LINCOLN COUNTY
HAZARD MITIGATION PLAN
2016 UPDATE

Lincoln County Emergency Management Agency
34 Bath Road
Wiscasset, Maine 04578

Lincoln County Hazard Mitigation Plan – 2016 Update
Table of Contents

1. Introduction

Setting 1-1
Size 1-1
County Government 1-1
Local Government 1-1
Major Employers 1-2
Population 1-2

2. Prerequisites

Plan Adoption 2-1
Resolution 2-2

3. Planning Process

Planning Process 3-1
Local Meetings 3-1
Hazard Mitigation Survey 3-6
Summary of Local Participation 3-7
Status of Local Participation 3-8
Opportunities for Neighboring Communities, Regional Agencies 3-9

4. Risk Assessment

Risk Assessment 4-1
Climate 4-1
- Temperature 4-1
- Precipitation 4-1
- Prevailing Winds 4-2

Climate Variation 4-2
- Temperature Changes 4-2
- Precipitation Changes 4-3
- Sea Level Rise 4-4
- Lincoln County Sea Level Rise – Coastal Hazard Study 4-6

Identifying Hazards 4-7
Description of all Natural Hazards Potentially Affecting Lincoln County 4-7
Rating of Natural Hazards 4-9
Profiling Hazards 4-10

- Flooding 4-10
- General definition of flooding 4-10
- Types of flooding 4-10
- Location of Flooding Hazard 4-11
- Extent (Severity) of the hazard 4-12
- Previous Occurrences 4-13
- Probability of Occurrence 4-15

- Severe Summer Storm Events 4-16
- General Definition of Severe Summer Storm Events 4-16
- Types of Severe Summer Storm Events 4-16

Location of Severe Summer Storm Events 4-17
Extent (Severity) of the Hazard 4-17
Previous Occurrences 4-17
Probability of Occurrence 4-18

Severe Winter Storm Events 4-19
General definition 4-19
Types of Winter Storms in Lincoln County 4-19
Location of Hazard 4-19
Extent (Severity) of the Hazard 4-20
Previous Occurrences 4-20
Probability of Occurrence 4-21

Wildfire 4-21
General Definition 4-21
Location of Hazard 4-22
Extent (Severity) of the Hazard 4-22
Previous Occurrences 4-22
Probability of Occurrence 4-22

Assessing Vulnerability: Overview 4-23
Vulnerability of Lincoln County to Each Hazard 4-23
Impacts of Each Hazard on Lincoln County 4-24

Repetitive Loss Properties 4-25

Assessing Vulnerability: Identifying Structures 4-25
Vulnerability of Existing Buildings, Infrastructure, Critical Facilities 4-26
Vulnerability of Future Buildings, Infrastructure, Critical Facilities 4-28

Assessing Vulnerability: Estimating Potential Losses 4-30
Overview 4-30
Flooding 4-31
Severe Summer Storms 4-32
Severe Winter Storms 4-33
Wildfires 4-34

Assessing Vulnerability: Analyzing Development Trends 4-35
Multi-Jurisdictional Risk Assessment 4-38

Municipal Base Maps 4-38
County Map (includes UT) 4-39
Alna 4-40
Boothbay 4-41
Boothbay Harbor 4-42
Bremen 4-43
Bristol 4-44
Damariscotta 4-45
Dresden 4-46
Edgecomb 4-47
Jefferson 4-48
Monhegan Island Plantation 4-49
Newcastle 4-50
Nobleboro 4-51

Somerville....4-52
South Bristol....4-53
Southport....4-54
Waldoboro....4-55
Westport Island....4-56
Whitefield....4-57
Wiscasset....4-58

5. Mitigation Strategies

Mitigation Strategy....5-1
C1. Existing Authorities, Policies, Programs and Resources....5-2
C2. Participation in the National Flood Insurance Program....5-4
C3. Goals....5-5
C4. Comprehensive Range of Specific Actions and Projects....5-6
C5. Action Plan....5-6
County Actions....5-6
Flooding....5-7
Severe Summer and Winter Storms....5-8
Wildfire....5-9
Rating of Actions and Establishment of Priorities....5-11
Prioritized Local Mitigation Projects....5-12
Projects Listed in Priority Order....5-12
Criteria for Prioritization....5-12
Use of a Cost-Benefit Analysis....5-12
Project Status....5-12
Timeframe....5-12
Potential Funding Sources....5-13
D2. Progress in Local Mitigation Efforts....5-13
D3. Revisions to Reflect Changes in Priorities....5-13
Hazard Mitigation Projects....5-14

6. Plan Maintenance Procedures

Monitoring, Evaluating and Updating the Plan....6-1
Monitoring the Plan....6-1
Evaluating the Plan....6-1
Updating the Plan....6-1
Identification of Local Planning Mechanisms....6-2
Incorporating Mitigation into Other Planning Mechanisms....6-3
Explanation of how Local Governments Incorporated Strategies....6-3
Continued Public Participation....6-4

APPENDIX

1. INTRODUCTION

Understanding that the Local Mitigation Plan requirements in §201.6 of the Interim Final Rule applies to local jurisdictions, the County of Lincoln, State of Maine decided to complete a multi-jurisdictional mitigation plan to include and incorporate each of its member towns. This is due to the fact that the majority of these communities are too small to complete such an undertaking on their own. This county-wide mitigation planning effort encouraged agencies at all levels, local residents, businesses, and the non-profit sector to participate in the mitigation planning and implementation process. This broader public participation enabled the development of mitigation measures that are supported by these various stakeholders and reflects the need of the county-wide community.

The Lincoln County Hazard Mitigation Plan includes the following sections:

- Prerequisites
- Planning Process
- Risk Assessment
- Mitigation Strategy
- Plan Maintenance Procedures

Setting

Lincoln County in the State of Maine, displays the scenic beauty of the Maine coast as well as the lush Maine forests and farmlands of the inland hills, yielding harvests both cultivated and wild.

Size

The County contains 699.81 square miles, 65% land surface (455.99 square miles) and 35% water. This results in a population density of 75.6 people per square mile. There are no U.S. Census designated Metropolitan areas in the County.

County Government

The County government contains the County Sheriff's Department and County Jail, County Clerk's Office, County Treasurer's Office, Registrar of Deeds, Probate Judge, Assistant District Attorney, and the Emergency Management Office. The municipalities are responsible for Tax Collection, Clerk's Office, Road Maintenance and Snow Removal, Refuse Collection, Land Use Planning, Code Enforcement, Animal Control, Fire Protection, and Cemetery Maintenance.

Local Government

There are several different kinds of government in Lincoln County. The following summary is based in part on the Maine Municipal Association's report "Local Government in Maine."

Cities. There are no cities in Lincoln County. All cities in Maine have local charters granted by the Maine Legislature that provide for a representative form of government - meaning they have a city council that serves as the legislative body. The city council is elected by and answerable to the citizens. The office of mayor varies considerably from city to city, with only a few acting as chief executive officer. Some mayors are elected by the vote of the people, while others are elected by a vote of their fellow councilors.

Towns. There are eighteen incorporated towns in Lincoln County. Towns remain the cornerstone of local government. A Maine community becomes a town when it is incorporated by a special act of the legislature. At that time, it is given certain privileges and responsibilities. Under Home Rule, towns may take any action or change their form of government in any way not denied or precluded by state or federal law. The voters of the town constitute its legislative body. Day-to-day governance of towns has expanded from the original board of selectmen to include town managers, town councils, budget committees, municipal departments and various professional managers. In a small number of mostly larger towns, the council exerts legislative control without a town meeting. In others, a ballot vote is used to approve the budget rather than the open town meeting.

Plantations. There is one organized plantation in Lincoln County – Monhegan Island. Plantations are a type of local government unique to Maine. They originated with the Massachusetts Bay Colony, and were at first intended to be a temporary government to help guide a community in changing from an unincorporated township to an incorporated town. In Maine, they have continued as a basic governmental unit in small rural areas. Plantations are typically rural, heavily forested, and sparsely populated. There is little demand in them for the full menu of public services provided in larger communities. Plantations are similar to towns in that voters at the annual meeting are the legislative body. During the meeting, assessors are elected to carry on the daily operation of government and function much as the selectmen in towns. Taxes are raised and appropriated and voters are registered. **Plantations do not have the powers granted to municipalities under Home Rule, and do not have the authority to enact ordinances**.

Townships/Unorganized territory. Maine is unique among eastern states in having half its land mass, or more than 10 million acres, in an Unorganized Territory. Most of it is in the northern and easternmost counties. There is no local, incorporated municipal government. Collectively, the Unorganized Territory has a population of 9,000 residents, which is 0.68 percent of the State's population.

Provision of services and property tax administration for the Unorganized Territory is shared among various State, County and local agencies. Law enforcement and public road maintenance is the County's responsibility. Taxes are paid to the State Property Tax division. The State's Land Use Planning Commission (LUPC) establishes basic rules. Hibberts Gore is the only township in Lincoln County's portion of the Unorganized Territory. In the year 2010, only one person was living in Hibberts Gore.

Major Employers

The largest employers in the County are Lincoln County Health Care (Damariscotta & Boothbay Harbor, Lincoln County Government (Wiscasset), and Master's Machine (Bremen).

Population

According to the U.S. Census Bureau, Lincoln County had a population of 34,457 people in the year 2010. This is about the size of a small city (the City of Lewiston, Maine, had a population of 39,902 36,592). The inland portion of the County (north of Route 1) is very rural in nature, but there is a great deal of residential development south of Route 1 and along the immediate coast.

Population growth. For about 40 years, Lincoln County grew approximately twice as fast as the State as whole. As shown in the table below, the County grew by about 25% between 1970 and 1980 (v. 13% for the State), 18% between 1980 and 1990 (v. 9% for the State), and 10% between 1990 and 2000 (v. 4% for the State). However, between the years 2000 and 2010, Lincoln County grew at a slower rate than the State (2.5% v. 4%).

Population of Lincoln County and Maine 1930-2010		
Year	**Lincoln County**	**Maine**
1930	15,498	797,423
1940	16,294	847,226
1950	18,004	914,950
1960	18,497	970,689
1970	20,537	992,048
1980	25,691	1,124,660
1990	30,357	1,227,928
2000	33,616	1,274,923
2010	34,457	1,328,361
1970-80 change	25%	13%
1980-90 change	18%	9%
1990-00 change	10%	4%
2000-10 change	2.5%	4%

Source: U.S. Census

Population by town. The following table shows that Lincoln County is composed of 18 small towns and one township in the County's portion of the UT. The largest community is Waldoboro which contains only 5,075 people.

Population of Lincoln County Municipalities - 2010						
Town/City	Year Round Population	Median Age	Population Density	Total Homes	Occupied Homes	House hold Size
Alna	709	45.7	34	346	295	2.40
Boothbay	3,120	51.7	139	2,474	1,386	2.25
Boothbay Harbor	2,165	55.8	370	2,175	1,084	1.90
Bremen	806	50.3	44	651	353	2.28
Bristol	2,755	54.1	76	2,585	1,309	2.09
Damariscotta	2,218	50.7	160	1,359	1,051	2.03
Dresden	1,672	45.0	55	819	700	2.39
Edgecomb	1,249	46.4	69	755	523	2.37
Hibbert/s Gore	1	60.5	1	1	1	1.00
Jefferson	2,427	46.0	41	1,564	1,010	2.39
Monhegan Island Plt	69	45.8	80	164	40	1.73
Newcastle	1,752	49.6	59	992	787	2.21
Nobleboro	1,643	46.9	72	1,106	714	2.30
Somerville	548	44.0	24	309	225	2.44
South Bristol	892	54.1	68	1,076	418	2.13
Southport	606	60.1	112	1,051	316	1.92
Waldoboro	5,075	43.5	70	2,651	2,171	2.34
Westport Island	718	52.0	80	535	329	2.18
Whitefield	2,300	44.1	48	1,055	917	2.47
Wiscasset	3,732	43.5	151	1,782	1,520	2.32
Lincoln County	**34,457**	**48.1**	**76**	**23,493**	**15,149**	**2.24**

Source: U.S. Census 2010

Seasonal Population. Lincoln County has a sizeable seasonal population. There are about 6,733 seasonal dwelling units, most of which are located south of Route 1. Assuming an average occupancy rate of four persons per household during the peak season (July and August), there would be an additional 27,000 people. Most of this population would be south of Route 1, thus more than doubling the population of some coastal communities and adding to the traffic congestion of Route 1.

Demographics. The following table shows key demographic characteristics for Lincoln County, the State of Maine and the U.S.

