of time.

The Severe Repetitive Loss (**SRL**) program is authorized by Section 1361A of the NFIA, 42 U.S.C. 4102A, with the goal of reducing flood damages to residential properties that have experienced severe repetitive losses under flood insurance coverage and that will result in the greatest amount of savings to the NFIF in the shortest period of time.



Additional HMA resources, including the HMA Unified Guidance may be accessed at [www.fema.gov/government/grant/hma/index.shtm](http://www.fema.gov/government/grant/hma/index.shtm)

# program comparisons

## Cost Share Requirements

### COST SHARE

In general, HMA funds may be used to pay up to 75 percent of the eligible activity costs. The remaining 25 percent of eligible costs are derived from non-Federal sources.

The table to the right outlines exceptions to the 75 percent Federal and 25 percent non-Federal share.

Programs	Mitigation Activity Grant (Percent of Federal/Non-Federal Share)
HMGP	75/25
PDM	75/25
PDM—subgrantee is small impoverished community	90/10
PDM—Tribal grantee is small impoverished community	90/10
FMA	75/25
FMA—severe repetitive loss property with Repetitive Loss Strategy	90/10
RFC	100/0
SRL	75/25
SRL—with Repetitive Loss Strategy	90/10

### ELIGIBLE APPLICANTS AND SUBAPPLICANTS

States, Territories, and Indian Tribal governments are eligible HMA Applicants. Each State, Territory, and Indian Tribal government shall designate one agency to serve as the Applicant for each HMA program.

All interested subapplicants must apply to the Applicant. The table to the left identifies, in general, eligible subapplicants. For specific details regarding eligible subapplicants, refer to 44 CFR Part 206.434(a) for HMGP and 44 CFR Part 79.6(a) for FMA and SRL. For HMGP and PDM see 44 CFR Part 206.2(16) for a definition of local governments.

## Eligible Subapplicants

✓ Subapplicant is eligible for program funding

	HMGP	PDM	FMA	RFC	SRL
State agencies	✓	✓	✓	✓	✓
Tribal governments	✓	✓	✓	✓	✓
Local governments/communities	✓	✓	✓	✓	✓
Private non-profit organizations (PNPs)	✓				

Individuals and businesses are not eligible to apply for HMA funds, however, an eligible subapplicant may apply for funding to mitigate private structures. RFC funds are only available to subapplicants who cannot meet the cost share requirements of the FMA program.

## Available Funding

HMA programs are subject to the availability of appropriation funding or funding based on disaster recovery expenditures, as well as any directive or restriction made with respect to such funds.

HMGP funding depends on federal assistance provided for disaster recovery, while PDM, FMA, RFC, and SRL funding is appropriated annually by Congress.

# program comparisons (continued)

## Eligible Activities

### ELIGIBLE ACTIVITIES

The table to the right summarizes eligible activities that may be funded by HMA programs. Detailed descriptions of these activities are found in the HMA Unified Guidance.



Eligible Activities	HMGP	PDM	FMA	RFC	SRL
<b>1. Mitigation Projects</b>	✓	✓	✓	✓	✓
Property Acquisition and Structure Demolition or Relocation	✓	✓	✓	✓	✓
Structure Elevation	✓	✓	✓	✓	✓
Mitigation Reconstruction					✓
Dry Floodproofing of Historic Residential Structures	✓	✓	✓	✓	✓
Dry Floodproofing of Non-residential Structures	✓	✓	✓	✓	
Minor Localized Flood Reduction Projects	✓	✓	✓	✓	✓
Structural Retrofitting of Existing Buildings	✓	✓			
Non-structural Retrofitting of Existing Buildings and Facilities	✓	✓			
Safe Room Construction	✓	✓			
Infrastructure Retrofit	✓	✓			
Soil Stabilization	✓	✓			
Wildfire Mitigation	✓	✓			
Post-disaster Code Enforcement	✓				
5% Initiative Projects	✓				
<b>2. Hazard Mitigation Planning</b>	✓	✓	✓		
<b>3. Management Costs</b>	✓	✓	✓	✓	✓

✓ Mitigation activity is eligible for program funding

## Management Costs

For HMGP only: The Grantee may request 4.89 percent of HMGP allocation for management costs. The Grantee is responsible for determining the amount, if any, of funds that will be passed through to the subgrantee(s) for their management costs.

Applicants for PDM, FMA, RFC, or SRL may apply for a maximum of 10 percent of the total funds requested in their grant application budget (Federal and non-Federal shares) for management costs to support the project and planning subapplications included as part of their grant application.

Subapplicants for PDM, FMA, RFC, or SRL may apply for a maximum of 5 percent of the total funds requested in a subapplication for management costs.

## General Requirements

All mitigation projects must be cost-effective, be both engineering and technically feasible, and meet Environmental Planning and Historic Preservation requirements in accordance with HMA Unified Guidance. In addition, all mitigation activities must adhere to all relevant statutes, regulations, and requirements including other applicable Federal, State, Indian Tribal, and local laws, implementing regulations, and Executive Orders.

# program information

## NFIP INFORMATION

In 1968, Congress created the National Flood Insurance Program (NFIP) to help provide a means for property owners to financially protect themselves. The NFIP offers flood insurance to homeowners, renters, and business owners if their community participates in the NFIP. Participating communities agree to adopt and enforce ordinances that meet or exceed FEMA requirements to reduce the risk of flooding.

Find out more about the NFIP and how it can help you protect yourself.

<http://www.floodsmart.gov>

## MITIGATION ELECTRONIC GRANTS SYSTEM

For PDM, FMA, RFC, and SRL, FEMA has developed a web-based, Electronic Grants (eGrants) management system to allow States, Federally-recognized Indian Tribal governments, territories, and local governments to apply for and manage their mitigation grant application processes electronically.

## National Flood Insurance Program (NFIP) Participation



### NFIP Participation Requirement

There are a number of ways that HMA eligibility is related to the NFIP.

- **Subapplicant eligibility:** All subapplicants for FMA, RFC, or SRL must currently be participating in the NFIP, and not withdrawn or suspended, to be eligible to apply for grant funds. Certain non-participating political subdivisions (i.e., regional flood control districts or county governments) may apply and act as subgrantee on behalf of the NFIP-participating community in areas where the political subdivision provides zoning and building code enforcement or planning and community development professional services for that community.
- **Project eligibility:** HMGP and PDM mitigation project subapplications for projects sited within a Special Flood Hazard Area (SFHA) are eligible only if the jurisdiction in which the project is located is participating in the NFIP. There is no NFIP participation requirement for HMGP and PDM planning subapplications or project subapplications located outside of the SFHA.
- **Property eligibility:** Properties included in a project subapplication for FMA, RFC, and SRL funding must be NFIP-insured at the time of the application submittal. Flood insurance must be maintained at least through completion of the mitigation activity.

## Mitigation Plan Requirement

All Applicants and subapplicants must have hazard mitigation plans meeting the requirements of 44 CFR Part 201.

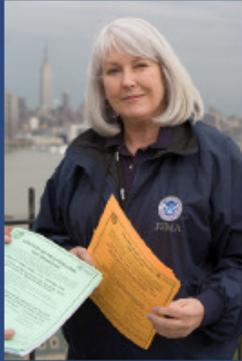
## Application Process

Applications for HMGP are processed through the National Emergency Management Information System (NEMIS). Applicants use the Application Development Module of NEMIS, which enables each Applicant to create project applications and submit them to the appropriate FEMA Region in digital format for the relevant disaster.

Applications for PDM, FMA, RFC, and SRL are processed through the Electronic Grants (eGrants) system. The eGrants system encompasses the entire grant application process and provides the means to electronically create, review, and submit a grant application to FEMA via the Internet. Applicants and subapplicants can access eGrants at <https://portal.fema.gov>.



# program information



## GovDelivery Notifications

Stay up to date on the HMA Grant Programs by subscribing to GovDelivery notifications.

Have email updates delivered to an email address or mobile device.

To learn more visit [www.fema.gov](http://www.fema.gov) or just click the icon below.

 Email Updates

## Application Deadline

The PDM, FMA, RFC, and SRL application period is anticipated to be from June 1, 2010, through December 3, 2010. Applicants must submit an FY11 grant application to FEMA through the eGrants system by December 3, 2010, at 3:00:00 p.m. Eastern Time.

The HMGP application deadline is 12 months after the date of the disaster declaration date and is not part of the annual application period.

Details can be found in the HMA Unified Guidance.

## FEMA Review and Selection

All subapplications will be reviewed for eligibility and completeness, cost-effectiveness, engineering feasibility and effectiveness, and for Environmental Planning and Historical Preservation compliance. Subapplications that do not pass these reviews will not be considered for funding.

FEMA will notify Applicants of the status of their subapplications and will work with Applicants on subapplications identified for further review.

## Contact Information

HMA Helpline: (866) 222-3580  
[hmagrantshelpline@dhs.gov](mailto:hmagrantshelpline@dhs.gov)

Contact information for FEMA Regional Offices is provided at:  
<http://www.fema.gov/about/contact/regions.shtml>

Contact information for each State Hazard Mitigation Officer (SHMO) is provided at:  
<http://www.fema.gov/about/contact/shmo.shtml>

Mitigation  
Works

## ◆ COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

Title 1 of the Housing and Community Development Act of 1974 authorized the Community Development Block Grant (CDBG) program. The primary purpose of the CDBG program is the development of viable communities by providing decent housing, suitable living environments, and expanding economic opportunities, principally for low and moderate income people. The program is sponsored by the US Department of Housing and Urban Development (HUD) and the New Hampshire program is administered through the Community Development Finance Authority (CDFA).

Typically, each year the New Hampshire CDBG program receives approximately \$10 million from HUD to use towards the CDBG Programs: Housing, Public Facilities, Economic Development, Feasibility Studies, and Emergencies and Unanticipated Events. Since 1983, over 773 grants and over \$188 million have been funded throughout New Hampshire.

Any municipality or county, other than entitlement communities of Rochester, Dover, Portsmouth, Manchester, and Nashua, is eligible to apply to CDFA for CDBG funding. A nonprofit agency may also apply through its municipality or county as a sub-recipient of CDBG money. All eligible municipalities and counties can apply for up to \$500,000 in CDBG funds per year. Entitlement communities are those communities that, due to their population, receive CDBG money directly from HUD as a special set-aside.