Demographics Lincoln County, Maine, USA			
Measure	**2010 Lincoln**	**2010 Maine**	**2010 USA**
Population			
Total Population	34,457	1,328,361	308,745,538
% White	98.7	96.7	74.8
% Black	0.6	1.6	13.6
% American Indian	1.0	1.4	1.7
% Asian	0.8	1.4	5.6
% Hispanic Origin	0.8	1.3	16.3
Households			
Total Households	15,149	557,219	116,716,292
Family Households	9,749	350,621	77,538,296
Avg. Household Size	2.24	2.32	2.58
Income			
Median Household Income ($)	$50,181	$48,453	$53,046
Persons below poverty, % 2009-13	11.7	13.6	15.4
Children below poverty, % 2009-13	19.8	18.5	21.6
Sex and Age			
Median Age, Total Population	48.1	42.7	37.2
% Female	51.0	51.1	50.8
% Male	49.0	48.9	49.2
% Under 5 Years	4.7	5.2	6.5
% 18 Years and over	81.2	79.3	76.0
% 65 Years and over	21.5	15.9	13.0
Population Density (sq. mi.)	75.6	43.1	87.4

Source: U.S. Census 2010

2. PREREQUISITES

PLAN ADOPTION

Requirement: §201.6(c)(5): (The plan must include) documentation that the plan has been adopted by the governing body of the jurisdiction requesting approval (e.g. City Council, County Commissioner, Tribal Council). For multi-jurisdiction plans, each jurisdiction requesting approval of the plan must document that it has been formally adopted.

This plan is a multi-jurisdiction plan. Municipalities that participated in the preparation of this plan include:

Alna
Boothbay
Boothbay Harbor
Bremen
Bristol
Damariscotta
Dresden
Edgecomb
Jefferson
Newcastle
Nobleboro
Somerville
South Bristol
Southport
Waldoboro
Westport Island
Whitefield
Wiscasset

Other jurisdictions include:

Monhegan Island Plantation
Unorganized Territory (Hibberts Gore)

A copy of the resolution that was adopted by each participating jurisdiction is shown on the next page. Lincoln County adopted the resolution on behalf of the county and their portion of the Unorganized Territory (Hibberts Gore).

2. PREREQUISITES

RESOLUTION

Whereas, natural and man-made disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save resources, property, and lives in Lincoln County;

And whereas the creation of a multi-jurisdictional Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas, this multi-jurisdictional county of 18 towns, one plantation and a portion of Maine's Unorganized Territory is committed to the mitigation goals and measures as presented in this plan;

Therefore the Boards of Selectmen of the Incorporated Towns and one Plantation hereby adopt the Lincoln County Hazard Mitigation Plan – 2016 Update; and

Therefore, the Lincoln County Commissioners, acting on behalf of the county and its one unorganized gore hereby adopt the Lincoln County Hazard Mitigation Plan – 2016 Update.

Authorizing Signatures

County of Lincoln

Name	Position	Date
Mary Sweet	Commissioner Chair	12/06/16
William B. Blodgett	Commissioner	12-6-16

Lincoln County Hazard Mitigation Plan – 2016 Update

RESOLUTION

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Authorizing Signatures

Town of ALNA

Name	Position	Date
David A. Abbott	First Selectman	8-17-2016
[signature]	Third Selectman	8-17-2016
[signature]	Second Selectmen	8-24-16

2. PREREQUISITES

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Authorizing Signatures

Town of Boothbay

Name	Position	Date
	Selectmen	6/17/16
	Selectmen	6/17/16
	Selectmen	6/17/16

2. PREREQUISITES

RESOLUTION

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Authorizing Signatures

Town of Boothbay Harbor

Name	Position	Date
Laura L. Warren	Selectman	6/13/2016
Wendy Mills	SELECTMAN	6/13/16
Denise Griffin	Selectman	6/13/16
Mark Perkins	Selectman	6/13/16
[signature]	SELECTMAN	6/13/2016

Lincoln County Hazard Mitigation Plan – 2016 Update

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Authorizing Signatures

Town of Bremen

Name	Position	Date
Henry Nevins	Selectman	10/11/16
Wendy Dieh	Chair, Selectmen	10/18/16
John Marsh	Selectman	10.13.16

RESOLUTION

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Authorizing Signatures

Town of Bristol

Name	Position	Date
	Selectman	6/1/2016
	" "	6/1/16
	" "	JUNE 2016

2. PREREQUISITES

RESOLUTION

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Authorizing Signatures

Town of Damariscotta

Signed July 6, 2016 by the Board of Selectmen:

Robin Mayer, Chair

George Parker, Vice Chair

Ronn Orenstein

James Cosgrove

Mark Hagar

2. PREREQUISITES

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Authorizing Signatures

Town of DRESDEN

Name	Position	Date
[signature]	FIRST SELECTMAN AND CHAIR	5/2/16
[signature]	Second Selectman	5/2/16
[signature]	3rd Selectman	5/2/16

TOWN OF DRESDEN
P.O. Box 30
Dresden, ME 04342

Lincoln County Hazard Mitigation Plan – 2016 Update

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Authorizing Signatures

Town of Edgecomb

Name	Position	Date
[signature]	Chairman of Selectman	5/23/16
[signature]	Selectman	5/23/16
[signature]	SELECTMAN	5/23/16

Lincoln County Hazard Mitigation Plan – 2016 Update

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Authorizing Signatures

Town of Jefferson

Name	Position	Date
	Selectperson	5/2/2016
Pamela J. Hatton	Selectperson	5/2/2016
	Selectperson	5/2/2016

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Authorizing Signatures

Town of MONHEGAN PLANTATION

Name	Position	Date
	First Assessor	5/21/16
	3rd Assessor	5/21/16
JAMES W MCDANIEL	2nd Assessor	5/23/16

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Authorizing Signatures

Town of Newcastle

Name	Position	Date
	SELECTMAN	10/17/16
	Selectman	17 OCT 16
	Selectman	10-17-16
	Selectman	10-17-16
	Selectmen	10-17-16

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Authorizing Signatures

Town of Nobleboro

	Name	Position	Date
X	[signature]	Selectman	6-1-16
X	[signature]	Selectman	6-1-16
X			

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Authorizing Signatures

Town of Somerville

Name	Position	Date
[signature]	First Selectman	4 May 2016
Don Chase	2nd Selectman	5/4/16
[signature]	3rd Selectman	5/4/16

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Therefore, the Lincoln County Commissioners, acting on behalf of the county and its one unorganized gore hereby adopt the Lincoln County Hazard Mitigation Plan – 2016 Update.

Authorizing Signatures

Town of South Bristol

Name	Position	Date
Chester H Rice	SELECTMAN	7/28/16
Kenneth D Lewis	Selectman	7/28/16

Prerequisites
2 - 2

2. PREREQUISITES

RESOLUTION

Whereas, natural and man-made disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save resources, property, and lives in Lincoln County;

And whereas the creation of a multi-jurisdictional Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas, this multi-jurisdictional county of 18 towns, one plantation and a portion of Maine's Unorganized Territory is committed to the mitigation goals and measures as presented in this plan;

Therefore the Boards of Selectmen of the Incorporated Towns and one Plantation hereby adopt the Lincoln County Hazard Mitigation Plan – 2016 Update; and

Therefore, the Lincoln County Commissioners, acting on behalf of the county and its one unorganized gore hereby adopt the Lincoln County Hazard Mitigation Plan – 2016 Update.

Authorizing Signatures

Town of SOUTHPORT

Name	Position	Date
Gerald L Sawyer	SELECTMAN	15 Jun 2016
[signature]	SELECTMAN	6-15-16

2. PREREQUISITES

RESOLUTION

Whereas, natural and man-made disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save resources, property, and lives in Lincoln County;

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Therefore, the Lincoln County Commissioners, acting on behalf of the county and its one unorganized gore hereby adopt the Lincoln County Hazard Mitigation Plan – 2016 Update.

Authorizing Signatures

Town of Waldoboro

Clinton Collamore	Select board Chair	Date
Jann Minzy	Select board Vice-Chair	7-26-16 Date
Robert Butler	Select board Member	Date
Abden Simmons	Select board Member	7-26-16 Date
Katherine Winchenbach	Select board Member	7-26-16 Date

2. PREREQUISITES

RESOLUTION

Whereas, natural and man-made disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save resources, property, and lives in Lincoln County;

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Therefore, the Lincoln County Commissioners, acting on behalf of the county and its one unorganized gore hereby adopt the Lincoln County Hazard Mitigation Plan – 2016 Update.

Authorizing Signatures

Town of WESTPORT ISLAND

Name	Position	Date
George D. Richardson	1ST SELECTMAN	4/25/16
Gerald L Bechu	2ND SELECTMAN	4/25/16
Ross Norton	3RD Selectman	4-25-16

2. PREREQUISITES

RESOLUTION

Whereas, natural and man-made disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save resources, property, and lives in Lincoln County;

And whereas the creation of a multi-jurisdictional Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas, this multi-jurisdictional county of 18 towns, one plantation and a portion of Maine's Unorganized Territory is committed to the mitigation goals and measures as presented in this plan;

Therefore the Boards of Selectmen of the Incorporated Towns and one Plantation hereby adopt the Lincoln County Hazard Mitigation Plan – 2016 Update; and

Therefore, the Lincoln County Commissioners, acting on behalf of the county and its one unorganized gore hereby adopt the Lincoln County Hazard Mitigation Plan – 2016 Update.

Authorizing Signatures

Town of Whitefield

Name	Position	Date
[signature]	Selectman	6/14/16
[signature]	Selectman	6/14/16
[signature]	Selectman	6/14/16
[signature]	Selectman	6/14/16

Lincoln County Hazard Mitigation Plan – 2016 Update

RESOLUTION

Whereas, natural and man-made disaster may occur at any time, we recognize that to lessen the impacts of these disasters we will save resources, property, and lives in Lincoln County;

And whereas the creation of a multi-jurisdictional Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas, this multi-jurisdictional county of 18 towns, one plantation and a portion of Maine's Unorganized Territory is committed to the mitigation goals and measures as presented in this plan;

Therefore the Boards of Selectmen of 18 Incorporated Towns and one Plantation hereby adopt the Lincoln County Hazard Mitigation Plan – 2016 Update; and

Therefore, Lincoln County, acting on behalf of the county and its one unorganized gore hereby adopts the Lincoln County Hazard Mitigation Plan – 2016 Update.

Authorizing Signatures

Town of Wiscasset

Name	Position	Date
Benjamin Ring IV	Chairman	5/17/2016
Judy S. Flanagan	Vice-Chair	5/17/2016
Judith R. Colby	Selectman	5/17/2016
[illegible]	Selectman	5/17/2016
[illegible]	Selectman	5/17/2016

3. PLANNING PROCESS

Planning Process	
Requirement §201.6(b)(1): (The planning process shall include) an opportunity for the public to comment on the plan during the drafting stage and prior to plan approval.	
Element	A3. Does the plan document how the public was involved in the planning process during the drafting stage?

Throughout this Plan, the terms "community" and "jurisdiction" are used interchangeably. Either word is understood to include towns and plantations.

The Lincoln County Hazard Mitigation Plan update was a multi-jurisdictional collaborative effort. The Hazard Mitigation Planning Team sought participation through town mailings, surveys, meetings, field visits to potential project sites, postings on the Lincoln County EMA website, emails, social media, and phone calls.

Participants at various meetings discussed county wide and town specific hazards and the probability and vulnerability of certain hazards. Groups also reviewed mitigation projects from the 2011 plan, new projects that have been added for the 2016 update, and discussed any additional projects that were not already identified.

Additional participation was solicited through phone and email correspondence and the Public Review and Comment sessions for any recommendations/comments.

The Planning Team provided expertise, data and assistance in updating the plan. The Hazard Mitigation Planning Team consisted of the following:

Lincoln County Planning Team	
Tod Hartung	Director, Lincoln County Emergency Management Agency
Kristin Draper	Finance Director, Lincoln County EMA
JoAnn Mooney	Maine Emergency Management Agency (MEMA)
Rich Rothe	Consultant

Documentation of local participation. Participation is documented in the paragraphs below. Please note that for Monhegan Island Plantation, an island ten miles offshore, attendance at meetings would have required the extra time, cost, and coordination with ferry schedules and weather issues. Therefore, they relied heavily on "virtual participation" through email or phone conversations.

Local Meetings

The Hazard Mitigation Plan was discussed at various local meetings held at the offices of the Lincoln County Emergency Management Agency in Wiscasset. Each meeting is summarized in the paragraphs below, followed by a table listing the name of participating individuals, their town and where applicable, their title.

Preliminary Planning Meeting, January 22, 2015. Tod Hartung, Lincoln County EMA Director, explained that Lincoln County had been awarded a grant to update the County's Hazard Mitigation Plan – 2011 Update. He stated that it was important for everyone to review the current (2011) plan, determine whether the hazards identified in the plan were still current, and to review and update the

list of projects for their community and whether or not those projects had been completed. He also explained that the County would like to hire a consultant to assist in the preparation of the Update. There was a general discussion about the 2011 plan and the implications of the update for future federal funding assistance.