These Federal funds are provided through the U.S. Department of Housing and Urban Development (HUD) and are administered by the CDBG Program of the New Hampshire Office of State Planning.

The specific CDBG funds designated for hazard mitigation purposes are made available to address "unmet needs" pursuant to a given Disaster Declaration to States which request them. For these funds, project selection guidance is provided by NHOEM and NHOSP administers the grant.

### **Community Development Block Grant**

- *U.S. Dept. of Housing and Urban Development*
- *Funds for a Declared Disaster's "Unmet Needs"*
- *Projects must meet one of three National Objectives*
- *Provide a direct benefit to low and moderate income persons or households*
- *Prevent or eliminate slums and blight*
- *Eliminate conditions which seriously and immediately threaten the public health and welfare*

*Additional conditions with respect to the expenditure of these funds includes the provision that at least 50% of the grant award must be expended in a manner which benefits individuals who earn 80% or less than the area's (county's) median income.*

### **Mitigation Programs of Other NH State Agencies**

The following agencies of the State of New Hampshire are directly or indirectly involved in activities that include Hazard Mitigation Planning and/or program implementation:

NH Department of Transportation Bureau of Repair and Maintenance  
NH OEP/NFIP Program  
NH OEP Coastal Program  
NH DRED Division of Forests and Lands  
NH DES Water Resources Division – Dam Safety Program  
NH DES Wetlands Program  
NH DES Shoreland Protection Program

**APPENDIX D:**  
**MATRIX OF FEDERAL ALL-HAZARDS**  
**GRANTS AND FUNDING SOURCES**

This matrix provides information about key all-hazards grant programs from the Departments of Homeland Security, Justice, Transportation, Health and Human Services, and Education under which state, local, and tribal governments, first responders, and the public are eligible to receive preparedness, response, recovery, mitigation, and prevention assistance.

**FEDERAL PREPAREDNESS GRANT PROGRAMS AS REPORTED TO DHS/FEMA NIMS  
INTEGRATION CENTER**

Organization	Grant Programs Identified
Environmental Protection Agency (EPA)	<ol style="list-style-type: none"> <li>1. Security Enhancement and Emergency Preparedness Planning at Water Utilities</li> <li>2. EPA Grant and Contract Vehicles to move funding from DHS to localities for the regular retrieval of Bio Watch sampling filters and delivery for analysis</li> </ol>
Nuclear Regulatory Commission (NRC)	<ol style="list-style-type: none"> <li>1. NRC provides pharmaceutical intervention to states with populations within the 10-mile emergency planning zone of Commercial nuclear power plants.</li> </ol>
Department of Justice (DOJ)	<ol style="list-style-type: none"> <li>1. State Domestic Preparedness Equipment Support Program</li> <li>2. Antiterrorism and Emergency Assistance Program</li> <li>3. Domestic Antiterrorism Technology Development Program</li> <li>4. COPS Interoperable Communications Technology Program</li> </ol>
Department of Agriculture (USDA)	<ol style="list-style-type: none"> <li>1. State Fire Assistance</li> <li>2. Volunteer Fire Assistance</li> <li>3. First Responder Initiative</li> </ol>
Department of Energy (DOE)	<ol style="list-style-type: none"> <li>1. Working Agreement: DOE, the Shoshone-Bannock Tribes and the Idaho National Engineering and Environmental Laboratory</li> <li>2. Environmental oversight and Monitoring Agreement: Office of Nuclear Energy and the State of Idaho</li> <li>3. Agreement-in-Principle: Waste Isolation Pilot Plant (DOE), the Western Governors Association and the State of Idaho</li> <li>4. Office of Civilian Radioactive Waste Management Training Program</li> <li>5. Agreement-in-Principle with the State of Texas Energy Conservation Office</li> <li>6. Agreement-in-Principle with the six counties and the State of Nevada</li> <li>7. S.C. Emergency Management Division Agreement-in-Principle Grants</li> <li>8. S.C. Dept. of Health and Environmental Control Agreement-in-Principle Grants</li> <li>9. Georgia Emergency Management Division Agreement-in-Principle Grants</li> <li>10. Cooperative Agreement: Western Governors Association, Southern States Energy Board, mid-West and North East Council of State Governors</li> <li>11. Office of River Protection Grant</li> <li>12. Memorandum of Understanding (MOU): DOE and City of Miamisburg</li> <li>13. Ohio Field Office MOU with West Valley, N.Y., Volunteer Hose Company</li> </ol>
Tennessee Valley Authority (TVA)	<ol style="list-style-type: none"> <li>1. Supplemental Agreements: Tennessee Emergency Management Agency and Alabama Emergency Management Agency, for off-site support of nuclear power plant radiological emergency plans</li> </ol>
Environmental Protection Agency (EPA)	<ol style="list-style-type: none"> <li>1. Security Enhancement and Emergency Preparedness Planning at Water Utilities</li> <li>2. EPA Grant and Contract Vehicles to move funding from DHS to localities for the regular retrieval of Bio Watch sampling filters and delivery for analysis</li> </ol>
Nuclear Regulatory Commission (NRC)	<ol style="list-style-type: none"> <li>1. NRC provides pharmaceutical intervention to states with populations within the 10-mile emergency planning zone of Commercial nuclear power plants.</li> </ol>
Department of Justice (DOJ)	<ol style="list-style-type: none"> <li>1. State Domestic Preparedness Equipment Support Program</li> <li>2. Antiterrorism and Emergency Assistance Program</li> <li>3. Domestic Antiterrorism Technology Development Program</li> <li>4. COPS Interoperable Communications Technology Program</li> </ol>