Local EMA Directors Meeting
January 22, 2015

Name	Town	Title
Michael Dostie	Somerville	Fire Chief, Deputy EMA Dir.
Kris Draper	NA	Lincoln County EMA
Andrew Eckman	Bremen	Deputy EMA Director
Gunnar Gundersen	South Bristol	EMA Director
Stephen Higgins	Wiscasset	-
Jim Kaler	Newcastle	EMA Director
Paul Leeman, Jr.	Bristol	EMA Director
Tony Norman	Bristol	Deputy EMA Director
Steve O'Bryan	Damariscotta	EMA Director
Larry Omland	Edgecomb	EMA Director
Kyle Santheson	Waldoboro	EMA Director
Casey Stevens	NA	Lincoln County EMA

Planning Meeting March 18, 2015. Tod Hartung opened the meeting and introduced JoAnn Mooney from MEMA, and Rich Rothe, the consultant hired to help draft the Hazard Mitigation Plan Update. He stressed the importance of the Update in helping the County and its municipalities address recurring hazards and set priorities for action. Tod emphasized that the Lincoln County EMA encouraged maximum attendance at this meeting by sending emails to local officials and making phone calls. A similar effort would be made for future meetings. He noted that it's important for the County to be involved in these types of planning efforts and to take advantage of funding opportunities to address hazards. Tod explained that a hazard mitigation survey had been sent to each town. Blank copies of the survey were available at the meeting for completion by attendees.

JoAnn provided an overview of the types of mitigation projects that can qualify for federal funding, using graphics to describe the types of projects that are typically included in county plans.

There was a general discussion about the dates for future meetings. Several attendees noted that there has been a turnover of local officials in many communities, and that towns were under a great deal of financial pressure because of general economic conditions and because the state was cutting back on its commitments and passing along costs to towns. There has therefore been very little money available for completing projects identified in the 2011 plan.

Planning Meeting March 18, 2015		
Name	**Town**	**Title**
Roland Abbott	Wiscasset	EMA Director
Michael Dostie	Somerville	Fire Chief
Kris Draper	NA	Lincoln County EMA
Andrew Eckman	Bremen	Deputy EMA Director
Gunnar Gundersen	South Bristol	EMA Director
Tod Hartung	NA	Lincoln County EMA
Roger Higgins	Westport Island	EMA Director
Jim Kaler	Newcastle	EMA Director
Sonia Lilly	Dresden	EMA Director
JoAnn Mooney	NA	MEMA
Tony Norman	Bristol	Deputy EMA Director
Rich Rothe	NA	Consultant
Kyle Santheson	Waldoboro	EMA Director
Gaye Wagner	Westport Island	Clerk, Registrar of Voters, Deputy EMA Director
Roger Whitney	Alna	EMA Director

Local Officials Hazard Mitigation Workshop, April 30, 2015. Tod Hartung opened the meeting by explaining that work had already begun on updating the County's 2011 Hazard Mitigation Plan. He reiterated that it was important for each community to determine whether the hazards identified in the plan were still relevant, or if there had been significant changes, and to review and update the list of projects for their community and whether or not those projects had been completed.

Bob Faunce, Director of the Lincoln County Regional Planning Commission (LCRPC), provided an overview of LCRPC's Sea Level Rise – Coastal Hazard Study which evaluated the potential impacts of increasing sea level on the County's 450 miles of tidal shoreline. The study included 10 sea level rise scenarios. It was generally agreed that sea level rise could have a significant impact on Lincoln County if the more rapid scenarios were to play out.

Local Officials Hazard Mitigation Workshop April 30, 2015		
Name	**Town**	**Title**
Michael Dostie	Somerville	Fire Chief
Kris Draper	NA	Lincoln County EMA
Bob Faunce		Lincoln County Planning Commission
David Greer	Somerville	EMA Director
Susan Greer	Somerville	Selectwoman
Tod Hartung	NA	Lincoln County EMA
Bob Johnson		USCG
Matt Lutkus	Damariscotta	Town Manager
JoAnn Mooney	NA	MEMA
Steve O'Bryan	Damariscotta	EMA Director
Rich Rothe	NA	Consultant
Casey Stevens	Lincoln County 9-1-1	Lincoln County EMA
Gaye Wagner	Westport Island	Clerk, Deputy EMA Director

EMA Directors Meeting, May 21, 2015. Tod Hartung opened the meeting. He reported that work on updating the 2011 Hazard Mitigation Plan is progressing well. He noted that in addition to these regular public meetings, a draft of the plan would probably be available for final public review and comment late in the summer or fall.

Local EMA Directors Meeting May 21, 2015		
Name	**Town**	**Title**
Michael Dostie	Somerville	Fire Chief
Kris Draper	NA	Lincoln County EMA
David Greer	Somerville	EMA Director
Gunnar Gundersen	South Bristol	EMA Director
Tod Hartung	NA	Lincoln County EMA
Roger Higgins	Westport Island	EMA Director
Jim Kaler	Newcastle	EMA Director
Paul Leeman, Jr.	Bristol	EMA Director
Heidi Leinonen	Nobleboro	EMA Director
Tony Norman	Bristol	Deputy EMA Director
Steve O'Bryan	Damariscotta	EMA Director
Larry Omland	Edgecomb	EMA Director
Kyle Santheson	Waldoboro	EMA Director
Casey Stevens	Lincoln County 9-1-1	Lincoln County EMA

Kick-Off Meeting, June 30, 2015. Tod Hartung opened the meeting. He stated that progress is being made on updating the 2011 plan, and stressed the importance of returning the hazard mitigation surveys so that the results can be included in the Update. He noted that severe weather conditions seem to have shifted to the County's peninsulas.

JoAnn Mooney provided an overview of what's presently in the Update and stressed the importance of community involvement in the planning process. She reported that typical projects such as culvert upgrades are experiencing lengthy environmental reviews and that site visits with the regulators can help address potential issues before applications are developed. She also reported that generators are now eligible projects for critical facilities and should be included as projects where applicable. In fact, two Lincoln County communities have already received HMGP grant awards for generators at their fire stations. Communities should view the Update as an opportunity to identify projects that will help them avoid or reduce future damages even if they aren't eligible for federal funding.

There was a general discussion about whether or not the hazards identified in the 2011 plan were still valid. There was general agreement that flooding, severe winter storms and summer storms continue to be hazards that should be addressed in the plan. It was noted that wildfires have not been a significant problem in Lincoln County. However, after considerable discussion, it was generally agreed that wildfire should remain because some homes are located in forested areas, and 90% of the firefighters in the County are volunteers. There can also be "fuel" on the ground from tree damage caused by severe winter and summer storms. Many people fail to understand the importance of keeping a defensible space (free of brush and debris) around their homes. Several of the Fire Chiefs pointed out that a few driveways have proved to be too narrow for today's fire trucks and some fire lanes need better maintenance.

Kick-Off Meeting
June 30, 2015

Name	**Town**	**Title**
David Boynton	Whitefield	Road Commissioner
Mal Carey	Newcastle	Citizen
Kris Draper	NA	Lincoln County EMA
David Greer	Somerville	EMA Director
Susan Greer	Somerville	Selectwoman
James Grenier	Somerville	-
Tod Hartung	NA	Lincoln County EMA
Bob Johnson	?	USCG
Bud Lewis	Nobleboro	Selectman
Harry Lowd	Bristol	Selectman
JoAnn Mooney	NA	MEMA
Tony Norman	Bristol	Deputy EMA Director
Steve O'Bryan	Damariscotta	EMA Director
Frank Ober	Whitefield	Selectman
Rich Rothe	NA	Consultant
Peter Tichbein	Alna	-

Public Comment and Review Session, December 17, 2015. Tod Hartung opened the meeting. He stated that the purpose of the meeting is to receive public comment and review on the draft Lincoln County Hazard Mitigation Plan 2016 Update. JoAnn Mooney provided an overview of hazard

mitigation planning in Maine and stressed the importance of having a multi-jurisdiction plan that addresses natural hazards that could affect Lincoln County. The meeting included a work session during which representatives from various communities reviewed the plan, the projects specific to their communities, and the maps which are part of the draft Plan. As a result of this review, nine communities identified specific map updates and corrections (all of these maps have since been updated). Several officials asked for more time to update the project list with input from their respective communities. It was agreed that changes and corrections should be submitted to Lincoln County EMA by January 15, 2016.

Public Comment and Review Session
December 17, 2015

Name	Town	Title
Mal Carey	Newcastle	Citizen
Ken Desmond	NA	Lincoln County EMA
Michael Dostie	Somerville	Fire Chief
Kris Draper	NA	Lincoln County EMA
Gunnar Gundersen	South Bristol	EMA Director
Chad Hanna	Bristol	Selectman
Tod Hartung	NA	Lincoln County EMA
Roger Higgins	Westport Island	EMA Director
Jim Kaler	Newcastle	EMA Director
Paul Leeman, Jr.	Bristol	EMA Director
JoAnn Mooney	NA	MEMA
Tony Norman	Bristol	Deputy EMA Director
Rich Rothe	NA	Consultant
Kyle Santheson	Waldoboro	EMA Director
Jack Sarmanian	Edgecomb	Selectman
Dick Spear	Nobleboro	Selectman
Casey Stevens	Lincoln County 9-1-1	Lincoln County EMA
Bill Witzell	Edgecomb	EMA Director
Roy Young	Damariscotta	Police Chief

Hazard Mitigation Survey

In the spring of 2015, Lincoln County EMA distributed a survey to municipalities, asking about specific areas subject to flooding, winter and summer storms, and wildfire as well as “other” concerns they might have. Survey responses, and the list of participants and their positions in the respective communities, included:

Name	Town	Title
Marian Anderson	Wiscasset	Town Manager
Lynn Bond	Jefferson	Town Clerk
David Greer	Somerville	EMA Director
Gunnar Gundersen	South Bristol	EMA Director
Henry Nevins	Bremen	Selectman
Jack Sarmanian	Edgecomb	Chair, Selectmen
Unknown	Nobleboro	NA
Thomas Woodin	Boothbay Harbor	Town Manager

SUMMARY OF LOCAL PARTICIPATION

Municipality	EMA Directors Meetings	Kick-Off Meeting	Other Meetings	Hazard Mitigation Survey	Projects Verified by Road Commissioners	Emails re: plan updating
Alna		X	X		X	X
Boothbay					X	X
Boothbay Harbor				X	X	X
Bremen			X	X	X	X
Bristol	X	X	X		X	X
Damariscotta	X	X	X		X	X
Dresden			X		X	X
Edgecomb	X		X	X	X	X
Jefferson			X	X	X	X
Monhegan Island Plantation					X	X
Newcastle	X	X	X		X	X
Nobleboro	X	X	X	X	X	X
Somerville	X	X	X	X	X	X
South Bristol	X		X	X	X	X
Southport					X	X
Waldoboro	X		X		X	X
Westport Island	X		X		X	X
Whitefield		X	X		X	X
Wiscasset			X	X	X	X

Status of local participation.

Comparing past and present participation			
Jurisdictions	**2005 Participation**	**2011 Participation**	**2016 Participation**
Lincoln County (and UT)	X	X	X
Alna, Town of	X	X	X
Boothbay, Town of	X	X	X
Boothbay Harbor, Town of	X	X	X
Bremen, Town of	X	X	X
Bristol, Town of	X	X	X
Damariscotta, Town of	X	X	X
Dresden, Town of	X	X	X
Edgecomb, Town of	X	X	X
Jefferson, Town of	X	X	X
Monhegan Island Plantation	X	X	X
Newcastle, Town of	X	X	X
Nobleboro, Town of	X	X	X
Somerville, Town of	X	X	X
South Bristol, Town of	X	X	X
Southport, Town of	X	X	X
Waldoboro, Town of	X	X	X
Westport Island, Town of	X	X	X
Whitefield, Town of	X	X	X
Wiscasset, Town of	X	X	X

Opportunity for Neighboring Communities, Regional Agencies	
Requirement §201.6(b)(2): (The planning process shall include) an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process.	
Element	A2. Does the Plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process?

Since this is a multi-jurisdictional plan, all meetings were with neighboring communities, either adjacent to each other or within the County. Opportunities for local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process were given in the form of town mailings, the Lincoln County EMA website, social media, emails and phone calls. Many of the local officials involved in the 2016 update of the plan work in various agencies, businesses, academia and nonprofit organizations.

4. RISK ASSESSMENT

Risk Assessment

Requirement: §201.6(c)(2): (The plan must include) a risk assessment that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to prioritize mitigation actions to reduce losses from identified hazards.

The Code of Federal Regulations, §201.6(c)(2) of the Rule outlines specific information that Lincoln County must consider when completing the risk assessment portion of this mitigation plan. Our local risk assessments provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards. This plan includes detailed descriptions of all the potential hazards that could affect the jurisdiction along with an analysis of the jurisdiction's vulnerability to those identified hazards. Specific information about numbers and types of structures, potential dollar losses, and an overall description of land use trends in the jurisdiction are included in this analysis. Because this is a multi-jurisdictional plan, the risks that affect only certain regions of the County were assessed separately in the context of the affected region.