**FEDERAL PREPAREDNESS GRANT PROGRAMS AS  
REPORTED TO DHS/FEMA NIMS INTEGRATION CENTER**

<b>Organization</b>	<b>Grant Programs Identified</b>
Department of Agriculture (USDA)	<ol style="list-style-type: none"> <li>1. State Fire Assistance</li> <li>2. Volunteer Fire Assistance</li> <li>3. First Responder Initiative</li> </ol>
Department of Energy (DOE)	<ol style="list-style-type: none"> <li>1. Working Agreement: DOE, the Shoshone-Bannock Tribes and the Idaho National Engineering and Environmental Laboratory</li> <li>2. Environmental oversight and Monitoring Agreement: Office of Nuclear Energy and the State of Idaho</li> <li>3. Agreement-in-Principle: Waste Isolation Pilot Plant (DOE), the Western Governors Association and the State of Idaho</li> <li>4. Office of Civilian Radioactive Waste Management Training Program</li> <li>5. Agreement-in-Principle with the State of Texas Energy Conservation Office</li> <li>6. Agreement-in-Principle with the six counties and the State of Nevada</li> <li>7. S.C. Emergency Management Division Agreement-in-Principle Grants</li> <li>8. S.C. Dept. of Health and Environmental Control Agreement-in-Principle Grants</li> <li>9. Georgia Emergency Management Division Agreement-in-Principle Grants</li> <li>10. Cooperative Agreement: Western Governors Association, Southern States Energy Board, mid-West and North East Council of State Governors</li> <li>11. Office of River Protection Grant</li> <li>12. Memorandum of Understanding (MOU): DOE and City of Miamisburg</li> <li>13. Ohio Field Office MOU with West Valley, N.Y., Volunteer Hose Company</li> </ol>
Tennessee Valley Authority (TVA)	<ol style="list-style-type: none"> <li>1. Supplemental Agreements: Tennessee Emergency Management Agency and Alabama Emergency Management Agency, for off-site support of nuclear power plant radiological emergency plans</li> </ol>
Department of Education	<ol style="list-style-type: none"> <li>1. School Emergency Response and Crisis Management Plan Discretionary Grant Program</li> </ol>
Department of Homeland Security (DHS)	<ol style="list-style-type: none"> <li>1. State Homeland Security Grant Program</li> <li>2. Assistance to Firefighters Grant Program</li> <li>3. Interoperable Communications Equipment Grant</li> <li>4. SARA Title III Training Program</li> <li>5. Urban Search and Rescue</li> <li>6. State and Local Emergency Operation Centers</li> <li>7. Community Emergency Response Teams</li> <li>8. Emergency Management Performance Grants</li> <li>8. Chemical Stockpile Emergency preparedness Program</li> <li>10. State and Local Emergency operations Planning Grants</li> <li>11. Citizen Corps</li> <li>12. Metropolitan Medical Response System</li> <li>13. National Fire Academy Training Grants</li> <li>14. First Responder Grants</li> </ol>

**FEDERAL PREPAREDNESS GRANT PROGRAMS AS  
REPORTED TO DHS/FEMA NIMS INTEGRATION CENTER**

<b>Organization</b>	<b>Grant Programs Identified</b>
Department of Health and Human Services (HHS)	<ol style="list-style-type: none"> <li>1. Public Health and Social Services Emergency Fund</li> <li>2. State Rural Hospital Flexibility Program</li> <li>3. EMS for Children</li> <li>4. Superfund Hazardous Substances Basic Research and Education</li> <li>5. Metropolitan Medical Response System</li> <li>6. Immunization Research, Demonstration, Public Information and Education</li> <li>7. Surveillance of Hazardous Substance Emergency Events</li> <li>8. Human Health Studies, Applied Research and Development</li> <li>9. Immunization Grants</li> <li>10. Bioterrorism Preparedness Programs</li> </ol>
Department of the Interior (DOI)	<ol style="list-style-type: none"> <li>1. Rural Fire Assistance Program</li> <li>2. Earthquake Hazards Reduction Program</li> <li>3. Volcano Hazards Reduction Program</li> </ol>
Department of Transportation (DOT)	<ol style="list-style-type: none"> <li>1. Hazardous Materials Emergency Preparedness Training and Planning Grants</li> <li>2. Airport Improvement Program</li> <li>3. Satellite-based Mobile Communications Tracking System for Hazardous Materials</li> <li>4. Un-tethered Trailer Tracking and Security Project</li> <li>5. Operation Respond</li> <li>6. Port Security Grant Program</li> <li>7. Maritime Transportation Security Act Training</li> <li>8. Ready Reserve Force</li> <li>9. Priority Use and Allocation of Shipping Service, Containers and Chassis; Port Facilities, Services for National Security and National Defense Related Operations</li> </ol>

AUGUST 2005

## Federal Mitigation Funding Sources

### Environmental Protection Agency

The EPA makes available funds for water management and wetlands protection programs that help mitigate against future costs associated with hazard damage.

Mitigation Funding Sources Program	Details	Notes
Clean Water Act Section 319 Grants	Grants for water source management programs including technical assistance, financial assistance, education, training, technology transfer, demonstration projects, and regulation. <a href="http://www.epa.gov/OWOW/NPS/cwact.html">http://www.epa.gov/OWOW/NPS/cwact.html</a>	Funds are provided only to designated state and tribal agencies
Clean Water State Revolving Funds	State grants to capitalize loan funds. States make loans to communities, individuals, and others for high-priority water-quality activities. <a href="http://www.epa.gov/owow/wetlands/initiative/srf.html">http://www.epa.gov/owow/wetlands/initiative/srf.html</a>	States and Puerto Rico
Wetland Program Development Grants	Funds for projects that promote research, investigations, experiments, training, demonstrations, surveys, and studies relating to the causes, effects, extent, prevention, reduction, and elimination of water pollution. <a href="http://www.epa.gov/owow/wetlands/initiative/#financial">http://www.epa.gov/owow/wetlands/initiative/#financial</a>	See website

### National Oceanic and Atmosphere Administration (NOAA)

NOAA is the major source for mitigation funding related to coastal zone management and other coastal protection projects.

Mitigation Funding Sources Program	Details	Notes
Coastal Services Center Cooperative Agreements	Funds for coastal wetlands management and protection, natural hazards management, public access improvement, reduction of marine debris, special area management planning, and ocean resource planning. <a href="http://www.csc.noaa.gov/funding/">http://www.csc.noaa.gov/funding/</a>	May only be used to implement and enhance the states' approved Coastal Zone Management programs
Coastal Services Center Grant Opportunities	Formula and program enhancement grants for implementing and enhancing Coastal Zone Management programs that have been approved by the Secretary of Commerce. <a href="http://www.csc.noaa.gov/funding/">http://www.csc.noaa.gov/funding/</a>	Formula grants require non-federal match
Coastal Zone Management	The Office of Ocean and Coastal Resource Management (OCRM) provides federal funding and	Funding is reserved for the

Program	technical assistance to better manage our coastal resources. <a href="http://coastalmanagement.noaa.gov/funding/welcome.html">http://coastalmanagement.noaa.gov/funding/welcome.html</a>	nation's 34 state and territory Coastal Zone Management Programs
Marine and Coastal Habitat Restoration	Funding for habitat restoration, including wetland restoration and dam removal. <a href="http://www.nmfs.noaa.gov/habitat/recovery/">http://www.nmfs.noaa.gov/habitat/recovery/</a>	Funding available for state, local and tribal governments and for- and non-profit organizations.

## Floodplain, Wetland and Watershed Protection Programs

USACE and the U.S. Fish and Wildlife Service offer funding and technical support for programs designed to protect floodplains, wetlands, and watersheds.

Funding and Technical Assistance for Wetlands and Floodplains Program	Details	Notes
USACE Planning Assistance to States (PAS)	Fund plans for the development and conservation of water resources, dam safety, flood damage reduction and floodplain management. <a href="http://www.lre.usace.army.mil/planning/assist.html">http://www.lre.usace.army.mil/planning/assist.html</a>	50 percent non-federal match
USACE Flood Plain Management Services (FPMS)	Technical support for effective floodplain management. <a href="http://www.lrl.usace.army.mil/p3md-o/article.asp?id=9&amp;MyCategory=126">http://www.lrl.usace.army.mil/p3md-o/article.asp?id=9&amp;MyCategory=126</a>	See website
USACE Environmental Laboratory	Guidance for implementing environmental programs such as ecosystem restoration and reuse of dredged materials. <a href="http://el.erdc.usace.army.mil/index.cfm">http://el.erdc.usace.army.mil/index.cfm</a>	See website
U.S. Fish & Wildlife Service Coastal Wetlands Conservation Grant Program	Matching grants to states for acquisition, restoration, management or enhancement of coastal wetlands. <a href="http://ecos.fws.gov/coastal_grants/viewContent.do?viewPage=home">http://ecos.fws.gov/coastal_grants/viewContent.do?viewPage=home</a>	States only. 50 percent federal share
U.S. Fish & Wildlife Service Partners for Fish and Wildlife Program	Program that provides financial and technical assistance to private landowners interested in restoring degraded wildlife habitat. <a href="http://ecos.fws.gov/partners/viewContent.do?viewPage=home">http://ecos.fws.gov/partners/viewContent.do?viewPage=home</a>	Funding for volunteer-based programs

## Housing and Urban Development

The Community Development Block Grants (CDBG) administered by HUD can be used to fund hazard mitigation projects.