Climate (based on excerpts from State of Maine Hazard Mitigation Plan – 2013 Update)

No risk assessment of Lincoln County's flood and related hazards would be complete without first considering its climate and geography. Factors such as seasonal temperatures, annual precipitation, prevailing wind directions and geographical features can all profoundly affect both the occurrence and severity of flooding and related hazards.

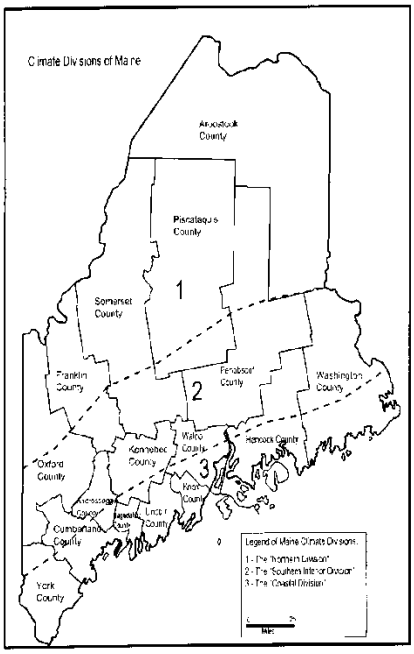
Lincoln County is located entirely in the Coastal Division of Maine's three climatic divisions. The Coastal Division encompasses a 20-30 mile band along the coast of 4,992 square miles (15%) of the State. This division is most affected by the ocean, but has minimal elevation change and thus, minimal climatic impact from any topographic controls.

Temperature: Average annual temperature is about 41 degrees Fahrenheit. Temperatures average about 64 degrees Fahrenheit in July and August, and about 17 degrees Fahrenheit in January and February.

Precipitation: Lincoln County's average amount of precipitation, based on long-term records dating back to 1895, is about 46 inches per year. This includes the conversion of all snowfall to a water-equivalent. Average monthly precipitation is between three and four inches, with November being the wettest month, and February being the driest month. Coastal storms provide the abundant winter precipitation, whereas the cool ocean water and sea breeze help to limit convective activity during the summer, thus inhibiting abundant thunderstorm activity that is responsible for so much of the summer precipitation in the rest of the central and eastern parts of the country.

Prevailing Winds: Prevailing wind direction varies with both season and location. Local influences such as orientation of a valley also may play a key role in dictating prevalent wind direction at any one location. Most of the County is under northwest to west-northwest winds throughout much of the year and particularly during the winter. During the summer, southwest to southerly winds prevail. Part of the reason for the prevalence of winds from these directions during the summer is the frequent formation of a sea breeze. A sea breeze can kick-in anywhere along the coast during the spring as well. The formation of a sea breeze especially occurs when regional winds are weak during the summer months. The sea breeze produces the cool, refreshing temperatures during the summer along the coast.

Climate Divisions of Maine



Climate Variation

The purpose of this part of the plan is not to debate climate change or its causes, but to provide an overview of how climate has changed over time, as documented in various scientific studies, and how that change may be impacting the occurrence and severity of natural hazards in Lincoln County. Projecting future climate change can be problematic because, as stated in the document "Maine's Climate Future, 2015 Update," by the University of Maine, "Climate projections are uncertain for several reasons: natural climate variability, incomplete descriptions of the climate system in computer models, and difficulty in predicting future greenhouse gas emissions (page 6).

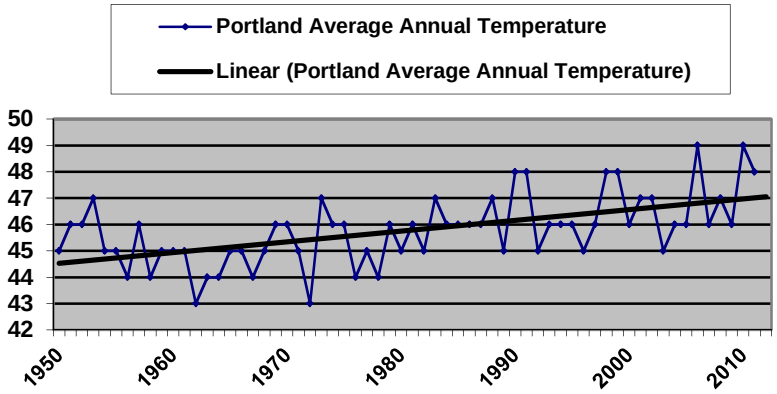
Temperature Changes: Excerpts from the report "Maine's Climate Future, 2015 Update," prepared by the University of Maine, includes the following:

> "Average annual temperature across Maine warmed by about 3.0 degrees F between 1895 and 2014….Although the overall warming trend…is clear, Maine's temperature signal also features significant year to year fluctuations superimposed on a distinct pattern with periods of relative cold…and warmth…" (page 2).
>
> "Numerical models of the global atmosphere and ocean have been in development for over three decades. The most sophisticated of these models, such as those used by the Intergovernmental Panel on Climate Change (IPCC)…predict that annual temperature will increase another 3.0 – 5.0 degrees F…across Maine between now and 2050" (page 3).
>
> "Maine's warm season…increased by two weeks from the early 1900s to the 2000s. Global climate models predict that the warm season will increase by an additional two weeks over the next 50 years. Winter is warming at a faster rate than summer" (page 3).

The following is an excerpt from the Maine State Hazard Mitigation Plan 2013 Update: "The National Weather Service in Gray, Maine, has compiled monthly average and annual average temperatures for a long period of time at three locations in Maine: The Portland International Jetport (1940-present); the Bangor International Airport (1953-1994 and 1999-present), and the Caribou Airport. The data from all three measuring stations show that annual average temperatures have gradually

increased at all three locations…although the increase has been greatest at the Portland Jetport station" (page 3-4).

The chart below, taken from the State's Hazard Mitigation Plan, page 3-5, shows how temperature has changed at the Portland Jetport between 1950 and 2010.



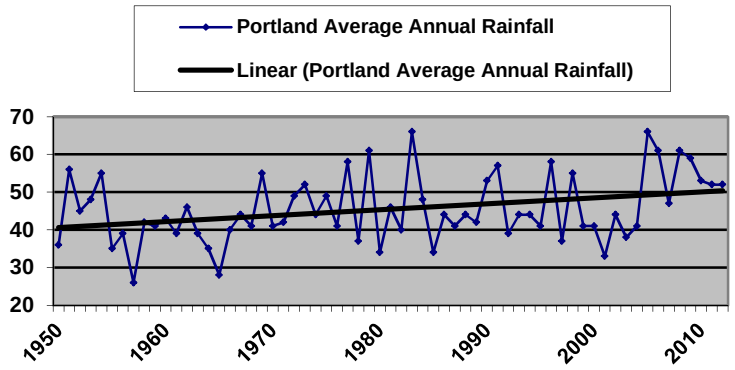
According to "Maine's Climate Future, 2015 Update," the impacts of rising temperature in Maine include an increase in Lyme disease resulting from more suitable habitat for deer ticks and their hosts, and stresses on Maine's plant and animal species. The report does not indicate that temperature increases affect the severity of the hazards identified in this plan.

Precipitation Changes: Excerpts from the report "Maine's Climate Future, 2015 Update," include the following:

> "Since 1895, total annual precipitation has increased by about six inches…or 13%, with most of the additional amount falling in summer and fall. IPCC models predict that precipitation will continue to increase across the Northeast by 5-10% between now and 2050, although the distribution is likely to vary across the climate zones. Model predictions show greater increases in precipitation in interior Maine…whereas measurements to date from the weather stations across the Maine landscape show that precipitation has increased most along the coast" (page 8).
>
> "A significant increase in extreme precipitation events (more frequent and intense storms) has been observed across Maine and other parts of the eastern U.S.…we define an extreme precipitation event for this analysis as one in which two or more inches (five or more cm) of precipitation falls within a 24-hour period. Historical measurements show that extreme events vary across the state, occurring most often in the coastal zone and western mountains."(page 9).
>
> "In general, the snow season has declined on average across Maine since the late 1800s…On a simplified linear trend, the snowfall has declined by about 15%....although the amount and duration of snow may decline in the future, extreme snowfall events with significant accumulation – strong nor'easters – are likely to increase in frequency" (page 10).
>
> "The Northeast has experienced a greater recent increase in extreme precipitation than any other region in the U.S.; between 1958 and 2010, the Northeast saw more than a 70% increase in the amount of precipitation falling in very heavy events, taxing an already stressed and aging infrastructure" (page 11).

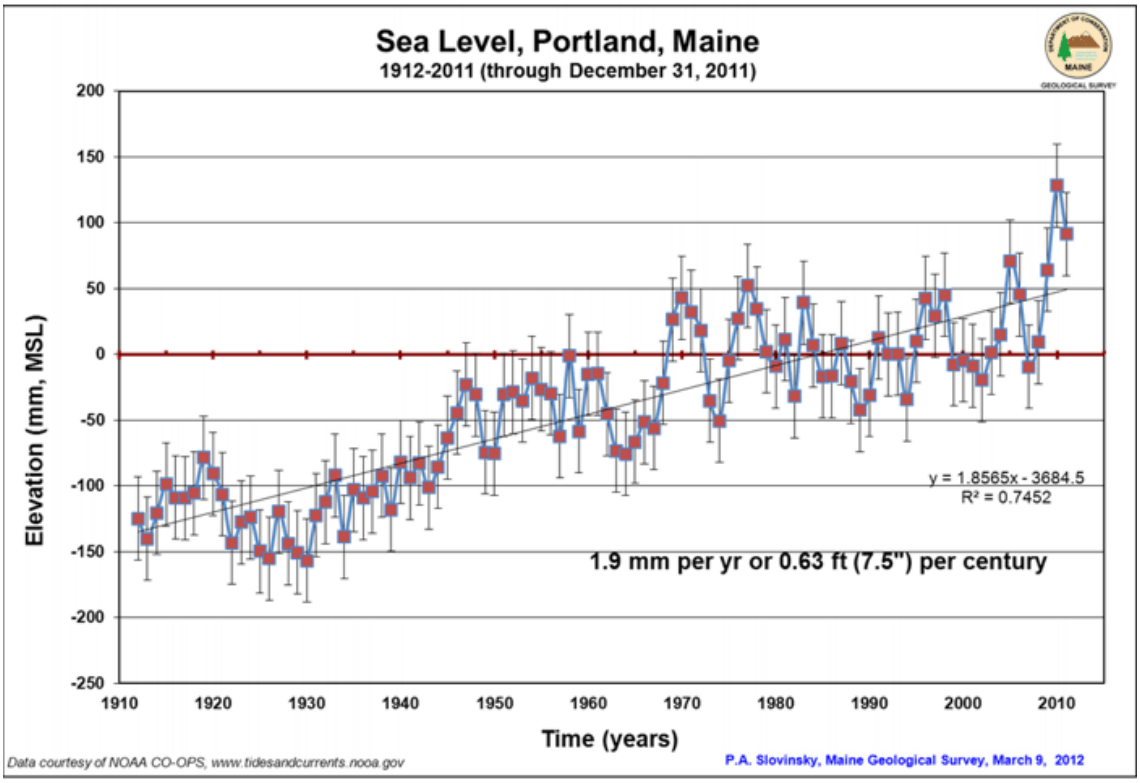
The following is an excerpt from the Maine State Hazard Mitigation Plan 2013 Update: "The National Weather Service has also compiled monthly average and annual average precipitation at the Portland Jetport, the Bangor International Airport and the Caribou Municipal Airport. The data from all three measuring stations show that average annual precipitation …has gradually increased at all three locations…The increase has been greatest at the Portland Jetport and the Caribou Municipal Airport" (page 3-5).

The chart below, taken from the State's Hazard Mitigation Plan, page 3-6, shows how precipitation has changed at the Portland Jetport between 1950 and 2010.