Mitigation Funding Sources Program	Details	Notes
Community Development Block Grants (CDBG)	Grants to develop viable communities, principally for low and moderate income persons. CDBG funds available through Disaster Recovery Initiative. <a href="http://www.hud.gov/offices/cpd/communitydevelopment/programs/">http://www.hud.gov/offices/cpd/communitydevelopment/programs/</a>	Disaster funds contingent upon Presidential disaster declaration
Disaster Recovery Assistance	Disaster relief and recovery assistance in the form of special mortgage financing for rehabilitation of impacted homes. <a href="http://www.hud.gov/offices/cpd/communitydevelopment/programs/dri/assistance.cfm">http://www.hud.gov/offices/cpd/communitydevelopment/programs/dri/assistance.cfm</a>	Individuals
Neighborhood Stabilization Program	Funding for the purchase and rehabilitation of foreclosed and vacant property in order to renew neighborhoods devastated by the economic crisis. <a href="http://www.hud.gov/offices/cpd/communitydevelopment/programs/neighborhoodspg/">http://www.hud.gov/offices/cpd/communitydevelopment/programs/neighborhoodspg/</a>	State and local governments and non-profits

## Bureau of Land Management

The Bureau of Land Management (BLM) has two technical assistance programs focused on fire mitigation strategies at the community level.

Mitigation Funding Sources Program	Details	Notes
Community Assistance and Protection Program	Focuses on mitigation/prevention, education, and outreach. National Fire Prevention and Education teams are sent to areas across the country at-risk for wildland fire to work with local residents. <a href="http://www.blm.gov/nifc/st/en/prog/fire/community_assistance.html">http://www.blm.gov/nifc/st/en/prog/fire/community_assistance.html</a>	See website
Firewise Communities Program	Effort to involve homeowners, community leaders, planners, developers, and others in the effort to protect people, property, and natural resources from the risk of wildland fire before a fire starts. <a href="http://www.firewise.org/">http://www.firewise.org/</a>	See website

## U.S. Department of Agriculture

There are multiple mitigation funding and technical assistance opportunities available from the USDA and its various sub-agencies: the Farm Service Agency, Forest Service, and Natural Resources Conservation Service.

Mitigation Funding Sources Agency Prog.	Details	Notes
USDA Smith-Lever Special Needs Funding	Grants to State Extension Services at 1862 Land-Grant Institutions to support education-based approaches to addressing emergency preparedness and disasters. <a href="http://www.csrees.usda.gov/funding/rfas/smith_lev.html">http://www.csrees.usda.gov/funding/rfas/smith_lev.html</a>	Population under 20,000
USDA Community Facilities Guaranteed Loan Program	This program provides an incentive for commercial lending that will develop essential community facilities, such as fire stations, police stations, and other public buildings. <a href="http://www.rurdev.usda.gov/rhs/cf/cp.htm">http://www.rurdev.usda.gov/rhs/cf/cp.htm</a>	Population under 20,000
USDA Community Facilities Direct Loans	Loans for essential community facilities. <a href="http://www.rurdev.usda.gov/rhs/cf/cp.htm">http://www.rurdev.usda.gov/rhs/cf/cp.htm</a>	Population of less than 20,000
USDA Community Facilities Direct Grants	Grants to develop essential community facilities. <a href="http://www.rurdev.usda.gov/rhs/cf/cp.htm">http://www.rurdev.usda.gov/rhs/cf/cp.htm</a>	Population of less than 20,000
USDA Farm Service Agency Disaster Assistance Programs	Emergency funding and technical assistance for farmers and ranchers to rehabilitate farmland and livestock damaged by natural disasters. <a href="http://www.fsa.usda.gov/">http://www.fsa.usda.gov/</a>	Farmers and ranchers
USDA Forest Service National Fire Plan	Funding for organizing, training, and equipping fire districts through Volunteer, State and Rural Fire Assistance programs. Technical assistance for fire related mitigation. <a href="http://www.forestsandrangelands.gov/">http://www.forestsandrangelands.gov/</a>	See website
USDA Forest Service Economic Action Program	Funds for preparation of Fire Safe plans to reduce fire hazards and utilize byproducts of fuels management activities in a value-added fashion. <a href="http://www.fs.fed.us/spf/coop/programs/eap/">http://www.fs.fed.us/spf/coop/programs/eap/</a>	80% of total cost of project may be covered
USDA Natural Resources Conservation Service Emergency Watershed Protection Support	Funds for implementing emergency measures in watersheds in order to relieve imminent hazards to life and property created by a natural disaster. <a href="http://www.nrcs.usda.gov/programs/ewp/">http://www.nrcs.usda.gov/programs/ewp/</a>	See website
USDA Natural Resources Conservation Service Watershed Protection and Flood Prevention	Funds for soil conservation; flood prevention; conservation, development, utilization and disposal of water; and conservation and proper utilization of land. <a href="http://www.nrcs.usda.gov/programs/watershed/index.html">http://www.nrcs.usda.gov/programs/watershed/index.html</a>	See website

## Health and Economic Agencies

Alternative mitigation programs can be found through health and economic agencies that provide loans and grants aimed primarily at disaster relief.