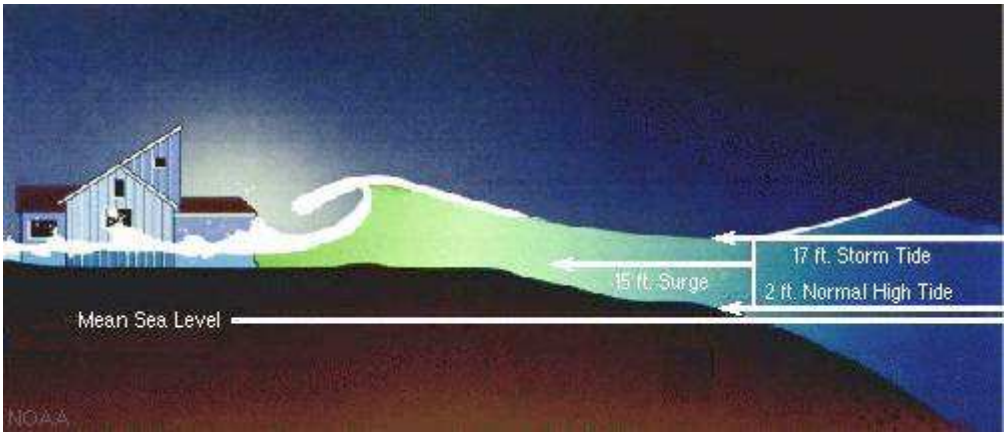


Sea Level Rise. According to the State's Hazard Mitigation Plan, Maine's coast has been and will continue to be profoundly affected by an increase in sea level. Based on information from the Maine Geological Survey's website, the Portland, Maine, tidal station measures water levels in real-time, six-minute intervals, 24 hours a day. The Portland tidal station is one of the longest continuously operating tidal stations in the United States. For annualized data from 1912 through the end of 2011, the Portland gauge has shown an increase in mean sea level of approximately 1.9 mm per year, or about 7.5 inches over the past 100 years, as shown in the chart on the next page.

The result of the gradual increase in sea level has been increased flooding, erosion of coastal bluffs and landslides. The consensus of the scientific community, reflected in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) is that sea level will continue to rise at an accelerating rate through the year 2100.



One of the consequences of sea level rise is the damage that can occur from storm surges. Storm surge is simply water that is pushed toward the shore by the force of the winds swirling around the storm as well as low barometric pressure. This advancing surge combines with the normal tides to create the storm tide. In addition, wind driven waves are superimposed on the storm tide. This rise in water level can cause severe flooding in coastal areas, particularly when the storm tide coincides with the normal high tides. The following illustration shows how storm surge can increase flooding risk.



No one knows for sure how high the sea will rise or how quickly it will occur, but the IPCC has prepared a range of scenarios based on a scientific analysis of a number of variables including glacial ice melt, thermal expansion of water due to global warming, slowing of the Gulf Stream (there has been a 25% reduction during the past decade), and the melting of ice caps in Greenland and Antarctica. Based on the IPCC's projections, the Maine Geological Survey (MGS) is using for its studies a conservative, mid-range estimate of two (2) additional feet of sea level rise by the year 2100.

Along the Maine Coast, a sea level rise of one (1) foot means more homes, businesses, public infrastructure such as roads, and entire communities could be subject to more devastating coastal floods on a more frequent basis.

Lincoln County Sea Level Rise – Coastal Hazard Study

Based on information obtained from the Lincoln County Regional Planning Commission's website, the Lincoln County Sea Level Rise – Coastal Hazard Study was conducted jointly by the Lincoln County Regional Planning Commission (LCRPC) and the Maine Geological Survey (MGS) with support from the Maine Coastal Program. The purpose of the study was to determine the potential impacts of increasing sea level on the County's 450 miles of tidal shoreline. The study included 10 sea level rise scenarios including the impacts of 0.3 m (1-foot), 0.6 m (2-foot), 1 m (3.3 foot) and 1.8 m (6-foot) increases in sea level on the highest annual tide (HAT) as well as the "Storm of record", which for Lincoln County was the February 1978 storm, which resulted in the highest observed Stillwater elevations along the Maine coastline. The storm combined an approximate 3.5 feet of storm surge with astronomically high tides.

Identifying Hazards

Requirement §201.6(c)(2)(i): (The risk assessment shall include) a description of the type, location and extent of all natural hazards that can affect the jurisdiction.

Description of All Natural Hazards potentially affecting Lincoln County

The Lincoln County Hazard Mitigation Planning Team identified several natural hazards that are addressed in the Lincoln County Multi-jurisdictional Hazard Mitigation Plan. These hazards were identified through an extensive process that utilized input from the Hazard Mitigation Planning Team members (comprised of representatives from county, industry, infrastructure and municipal governments), public input via our website, social media, public comments during Select Board meetings, researching past disaster declarations in Lincoln County, a review of current maps, and a risk assessment completed by the Lincoln County Emergency Management Agency in conjunction with the Hazard Mitigation Planning Team.

The following table identifies the natural hazards to be profiled as well as the hazards that were eliminated from further consideration in the plan, due to a lack of historical evidence, lack of overall county-wide severity or a low likelihood for the event to occur. However, although these disaster events were not profiled in the hazard mitigation plan, it does not certify that any of these events will not or could not occur and cause great damage. It was decided by the Lincoln County Hazard Mitigation Planning Team to keep our plan simple by only profiling the top four hazards.

Summary of All Natural Hazards Potentially Affecting Lincoln County

Natural Hazard	Determination of Applicability to Lincoln County	Comment
Hazards Profiled in this Plan		
Flooding	Review of FIRM Maps Review of SLOSH Maps Input from residents Review of past disaster declarations Identification of repetitive losses Risk Assessment – State Plan-2013	Associated with the effects of spring runoff and coastal storms. Several repetitive loss properties and roadways are located in the County. The County contains two minor rivers and a number of streams and lakes.
Severe Summer Storms	Review of State Plan Review of County Plans Review of past County damages Discussion of changes in risks	In the last five years, the intensity of high wind and rain events appears to be increasing in Lincoln County.
Severe Winter Storms	Review of past disaster declarations Inputs from residents Risk assessment	Lincoln County is frequently hit with blizzards and “Northeaster” storms. Its coastal communities are often subject to ice storms.
Wildfire	Maine Forest Service records Inputs from residents Risk assessment	Much of the County is covered with forests. Wildfires have been numerous, though small, in the past.

Hazards not Profiled in this Plan		
Avalanche	Review of USGS Maps	There are no mountains in Lincoln County that hold large amounts of snow which could create avalanches.
Blight/ Infestation	Review of State Entomological Office historical records Inputs from residents Risk Assessments	Though Lincoln County is heavily dependent on its agricultural production, to include forestry, farming and fishing, there are no historical records of major damage to these products that have caused serious economic conditions.
Erosion	Input from NRCS Input from Maine DEP Input from residents	Lincoln County is undergoing development pressure along the coast. This could exacerbate erosion along local roads. See flooding section.
Dam Failure	Review of Historical Records Risk Assessment on page 17	There have been no dam failures in the history of the county that have caused major flooding or damages, but two small dams did fail – see Flood section of profiled hazards.
Drought	Review of State EMA records Review of NOAA records	Rainfall data doesn't show a serious problem. The drought effects have never been sufficient enough to create disaster conditions.
Earthquake (5.0 magnitude)	Review of Maine Geological Survey records	Although Earthquakes are common in Maine, no significant damaging movement has occurred in 20,000 years in Lincoln County.
Epidemic	Review of Maine Dept. of Human Services records	There have been no major outbreaks of disease that have caused serious harm in Lincoln County in many years.
Hurricanes	Review of past disaster declarations Input from residents Risk Assessment on page 16	The County is hit about every decade by a Category 1 hurricane. The primary damage is caused by high winds and flooding and these effects are discussed under the severe summer storm Hazard.
Landslide	Review of Maine Geological Survey records	Landslides are not common in Lincoln County.
Subsidence	Review of Maine Geological Survey records	There have been no known cases of subsidence in Lincoln County.
Tornado & Severe Wind Storms	Review of NWS records	On average, 1-2 F0-F1 tornadoes occur in the State of Maine each year, yet there have been no loss of life or major damages in many years in Lincoln County. Neither have there been any recorded damages from microbursts or wind storms other than downed trees and power outages.

Rating of Natural Hazards

The following table rates the natural hazards to be profiled.

Key to Rating

Severity of hazard

3	Severe:	Multiple deaths, mass casualties, or millions of dollars in damages
2.5	High:	Deaths or injuries; or $100,000s in damages
2	Moderate:	Single death or several injuries; or $10,000s in damages
1.5	Low:	Injuries; or $1,000s in damages
1	Slight:	No deaths, single injury; or $100s in damages

Likelihood of Hazard

A.	Very Likely
B.	Possible
C.	Very unlikely

Rating of Hazards by Hazard Mitigation Planning Team

Type of Hazard	Potential Damages	Source of Information	Rating	Priority
Flooding	Damages to structures in flood zones, bridges, culverts and roads	FEMA, MEMA Sources	3A	1
Severe Summer Storm	Damages to structures in flood zones, bridges, culverts and roads; downed power lines	FEMA, MEMA Sources	2.5A	2
Severe Winter Storm	Downed power lines, blocked roadways and heavy snow damage	FEMA, MEMA Sources	2A	3
Wildfire	Timber lost, homes lost, businesses lost	Maine Forest Service/ MEMA	2B	4

Profiling Hazards	
Requirement §201.6(c)(2)(i): (The plan shall include) a description of the type, location and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.	
Element	B1. Does the Plan include a description of the type, location and extent of all natural hazards that can affect each jurisdiction?
	B2. Does the plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction?

FLOODING

Lincoln County is subject to coastal storm surge and flooding. There are three rivers located within the borders of Lincoln County. The Damariscotta River is bordered by the towns of Boothbay, Boothbay Harbor, Damariscotta, Edgecomb, Jefferson, Newcastle, Nobleboro and South Bristol. The Sheepscot River is bordered by the towns of Alna, Boothbay, Boothbay Harbor, Edgecomb, Newcastle, Southport, Westport Island, Whitefield and Wiscasset. The Medomak River is bordered by the towns of Bremen and Waldoboro. There are no large dams on any of these rivers. The Damariscotta River has one small dam located in the town of Damariscotta. Flooding from the Damariscotta and Sheepscot rivers has occurred on several occasions in Lincoln County communities.

General Definition of Flooding. A temporary inundation of normally dry land as a result of: 1) the overflow of inland waters; and/or 2) the unusual and rapid accumulation or runoff of surface waters from any source. Note: the nature of Lincoln County's geology and hydrology is such that flooding is usually fast rising but of short duration.

Types of Flooding in Lincoln County. There are several different types of potential flooding in Lincoln County:

- **Coastal Flooding.** The temporary inundation of beaches and other land areas by the sea, usually as a result of coastal storms. Coastal flooding comes with two significant components: still water and storm surge. The typical high winds associated with coastal flooding exacerbate the flooding by "pushing" more water toward land. A nor'easter can cause a storm surge along the coast of Maine. Fetch, or the distance the wind can blow toward the shore from out at sea is a significant factor in coastal flooding depths. The shape of the ocean floor just offshore is another variable.
- **Dam Failure/Breach.** The sudden release of water resulting from structural collapse or improper operation of the impounding structure. Dam breach can cause rapid downstream flooding, loss of life, damage to property, and the forced evacuation of people. A dam breach has a low probability of occurring, but a potentially high impact. It's different than the other types of flooding because it's due to man-made causes, but it is included under flooding because the results and impacts are the same as flooding.
- **Riverine/Riparian.** Periodic overbank flow of rivers and streams, usually the result of spring runoff, but can also be caused by major rain storms.
- **Tsunami.** A wave produced by a disturbance that displaces a large mass of water – usually a result of geologic activities such as earthquakes, volcanic eruptions, underwater landslides, or in rare geologic cases, meteor strikes. After such a disturbance, displaced water travels outward from its site of origin as a series of unusually large waves at great speeds (Komar, 1996). All areas with an elevation less than 100 feet and within a mile of the coast could be impacted by a tsunami. Based on information obtained from the Maine Geological Survey, the chances of a catastrophic event are minimal. Moreover, with the presence of the relatively

shallow Georges Bank offshore, Maine remains protected from the full force of an Atlantic Ocean tsunami.

- **Urban.** Overflow of storm sewer systems, usually due to poor drainage, following heavy rain or rapid snow melt. The combined sanitary and storm water systems that some urban areas installed years ago cause flooding of sanitary sewerage when riparian or coastal floods occur. Runoff is increased due to a large amount of impervious surfaces such as roof tops, sidewalks and paved streets.

Location of Flooding Hazard

The County EMA has reviewed the County's Flood Insurance Rate Maps (FIRMs) and Flood Insurance Studies to compile a profile of the flooding hazard in the County. The EMA staff completed research on flooding history in the County and indicated this data on the GIS municipal base maps. The municipal base maps show the areas susceptible to potential flooding from coastal storms. This research indicated a clear picture of areas and structures most vulnerable to flooding.

The most susceptible communities to coastal flooding are the downtown district areas of Boothbay Harbor, Damariscotta and the C1 commercial district of Boothbay. Furthermore, Westport Island and Southport could be cut off from the mainland when their bridges to the mainland become flooded.

Based on information obtained from the Lincoln County Regional Planning Commission's (LCRPC) website, the Lincoln County Sea Level Rise – Coastal Hazard Study evaluated the potential impacts of increasing sea level on the County's 450 miles of tidal shoreline. The study included 10 sea level rise scenarios. The scenarios include impact at HAT (highest annual tide), HAT + 0.3 m (1 foot sea level rise), impact at 100-year storm (1978 storm), and impact at 100-year storm + 0.3 m. For more information, refer to the study at the LCRPC website. As of this writing, information is not available for all coastal communities.

FIRM Maps. The Lincoln County Regional Planning Commission has created a Google Earth-Based version of the FEMA Flood Insurance Rate Maps (FIRMs) for Lincoln County that are scheduled to go into effect on July 16, 2015. The special flood hazard areas shown on these maps are areas that are susceptible to the 1% annual chance flood (100 year storm). The maps created by LCRPC include each town's FIRM, as well as the town's parcel layer in Google Earth format.

Municipal Survey – Location of Flood-Prone Areas. The following is a summary of areas that could be subject to flooding and/or that have had repeated flood damages in specific jurisdictions, as identified in the Lincoln County Hazard Mitigation Planning Survey 2015.

- **Bremen:** Properties on Medomak River, Biscay Pond, Pemaquid Pond, McCurda Pond, Route 32 in Bremen, Muscongus Road.
- **Bristol:** Split Rock Road – flooding in one area; Route 130 below New Harbor Village.
- **Edgecomb:** Mt. Hunger West, Spring Hill Farm Road, Old County Road, McKay Road, and sections of River Road which is a state road.
- **Jefferson:** The whole town.
- **Newcastle:** Cunningham/Island Causeway, East Old County Road, North Newcastle Road at Brooks' Pond.
- **Nobleboro:** Swamp on East Pond Road; bridge culvert on Bremen Road.
- **Somerville:** Crummett Mountain Road (bog area near Route 17), Sand Hill Road (upper portion and Brann Road intersection); Colby Road (near creek/access to Turner Pond).
- **South Bristol:** Split Rock Road, east of Sproul Road.
- **Westport Island:** West Shore Road causeways – both Dike Bridge and Heal Pond are vulnerable to flooding with severe storms, especially with astronomical high tides. Heal Pond

causeway does not have a culvert, the water runs through the ledge, and gets sinkholes with flooding. Excessive storm water can also cause road overtopping on Doggett Road. Many roads in various storm conditions can incur damage because of ledge bed with improper drainage due to ledge outcroppings.

- **Wiscasset:** sewer treatment plant.

Extent (Severity) of the Hazard

Flood damages to roads, bridges and ditches continue to be the most common occurrence throughout Lincoln County, especially in heavy rain events (> 3-5" in 24 hours). Depending on the saturation level of the ground at the time of the event, and the duration of the storm, the extent of damages can vary from a few overwhelmed culverts to major road washouts throughout the county. Note the range in severity of flooding events on page 4-15.

The extent of the flooding hazard under the various sea-level rise scenarios has not been determined for individual roads and culverts. This would have to be calculated on a case-by-case basis.

Nature of the Hazard from Coastal Flooding. The gradual rise in the level of the sea is having a profound effect on the nature of coastal flooding. The sea has risen about six inches since 1900, and is conservatively projected by the Maine Geological Survey to rise by roughly two additional feet by 2100. Along the Lincoln County Coast, if the 10-year and 100-year storm elevations are only one foot apart, a sea level rise of one (1) foot means that a storm that had a 1% chance of occurring in any one year (the 100-year storm) at the original elevation will have a 10% chance of occurring in any one year (the 10-year storm) at the new elevation. As a result, more homes, businesses, public infrastructure such as roads, and entire communities will be subject to more devastating coastal storms, as well as coastal erosion and landslides, on a more frequent basis. There is also concern in the scientific community that global warming may be increasing the intensity of coastal storms.

Wave action generated by winter storms, particularly northeasters, is the most threatening cause of coastal flooding. The Patriot's Day storm that occurred on April 16, 2007, was a northeaster that caused significant damage throughout Lincoln County.

Dam failure risk. Maine dams were constructed incrementally over a period of 300 years. Businesses harnessed the abundant fast flowing rivers and rocky rapids for the development of energy and transportation. Many dams throughout the country are now aged, and in Maine the majority of these structures are nearly 100 years old and beyond the normal design life of civil engineering works. Many are low head dams constructed using local materials of stone, timber and earth.

Dam failure is not a frequent occurrence, but it can and does occur. There have been two dam failures in Lincoln County in recent years. In 2004, the Meadow Cove Dam in Boothbay breached, causing about $30,000 in damages. It has since been repaired. In 2005, during the April flooding events, the Sherman Lake Dam in Newcastle washed out, but no lives or buildings were lost. It was not replaced.

Maine law, consistent with federal law, classifies the hazard potential of dams as High, Significant or Low. If they fail, High Hazard dams could cause loss of life; Significant Hazard dams could cause significant property damage and Low Hazard dams would generally cause damage only to the owner's property. Therefore, it's possible that a small (low head) dam located above a large community could be rated High Hazard while a structurally larger dam sited in an unpopulated area could be a Low Hazard potential.

Most Lincoln County dams are located at the outlets of lakes and ponds and are small in size. The State of Maine maintains an inventory and condition rating for all dams in the State. Based on a review of this inventory, there are 39 dams in Lincoln County, including five No Hazard dams, 25 Low Hazard Dams, and nine Significant Hazard Dams (there are no High Hazard Dams). The following table provides a summary of the Significant Hazard dams in Lincoln County.

Lincoln County Significant Hazard Dams

MEMA ID/H/S	Dam Name	Dam Location	Dam Owner
00455	Appalachee Pond	Boothbay Harbor	Appalachee Village Assoc.
00454	Southport Water Supply	Southport	Southport
96163	Lower Great Brook	Damariscotta	Great Salt Bay Sanitary District
96162	Heart Pond	Damariscotta	Great Salt Bay Sanitary District
96164	East Branch	Damariscotta	Great Salt Bay Sanitary District
96165	Great Brook	Damariscotta	Great Salt Bay Sanitary District
00746	New Pond	Damariscotta	Great Salt Bay Sanitary District
00361	Meadow Cove	Boothbay Harbor	Paolilo
00791	Merserve	Jefferson	Town of Jefferson

With respect to the significant hazard dams shown in the table, Boothbay Harbor, Damariscotta, Jefferson and Southport would be most at risk from a dam breach since release of impoundments of those dams could cause infrastructure damages, especially to downstream roads and bridges.

Previous Occurrences

The following table contains a summary of floods that have occurred in Lincoln County, as reflected primarily in Presidential Disaster Declarations.

Historical Summary of Major Flood Events in Lincoln County Since 1987

Year	Month	General Description	Presidential Disaster Declaration #
1987	Apr 1	Major damage to homes, businesses, public buildings, sanitation facilities, erosion	FEMA 788
1993	Apr	Heavy rains, snow melt, road & culvert damage	FEMA 988
2005	Mar 29-May 3	Severe storms, flooding, snow melt & ice jams	FEMA 1591
2006	May 13	Flooding	FEMA 1691
2007	Apr 15-23	Severe storms and inland and coastal flooding	FEMA 1693
2008	Apr 28-May 4	Severe storms and flooding	FEMA 1755
2008	Dec 11-29	Severe winter storm and flooding	FEMA 1815
2009	June 18-Jul 9	Severe storms, flooding, landslides	FEMA 1852
2010	Feb 23-Mar 2	Severe winter storms and flooding	FEMA 1891

Source: FEMA website and MEMA records

Patriot's Day Storm, April 16, 2007. The Patriot's Day Storm of 2007 was the most damaging storm to hit Lincoln County in recent years. According to the Gulf of Maine Ocean Observing System website, the Patriot's Day Storm of 2007 will be long remembered for its meteorological significance and devastating power. Violent waves destroyed homes, businesses, coastal roads and beaches, while forceful winds tore down power lines, leaving many residents in the dark for days. Portland had a peak wind of 59 mph measured on April 16th. An abnormally high spring tide plus a storm surge of 3 feet (2.72 feet at the Portland tide gauge) produced a high tide of 13.28 feet (the 7th highest tide measured since the early 1900s).

The National Weather Service's models had predicted a large snowstorm the week before that didn't occur. Instead, the jet stream carried the storm's energy over New England, dropping five to eight inches of rain along the coast, resulting in a significant coastal flooding event. During the Patriot's Day storm, there were four high tide cycles in which the water was near or above flood stage and the waves were greater than 10 feet in height. This combination caused the tremendous amounts of damage seen during the storm (Gulf of Maine Ocean Observing System web site).

Flood Losses in Dollars by Municipality. The following table contains a summary of flood losses by Town for various Federal Disaster Declarations since 1987. The table includes only public assistance losses and does not include individual and business losses which can be substantial.

Historical Summary of Major Flood Events in Lincoln County Since 1987									
	Flood Disaster #, Year, and Damages								
	#788 1987	**#988 1993**	**#1591 2005**	**#1691 2007**	**#1693 2007**	**#1755 2008**	**#1815 2008**	**#1852 2009**	**#1891 2010**
Alna	0	0	$30,149	0	$24,871	0	0	0	0
Boothbay	0	0	0	0	151,713	0	0	0	0
Boothbay Harbor	0	0	8,281	0	73,620	0	$61,045	0	$16,839
Bremen	0	0	5,455	$1,404	32,971	$10,255	10,942	0	15,882
Bristol	0	0	17,439	7,783	148,137	51,260	20,618	0	15,616
Damariscotta	0	0	0	0	38,394	12,399	4,149	0	2,327
Dresden	$4,325	0	18,893	0	34,355	0	6,270	$22,614	23,854
Edgecomb	0	0	0	0	98,908	37,839	20,476	65,882	35,379
Jefferson	0	$344,108	14,217	5,856	12,105	14,071	14,729	32,773	0
Monhegan Island Plt	0	0	13,050	0	28,741	0	0	0	0
Newcastle	0	0	49,416	0	178,185	33,850	14,961	134,709	13,870
Nobleboro	0	0	10,878	0	4,472	0	18,892	0	8,455
Somerville	12,341	0	99,868	0	48,086	0	0	0	0
South Bristol	0	0	0	1,461	54,290	0	0	0	15,818
Southport	0	0	0	0	13,385	0	0	0	11,026
Waldoboro	17,305	0	0	24,466	78,128	96,706	135,558	22,151	31,472
Westport Island	0	0	32,970	0	18,682	0	9,842	0	36,389
Whitefield	0	0	50,853	0	55,144	17,820	0	0	0
Wiscasset	0	0	0	0	11,448	0	59,929	34,649	10,409
Lincoln County	**$33,971**	**$344,108**	**$351,467**	**$40,969**	**$1,105,635**	**$274,200**	**$377,411**	**$312,778**	**$250,880**

Source: Maine Emergency Management Agency

D. Probability of Occurrence

As reflected in the Presidential Disaster Declarations since 1987 referenced above, it can be expected that a major flooding event will cause mostly road damages in Lincoln County at least once every five-ten years. Flooding from storm surge could become more frequent than that depending on the rate at which sea rise occurs during the next decade.

SEVERE SUMMER STORM EVENTS

Severe summer storm damages typically involve downed overhead utility lines, flooding from heavy rains, debris in the roads, and often erosion, particularly along the immediate coast.

General Definition. Severe summer storm events are violent weather phenomenon producing winds, heavy rains, lightning and hail that can cause injuries and destruction of property, crops and livestock. Severe summer storms generally occur between June and early October.

Types of Severe Summer Storm Events. There are several different types of severe summer storms in Lincoln County:

- **Hurricane:** An intense tropical cyclone, formed in the atmosphere over warm ocean areas, in which wind speeds reach 74 miles per hour or more and blow in a large spiral around a relatively calm center called the "eye." (see Saffir-Simpson hurricane scale below.) Lincoln County has not suffered a direct hit with a Category 1 or greater hurricane since 1954.
- **Tropical Storm:** An intense, tropical cyclone with wind speeds of less than 74 miles an hour. Tropical storms are very common in Lincoln County and sometimes are the result of hurricanes that lose strength by the time they get to the Maine coast.
- **Lightning.** An electrical discharge that results from the buildup of positive and negative charges within a thunderstorm. When the buildup becomes strong enough, lightning appears as a "bolt." This flash of light usually occurs within the clouds or between the clouds and the ground. A bolt of lightning reaches a temperature approaching 50,000℉ in a split second. The rapid heating and cooling causes thunder.
- **Thunderstorm.** A thunderstorm is formed from a combination of moisture, rapidly rising warm air, and a force capable of lifting air such as a warm or cold front, or a sea breeze. All thunderstorms have lightning and can occur singly, in clusters or in lines.
- **Tornado.** A violently rotating column of air extending downward from a thunderstorm to the ground. The distinctive slender, funnel shaped cloud, with wind velocities of up to 300 miles per hour at the central core, destroys everything along its narrow ground path.
- **Microburst.** A small, extremely intense downdraft which descends to the ground creating strong wind divergence. Microburst's are typically limited to areas less than 2.5 miles across. This weather phenomenon is capable of producing damaging surface winds in excess of 100 mph. Generally, a microburst event will last no longer than 15 minutes.