Federal Loans and Grants for Disaster Relief Agency Program	Details	Notes
Department of Health & Human Services Disaster Assistance for State Units on Aging (SUAs)	Provide disaster relief funds to those SUAs and tribal organizations who are currently receiving a grant under Title VI of the Older Americans Act. <a href="http://www.aoa.gov/doingbus/fundopp/fundopp.asp">http://www.aoa.gov/doingbus/fundopp/fundopp.asp</a>	Areas designated in a Disaster Declaration issued by the President
Economic Development Administration (EDA) Economic Development Administration Investment Programs	Grants that support public works, economic adjustment assistance, and planning. Certain funds allocated for locations recently hit by major disasters. <a href="http://www.eda.gov/AboutEDA/Programs.xml">http://www.eda.gov/AboutEDA/Programs.xml</a>	The maximum investment rate shall not exceed 50 percent of the project cost
U.S. Small Business Administration Small Business Administration Loan Program	Low-interest, fixed rate loans to small businesses for the purpose of implementing mitigation measures. Also available for disaster damaged property. <a href="http://www.sba.gov/services/financialassistance/index.html">http://www.sba.gov/services/financialassistance/index.html</a>	Must meet SBA approved credit rating

## Research Agencies

The United States Geological Survey (USGS) and the National Science Foundation (NSF) provide grant money for hazard mitigation-related research efforts.

Hazard Mitigation Research Grants Agency Program	Details	Notes
National Science Foundation (NSF) Decision, Risk, and Management Sciences Program (DRMS)	Grants for small-scale, exploratory, high-risk research having a severe urgency with regard to natural or anthropogenic disasters and similar unanticipated events. <a href="http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5423&amp;org=SES">http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5423&amp;org=SES</a>	See website
U.S. Geological Survey (USGS) National Earthquake Hazards Reduction Program	The purpose of NEHRP is to provide products for earthquake loss reduction to the public and private sectors by carrying out research on earthquake occurrence and effects. <a href="http://www.usgs.gov/contracts/nehrp/">http://www.usgs.gov/contracts/nehrp/</a>	Community with a population under 20,000

**APPENDIX E**  
**DOCUMENTATION OF THE PLANNING**  
**PROCESS**

# **Stoddard Hazard Mitigation Plan Update**

**Meeting #1**

## **AGENDA**

**May 9, 2012**

**7:00 p.m.**

**Stoddard Fire Station**

**Route 123N**

**Stoddard, NH 03464**

- 1. Introduction**
- 2. Review of Development Trends**
  - 1) Identify areas where growth is currently happening and areas with potential for future Development\*
- 3. Identify Past and Potential Hazards – Chapter III**
  - 1) Go through each hazard type and update assessed value amount and other information\*
- 4. Risk Assessment**
  - 1) Identify and prioritize each hazard according to Human Impact, Property Impact, Business Impact, Probability, Severity, and Risk using chart (chart will be distributed at the meeting).
- 5. Critical Facilities- Chapter V**
  - 1) Update the Critical Facilities listed in the existing plan\*
- 6. Existing Mitigation Strategies & Proposed Improvements- Chapter VI**
  - 1) Review Chapter VI of the existing plan and update necessary information\*
- 7. Proposed Mitigation Strategies- Chapter VII**
  - 1) Review Chapter VII of the existing plan and update necessary information\*
- 8. Set date for next meeting- June 13, 6:30 p.m.**

**\*Please review the following pages from the existing HazMit Plan prior to the meeting.**

**STODDARD HAZARD MITIGATION  
MEETING # 1**

May 8, 2012

SIGN – IN SHEET

NAME	AFFILIATION or DEPARTMENT	CONTACT INFORMATION
P.J. Lamothe	Fire Dept	<a href="mailto:Lamothepj@netzero.net">Lamothepj@netzero.net</a>
Joe Sarcione	Fire Dept.	<a href="mailto:jsarcione@radiusnorth.net">jsarcione@radiusnorth.net</a>
Richard Gariepy	Stoddard EMD	<a href="mailto:rgariepy@myfairpoint.net">rgariepy@myfairpoint.net</a>
John Halter	Stoddard Selectman	<a href="mailto:jhalter@keene.edu">jhalter@keene.edu</a>
Arnie Antak	Dep. EMD	<a href="mailto:aantak@aaahawk.com">aantak@aaahawk.com</a>
David Vaillancourt	Stoddard Police/Road contractor	<a href="mailto:stoddardpd@gmail.com">stoddardpd@gmail.com</a>

# **Stoddard Hazard Mitigation Plan Update**

**Meeting #2**

## **AGENDA**

**Wednesday, June 20, 2012**

**7:00 p.m.**

**Stoddard Fire Station**

**Route 123N**

**Stoddard, NH 03464**

- 1. Critical Facilities- Chapter V**
  - 1) Update the Critical Facilities listed in the existing plan\*
- 2. Existing Mitigation Strategies & Proposed Improvements- Chapter VI**
  - 1) Review Chapter VI of the existing plan and update necessary information\*
  - 2) Complete the chart- Status of Previous Priority Mitigation Actions
- 3. Proposed Mitigation Strategies- Chapter VII**
  - 1) Review Chapter VII of the existing plan and update necessary information\*
- 4. Hazard Mitigation Goals**
  - 1) Review NH Hazard Mitigation Goals- check for consistency with Stoddard's goals
- 5. Begin to develop new Hazard Mitigation Actions**
  - 1) Use STAPLEE chart to add new action items
- 6. Set date for next meeting**
  - Suggested date – July 11 or 18 at 7:00 p.m.