Saffir-Simpson Hurricane Scale		
Category	**Wind Speed**	
	mph	**Knots**
5	≥156	≥135
4	131-155	114-134
3	111-130	96-113
2	96-110	84-95
1	74-95	65-83
Non-Hurricane Classifications		
Tropical Storm	39-73	34-64
Tropical Depression	0-38	0-33

Location of Severe Summer Storm Events

Lincoln County is subject to severe summer storm events. The entire County is very susceptible to severe coastal summer storms, especially from the very high winds that are involved in such a storm. The entire County is vulnerable to one or more severe summer storms each year, usually in the form of thunderstorms. Within Lincoln County, severe summer storms have the most impact on coastal shoreline areas including harbor areas. Erosion evidenced in Lincoln County has been principally the result of severe storms. The location of coastal erosion and landslides (though rare) is found in low-lying shoreline areas, where flooding can also often occur.

Municipal Survey – Location of Areas Susceptible to Severe Summer Storms. The following is a summary of areas that are susceptible to severe summer storms, as identified in the Lincoln County Hazard Mitigation Planning Survey 2015.

- **Boothbay Harbor:** Anywhere where trees are growing on ledge with minimal soil.
- **Bremen:** Entire town.
- **Edgecomb:** The majority of issues with summer storms are trees blocking roads and/or taking down wires. Over the years there have been issues on most of our roads with focus on Route 27, Shore Road, McKay Road, Mill Road and Cross Point Road.
- **Jefferson:** Whole town.
- **Newcastle:** All areas of town.
- **Nobleboro:** None.
- **Somerville:** All areas subject to power outages; Somerville Road, Colby Road, Sand Hill Road, Crummett Mountain Road, Jones Road, Valley Road are heavily wooded along the roads.
- **South Bristol:** Route 129.
- **Westport Island:** The entire island is susceptible to power outages during severe summer storms, because of limbs/trees down from wind and limited transmission lines coming onto the island.
- **Wiscasset:** None.

Extent (severity) of the Hazard

In the summer, southwest to southerly winds may become quite prevalent across Lincoln County. Southerly winds prevail along the coast during the summer months due to the frequent formation of sea breezes. Severe summer storms can bring high winds (>25 mph) that can fell trees and branches onto power lines, causing power and/or communication outages. Heavy rains (>3 inches in 12 hour period) often accompany thunderstorms and can result in flash flooding or erosion. When hail is greater than ½ inch, it can cause crop damage for farmers and backyard gardeners. Lightning strikes can start fires. Any of these weather events can cause personal injury or property damage.

The impact of summer storms in Lincoln County is usually restricted to flooding caused by the significant amounts of moisture these storms can carry, as well as high-wind damages to individual properties.

Previous Occurrences

The following table contains a summary of severe summer storms that have occurred in Lincoln County. Note: Flooding during the spring is often a result of snowmelt, which may be from winter storms.

Historical Summary of Severe Summer Storm Events in Lincoln County			
Year	**Incident Period**	**Description**	**FEMA Disaster Declaration #**
1954	Sept 2 -15	Hurricane Edna	None
1954	Aug 25 - Sept 1	Hurricane Carol	None
1985	Sept 16 - Oct 2	Hurricane Gloria[1]	None
1991	Aug 16 - 20	Hurricane Bob[1]	None
1999	Sept 7 - 19	Hurricane Floyd[1]	None
2008	Apr 28-May 14	Severe Storms, Flooding	# 1755-DR[2]
2009	June 18–July 8	Severe Storms, Flooding, and Landslides	# 1852-DR[2]

[1] Tropical storm by the time it passed through Lincoln County. Of the hurricanes listed in this table, only Hurricane Edna hit Lincoln County directly. For the other hurricanes listed, heavy rain, winds and flooding occurred, but not at hurricane-strength levels.
[2] Flooding
Source: FEMA/MEMA

Probability of Occurrence

There are no probability studies available of summer storms. However, based on past experiences, the County can expect thunder and lightning every year.

It is expected that a severe summer storm will create damage in Lincoln County at least once every three years.

There have been no F2-5 tornados documented in Lincoln County since 1950. Historically, the probability of an F2-5 tornado is low and will not be considered further in the Plan.

SEVERE WINTER STORM EVENTS

Lincoln County is subject to severe winter storm events including "Northeaster" winter storms that include very high winds. The entire county is subject to major snowfall events, but the northern half of the county typically will receive greater snowfall amounts. The entire County can experience a major ice storm, as it did in January 1998.

The Gulf Stream follows a path up the eastern seaboard bringing major storms with it to the Gulf of Maine. Air streams containing much colder air flows down from Canada and collides with the Gulf Stream over the New England region. Three Federally-declared winter storm disaster have occurred since 1998.

General Definition. Severe winter weather conditions are distinguished by low temperatures, strong winds, and often large quantities of snow.

Types of Winter Storms in Lincoln County

- **Blizzard.** Sustained winds of 40 miles per hour (mph) or more or gusting up to at least 50 mph with heavy falling or blowing snow, persisting for one hour or more, temperatures of ten degrees Fahrenheit or colder and potentially life- threatening traveling conditions.
- **Heavy Snow Storm.** A snowfall of fifteen inches or more within 12 to 24 hours with sustained winds of less than 40 miles per hour which disrupts or slows transportation systems and public safety departments' response capability.
- **Ice Storms.** Rain which freezes upon impact. Ice coating at least one-fourth inch in thickness is heavy enough to damage trees, overhead wires, and similar objects and to produce widespread power outage.
- **Nor'easter.** Nor'easters are extra-tropical coastal storms that can produce tremendous amounts of precipitation and strong winds that can cause coastal flooding damage. When the precipitation is in the form of snow, sleet or freezing rain, it can damage overhead utility lines and become a highway driving hazard.
- **Sleet Storm.** Frozen rain drops (ice pellets) which bounce when hitting the ground or other objects. Does not stick to objects, but in accumulated depths of two inches or more, produces hazardous driving conditions.

Location of Hazard

The entire County is subject to severe storms every winter.

Municipal Survey – Location of Areas Susceptible to Severe Winter Storms. The following is a summary of areas that are susceptible to severe winter storms, as identified in the Lincoln County Hazard Mitigation Planning Survey 2015.

- **Boothbay Harbor:** Anywhere where trees are growing on ledge with minimal soil.
- **Bremen:** Entire town.
- **Edgecomb:** Drifting issues on Shore Road, Cross Point Road and Boothbay Road (Route 27) in the area of Cod Farm Road, and the Eddy School. Power outages during winter storms have affected numerous roads over the years, most recently is has been Route 27, McKay Road, Mill Road, Cross Point Road, Parsons Point Road, and River Road.
- **Jefferson:** Whole town.
- **Newcastle:** River Road.

- **Somerville:** All areas subject to power outages; Somerville Road, Colby Road, Sand Hill Road, Crummett Mountain Road, Jones Road, Valley Road are heavily wooded along the roads.
- **South Bristol:** Entire town, especially Route 129.
- **Westport Island:** The entire island is susceptible to power outages during severe winter storms, because of limbs/trees down from snow, ice and wind and limited transmission lines coming onto the island.
- **Wiscasset:** Youngs Point.

Extent (Severity) of the Hazard

Winter storms in Lincoln County are now primarily ice storms that can last for several days and have ice accretion of an inch or more on tree branches and power lines. This can cause major power outages because of downed trees, and/or low land flooding of roads and buildings if accompanied by several days of freezing rain. The "January Thaw," a typical condition where below freezing temperatures can rise into the 50's and 60's overnight and can rapidly melt the snow pack and precipitate the flooding of buildings and roads. The worst storm in the past decade occurred in January 1998 and caused over $291,000 in damage throughout the entire County. This storm, which nearly destroyed the electrical transmission system in the State of Maine, caused major damage to the forests, covered many roadways with debris and ice, and caused some exterior building damages.

Previous Occurrences

The following is a summary of some of the most severe winter storms in Lincoln County during the past 32 years.

Historical summary of Major Winter Storm Events in Lincoln County Since 1978

Year	Month	General Description	Presidential Declaration #
1978	Jan 10	Rain/snow/ice	n.a.
1978	Mar 15	Ice jams and heavy rains	State Aid
1993	Mar 13, 14	Blizzard	FEMA 3099-EM
1998	Jan 5-25	"Great Ice Storm of "98"	FEMA 1198-DR
2001	Mar 5-31	Severe winter storm	FEMA 3164-EM
2003	12/17/02 to 6/1/03	Extreme winter weather; severe cold and frost	FEMA 1468-DR
2008	Dec 11	Severe winter storm and extreme cold	FEMA 3298-EM
2010	Feb 23-Mar 2	Severe winter storms and flooding	FEMA 1891-DR
2013	Dec 21-26	Ice Storm; major power outages; Polar Vortex extreme cold; at least one death from carbon monoxide poisoning.	Request denied
2014	Nov 1-2	Heavy wet snow storm; extensive power outages	None requested
2015	Jan 26-28	Blizzard that was part of major storm throughout the Northeast. While *not* included in the Presidential Declaration, Lincoln County experienced significant power outages.	FEMA 4208-DR

The most severe winter storm was the ice storm of January, 1998, which caused over $291,000 in damages throughout the County. This was far less than in counties farther inland, but it was still

significant. Below freezing temperatures, combined with record rainfall, contributed to a blanket of solid ice throughout central Maine. Most State government offices were closed, and innumerable businesses were forced to close and remain closed because of blocked roadways and power outages.

The following table provides a town-by-town summary of damages resulting from the ice storm of 1998. The table includes only public assistance losses and does not include individual and business losses which can be substantial.

Ice Storm of January, 1998
Town-by-Town Summary of Damages

Alna	$3,135	Newcastle	$1,370
Boothbay	24,610	Nobleboro	5,948
Boothbay Harbor	10,473	Somerville	29,579
Bremen	1,942	South Bristol	0
Bristol	5,593	Southport	0
Damariscotta	8,969	Waldoboro	48,113
Dresden	30,449	Westport Island	4,933
Edgecomb	26,858	Whitefield	61,607
Jefferson	14,286	Wiscasset	13,990
Monhegan Island Plt	$0	**Lincoln County**	**$291,855**

Probability of Occurrence

Based on the last 37 years of tracking severe winter storms, it is expected that a severe winter storm will create damage in Lincoln County at least once every three years.

WILDFIRE

Lincoln County is subject to wildfires. Nearly 80% of the County is forest land and the accessibility by vehicle to many areas is limited. A wildfire in October 1825 burned 3,000,000 acres in Maine and New Brunswick. The most severe wildfire in the State's recent history occurred in October of 1947. This fire burned 205,678 acres and caused 16 deaths. However, most of the damages were confined to Cumberland, Hancock, Oxford and York Counties.

All parts of the County could be subject to wildfires. However, the most northern portion of the county has the least accessibility to the productive forestland due to the lack of roads and development and the central and southern portion of the County has a larger number of homes and businesses within the Wildland-Urban Interface.

General Definition. A wildfire is a fire that burns vegetative cover such as grass, timber or slash. Wildfire is a natural phenomenon initially finding its origin in lightning. However, humans have become the greatest cause of wildfires in Lincoln County. There are two types of wildfires:

- Wildland fires are defined as those fires that burn vegetative cover: grass, brush, timber, or slash ;
- Wildland urban interface fires are created where homes meet with highly volatile forest fuels.

Location of Hazard

The Department of Conservation, Maine Forest Service Forest Protection Division tracks all reported fire occurrences in the State on an annual basis. Based on a review of this information, there have been no major fires in Lincoln County in recent years.

Municipal Survey – Location of Areas Susceptible to Wildfires. The following is a summary of areas that are susceptible to wildfires, as identified in the Lincoln County Hazard Mitigation Planning Survey 2015.

- **Bremen:** Entire town.
- **Boothbay Harbor:** Sprucewold.
- **Bristol:** From light house north to Route 32.
- **Edgecomb:** The majority of our town is woodlands. Any of the town's 50 dead end roads would be highly vulnerable to wildfires.
- **Jefferson:** Whole town.
- **Somerville:** Somerville Road, Colby Road, Sand Hill Road, Crummett Mountain Road, Jones Road, Valley Road are heavily wooded areas.
- **South Bristol:** Many homes (year-round and summer) are situated on long dirt roads that could present fire danger and problems for access by responders and fire apparatus.
- **Westport Island:** The Island is heavily wooded. Any wildfire/forest fire would be a threat to homes and vacation properties.
- **Wiscasset:** Willow Lane – Salt Well Preserve.

Extent (Severity) of the Hazard

Lincoln County could be subject to wildfires if it were to experience several years of severe drought. The likelihood of a wildfire is low, but the impact would be high because of potential damages to homes located in wooded areas. However, there have been no major wildfires (over 1,000 acres) in Lincoln County. The most severe wildfire in the State of Maine's recent history occurred in October, 1947, devastating 205,687 acres and causing 16 deaths. In 1947, most of the damages were confined to Cumberland, Hancock, Oxford and York Counties.