*\*Please review the following pages from the existing Hazard Mitigation Plan and additional background material prior to the meeting.*

**STODDARD HAZARD MITIGATION  
MEETING # 2**

June 20, 2012

SIGN – IN SHEET

NAME	AFFILIATION or DEPARTMENT	CONTACT INFORMATION
P.J. Lamothe	Fire Dept	<a href="mailto:Lamothepj@netzero.net">Lamothepj@netzero.net</a>
Joe Sarcione	Fire Dept.	<a href="mailto:jsarcione@radiusnorth.net">jsarcione@radiusnorth.net</a>
Richard Gariepy	Stoddard EMD	<a href="mailto:rgariepy@myfairpoint.net">rgariepy@myfairpoint.net</a>
John Halter	Stoddard Selectman	<a href="mailto:jhalter@keene.edu">jhalter@keene.edu</a>
Arnie Antak	Dep. EMD	<a href="mailto:aantak@aaahawk.com">aantak@aaahawk.com</a>
David Vaillancourt	Stoddard Police/Road contractor	<a href="mailto:stoddardpd@gmail.com">stoddardpd@gmail.com</a>

# **Stoddard Hazard Mitigation Plan Update**

**Meeting #3**

## **AGENDA**

**Wednesday, July 11, 2012**

**7:00 p.m.**

**Stoddard Fire Station**

**Route 123N**

**Stoddard, NH 03464**

- 1. Review of information from Meeting # 2**
  - Finish the Status of Previous Mitigation Actions Chart (*pages 1-3 in attached packet*)
- 2. Potential Hazards Actions Matrix**
  - Update the chart on page 42-45 of the existing Hazard Mitigation Plan (*third attachment*)
- 2. Prioritizing Proposed Mitigation Actions**
  - Complete the STAPLEE Chart and assign values in each column. (*pages 4-6 in packet*)
- 3. Develop an Implementation Plan**
  - Grade/Rank the actions according to the established evaluation criteria using the chart provided to answer the questions of Who, When, How, and Cost/Benefit (*pgs 7-9 in packet*)
- 4. Set date for next meeting**
  - Suggested date – August 22 at 7:00 p.m.

**STODDARD HAZARD MITIGATION  
MEETING # 3**

July 11, 2012

SIGN – IN SHEET

NAME	AFFILIATION or DEPARTMENT	CONTACT INFORMATION
P.J. Lamothe	Fire Dept	<a href="mailto:Lamothepj@netzero.net">Lamothepj@netzero.net</a>
Joe Sarcione	Fire Dept.	<a href="mailto:jsarcione@radiusnorth.net">jsarcione@radiusnorth.net</a>
Richard Gariepy	Stoddard EMD	<a href="mailto:rgariepy@myfairpoint.net">rgariepy@myfairpoint.net</a>
Ruth Ward	Planning Board	<a href="mailto:ruthward@myfairpoint.net">ruthward@myfairpoint.net</a>

# **Stoddard Hazard Mitigation Plan Update**

**Meeting #4**

## **AGENDA**

**Wednesday, August 22, 2012**

**7:00 p.m.**

**Stoddard Fire Station**

**Route 123N**

**Stoddard, NH 03464**

- 1. Review of information from Meeting # 3**
  - Finish any highlighted or blank areas
- 2. Review Draft Plan**
- 3. Next Steps**

*\*Please review the draft plan prior to the meeting if you are able.*

**STODDARD HAZARD MITIGATION  
MEETING # 4**

August 22, 2012

SIGN – IN SHEET

NAME	AFFILIATION or DEPARTMENT	CONTACT INFORMATION
P.J. Lamothe	Fire Dept	<a href="mailto:Lamothepj@netzero.net">Lamothepj@netzero.net</a>
Joe Sarcione	Fire Dept.	<a href="mailto:jsarcione@radiusnorth.net">jsarcione@radiusnorth.net</a>
Richard Gariepy	Stoddard EMD	<a href="mailto:rgariepy@myfairpoint.net">rgariepy@myfairpoint.net</a>
Ruth Ward	Planning Board	<a href="mailto:ruthward@myfairpoint.net">ruthward@myfairpoint.net</a>
Arnie Antak	Deputy EMD	
John Halter	Stoddard Selectman	<a href="mailto:jhalter@keene.edu">jhalter@keene.edu</a>

**Public Notice**  
**Town of Stoddard**  
**Hazard Mitigation Plan Review**

---

A copy of the Draft Hazard Mitigation Plan Update is available for public review and comment from September 10- October 1, 2012 at the Stoddard Town Hall during regular business hours (Monday 1:00-5:00, Wednesday & Friday 10:30-4:00) or by going to the Town's web site [www.stoddardnh.org](http://www.stoddardnh.org) .

Written comments may be addressed to Dick Gariepy, Emergency Management Director – Town Hall and send by mail to: 1450 Rt. 123N, Stoddard, NH 03464-4153 or by email to [stoddardtownhall@myfairpoint.net](mailto:stoddardtownhall@myfairpoint.net) .

# **APPENDIX F**

## **PROJECT STATUS SHEETS**

The following form can be used to keep track of projects identified in the hazard mitigation plan that are in progress or that have been completed.