Previous Occurrences

Based on information obtained from the Maine Forest Service, there have been no major fires in Lincoln County in recent years. All of the wildfires known to have occurred were confined to relatively small land areas.

Probability of Occurrence

While probability studies have not been done, based on the historical record of fires, the Department of Conservation, Maine Forest Service Forest Protection Division anticipates that, on a state-wide basis, there will be between 600-700 low acreage fires (from all causes) each year (a low acreage fire is less than 500 acres). To date, no destructive fire has occurred in Lincoln County.

Assessing Vulnerability: Overview	
Requirement §201.6(c)(2)(ii): (The risk assessment shall include a) description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community. All plans approved after October 1, 2008 must also address NFIP insured structures that have been repetitively damaged by floods. The plan should describe vulnerability in terms of: (A) The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas; (B) An estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(ii)(A) of this section and a description of the methodology used to prepare the estimate; (C) Providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions	
	B3. Is there a description of each identified hazard's impact on the community as well as an overall summary of the community's vulnerability for each jurisdiction?
	B4. Does the Plan address NFIP insured structures within each jurisdiction that have been repetitively damaged by floods?
	D1. Was the plan revised to reflect changes in development?

Vulnerability of Lincoln County to each Hazard

Flooding. Some of the County's most serious flooding has been has been in areas where there are residential and/or commercial structures including downtown district areas of Boothbay Harbor and the C1 commercial district of Boothbay. With the exception of the aforementioned areas, most of the developed areas in Lincoln County are located outside of designated flood plains, and are thus not very vulnerable to flooding. On the other hand, many parts of the County are very rural in nature, and are served by a network of rural roads that do not have proper storm drainage systems. These roads are very vulnerable to flooding caused by heavy downpours and/or the blockage of drainage systems by ice or debris, even though these roads may not be in an identified flood plain. See also discussion of dam breach flooding on 4-10 and 4-11.

Severe Summer Storms. The entire County is vulnerable to thunderstorms, microbursts and high winds, especially from the very high winds that often accompany severe coastal summer storms. Heavy rains that often accompany such storms can erode vulnerable shoreland areas.

Severe Winter storms. Lincoln County's location in Northern New England places it in a high-risk area for winter storms. While the majority of winter storms in Lincoln County occur during the winter season of December through March, there are occasional winter storms in the late fall (November and early December) and in the spring (March – April). However, the severity of storms is typically most serious in January and February, with storms in the earlier and later parts of the seasons usually being of lesser magnitudes.

The time of day at which storms occur is also important, as overnight storms allow for the closure of schools and businesses, whereas storms during the day force people to travel home during storm conditions. Based on past experience, storms are most likely to occur overnight or during the morning, but afternoon storms are still somewhat likely.

A major ice storm of the severity that occurred in 1998 would impact nearly all of Lincoln County and threaten the overhead electric and telephone lines. Roads may be closed due to wash outs and debris in roads from trees and utility lines.

As noted earlier in this Assessment, Lincoln County has been included in several Presidential Disaster Declarations for winter storms. Lincoln County contains at-risk populations that could be impacted by a major winter storm.

Wildfires. Lincoln County is heavily forested, and is vulnerable to wildfires. However, all of the organized municipalities in Lincoln County are served by capable fire departments. The Maine Forest Service has been very active in forest fire prevention activities, and, through meetings convened by the Lincoln County Emergency Management Agency, meets periodically with municipal fire chiefs on matters related to wildfire prevention and response activities.

At-Risk Population. The following is a summary of vulnerable populations, as identified in the Lincoln County Hazard Mitigation Planning Survey 2015.

- **Boothbay Harbor:** St. Andrews Village – Emery Lane.
- **Bremen:** 70% of the town.
- **Edgecomb:** Edgecomb Eddy School Route 27; Edgecomb Green Assisted Living – Cross Point Road; Deck House School (off Cross Point Road); Lincoln County Animal Shelter (Atlantic Highway); people living on 50 dead end roads.
- **Jefferson:** Whole town.
- **Newcastle:** Cunningham Island; dead-end roads.
- **Somerville:** Hewett Road, Brann Road, Crummett Mountain Road, Turner Ridge Road, Valley Road either are one-entry roads or have private roads/long driveways in the wooded areas. Dodge Road and Frye Road are private roads along Long Pond that are dead-end roads in the woods subject to flooding.
- **South Bristol:** We have some areas where flooding and storm surges could cause isolation for a period of time. Rutherford Island could be isolated by flooding at the gut. This could prevent access and egress for 344 residents. High Island Passage could isolate 18 residents. The southern tip of Rutherford Island could be isolated by flooding and storm surges at the bar in Christmas Cove.
- **Wiscasset:** Off Bradford Road – several small roads.

Impacts of each hazard on Lincoln County

Flooding. In addition to damages to residential and commercial structures in some locations, the typical damages resulting from flooding in Lincoln County include damages to roads and their respective drainage systems. Historically, flood damages have included partial or complete road washouts, as well as severe erosion of roadside ditches, resulting in hazards to motorists if their vehicles go off the road. See also discussion of dam breach flooding on 4-10 and 4-11.

Severe Summer Storms. The damages from severe summer storms typically involve the washout of roads, downed utility lines and debris clearance. If severe enough, this can result in the loss of income to businesses and individuals due to business closures.

Severe Winter storms. The impacts of severe winter storms include road closures (and the subsequent inability of emergency vehicles to provide help), the loss of power for extended periods of time, high costs to local governments for snow removal/ice treatment efforts, and loss of income to businesses and individuals due to business closures.

Wildfires. The primary impacts include damages to homes located in the wildland-urban interface and loss of valuable timberland. A larger percentage of homes in rural towns are located in the wildland-urban interface than homes in village areas.

Repetitive Loss Properties

Based on information obtained from the Federal Emergency Management Agency, there are a number of repetitive loss properties in Lincoln County, as shown in the table below. In accordance with the Federal Privacy Act, the addresses, owner names or claim information of these repetitive loss properties are not disclosed.

FEMA Definition of Repetitive Loss Property: A repetitive loss property is a structure covered by a contract for flood insurance made available under the NFIP that:

(a) Has incurred flood-related damage on 2 occasions, in which the cost of the repair, on the average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event; and

(b) At the time of the second incidence of flood-related damage, the contract for flood insurance contains increased cost of compliance coverage.

Lincoln County Repetitive Loss Properties

Town/City	Residential Structures		Non-Residential Structures	
	# Properties	# Losses	# Properties	# Losses
Boothbay	1	2		
Boothbay Harbor			1	6
Bristol	1	2		
South Bristol			1	2

Source: NFIP Program 09/11/2015

Assessing Vulnerability: Identifying Structures

The Hazard Mitigation Plan identified existing buildings, infrastructure, and critical facilities located within the County and the hazards to which these facilities are susceptible. A critical facility is defined as a facility in either the public or private sector that provides essential products and services to the general public, is otherwise necessary to preserve the welfare and quality of life in the County, or fulfills important public safety, emergency response, and/or disaster recovery functions.

The critical facilities identified in Lincoln County are municipal offices, fire and police stations, post offices, town garages and sand/salt sheds, hospitals and clinics; electric and communication utilities; water and wastewater treatment facilities; hazardous material sites; and schools that have been identified as shelters.

The Lincoln County Emergency Management Agency used existing Maine GIS map data and a handheld GPS data collector to map and locate the county's critical facilities and determine which are most likely to be affected by hazards. The four hazards most likely to impact the County are flooding, severe summer storms, severe winter storm events, and wildfires as summarized on the following pages.

Vulnerability of Existing Buildings, Infrastructure and Critical Facilities

Flooding

One hospital and five bridges were identified as being located in the 100-year flood areas. The most likely flooding will come from coastal flooding occurring during a severe coastal storm or a Category 1 Hurricane.

- **Buildings.** Some of the County's most serious flooding has been has been in areas where there are residential and/or commercial structures including the downtown areas of Boothbay Harbor and the C-1 district of Boothbay.
- **Infrastructure.** Roads and their associated storm drainage systems are the most vulnerable category of infrastructure. Many parts of the County are rural in nature, and are served by a network of rural roads that do not have proper storm drainage systems. These roads are very vulnerable to flooding caused by heavy downpours and/or the blockage of drainage systems by ice or debris. A major coastal storm could impact the downtown roadways in Boothbay and Boothbay Harbor, plus five major bridges.
- **Critical facilities.** A major coastal storm could impact a hospital.

Severe Summer Storms

- **Buildings.** All buildings in Lincoln County are vulnerable to severe summer storms. Damages can result from debris like tree limbs, and from high winds and interior water damages due to wind-driven rain.
- **Infrastructure.** Roads and their associated storm drainage systems are the most vulnerable category of infrastructure. They can become temporarily blocked due to heavy rain and debris over a short period. A Category 1 hurricane could have an impact on all roads in the County and on all overhead electrical power and telephone lines. Roads may be blocked with tree and utility line debris. Utility lines and poles may be felled.
- **Critical facilities.** All critical facilities in Lincoln County are vulnerable to summer storms in the same manner that individual buildings are vulnerable. However, some of the critical facilities throughout the County have back-up generator systems, which allow building systems to continue operating during a power outage. The municipal base maps that are included in this Plan update identify the location of critical facilities. The purpose of these maps is to identify those facilities that overlap with flood hazard areas in order to determine what assets are potentially impacted.

Severe Winter Storms

- **Buildings.** All buildings in Lincoln County are vulnerable to winter storms. Damages can include burst water pipes during power outages, interior water damages due to ice dams forming on roofs, and occasionally, roof collapses due to heavy snow loads.
- **Infrastructure.** A "Northeaster", blizzard or ice storm of the severity that occurs at least once every 3-5 years would have an impact on all roads in the County and on all overhead electrical power and telephone lines. Roads may be covered in snow, washed out, or blocked with tree debris. Utility lines and poles will be felled.
- **Critical facilities**. No critical structures were identified as being in danger from a severe winter storm.

Wildfires

- **Buildings.** Forest fires would have a tremendous impact on the large number of homes located in the wildland-urban interface. We estimated that nearly 7,000 homes or 33% of the homes in Lincoln County are located in the wildland-urban interface.
- **Infrastructure.** Power, phone and cable lines can be damaged during a wildfire. Roads and their storm drainage systems are much less vulnerable, although road access to certain areas can be blocked by fires and by emergency fire-fighting vehicles.
- **Critical facilities.** Wildfires in Lincoln County have tended to be relatively small, and have not been a threat to critical facilities. In the event of a very large wildfire, some critical facilities could be damaged by fire and smoke.

The following chart identifies the type and number of critical facilities in each town in Lincoln County. The location of each of these facilities was identified and located on the GIS maps included in this section.

County Asset Inventory by Municipality

Town	Municipal Office	Fire Station	Police Station	Post Offices	Public Works	Water Trmt & Storage	Waste Water Treatment	Library	Schools	Comm Tower	Hospital /Clinic	Airport
Alna	2	1	0	1	1	0	0	0	1	0	0	0
Boothbay	1	2	0	3	2	1	0	0	0	1	0	0
Boothbay Harbor	1	1	1	2	1	2	1	1	2	1	1	0
Bremen	1	1	0	1	1	0	0	1	0	0	0	0
Bristol	1	3	0	4	1	0	0	1	1	1	0	0
Damariscotta	2	1	1	1	1	3	1	1	2	1	1	0
Dresden	1	2	0	1	2	1	0	1	1	3	0	0
Edgecomb	1	1	0	1	0	0	0	0	1	0	0	0
Jefferson	1	2	0	1	1	0	0	1	1	1	0	0
Monhegan Island Plt	1	1	0	1	0	4	0	1	1	1	0	0
Newcastle	2	2	0	1	0	1	0	0	1	1	0	0
Nobleboro	1	2	0	1	1	0	0	0	1	1	0	0
Somerville	1	1	0	0	2	0	0	0	1	0	0	0
South Bristol	2	2	0	2	1	0	0	1	1	0	0	0
Southport	1	2	0	1	1	1	0	1	1	0	0	0
Waldoboro	1	1	1	1	3	5	1	1	4	2	2	0
Westport Island	2	1	0	0	0	0	0	0	0	0	0	0
Whitefield	1	3	0	2	1	0	0	0	1	0	1	0
Wiscasset	1	1	1	1	1	1	1	1	3	2	0	1
Total	23	29	4	24	20	15	4	11	23	12	4	0

Vulnerability of Future Buildings, Infrastructure and Critical Facilities

Assessing where future development will occur in the towns in Lincoln County is difficult due to a lack of municipal data, policies and programs. Most of the Lincoln County towns are very small and rural and do not have planning departments, building codes or even a full time code enforcement officer. As documented more fully in Section 6, pages 6-2 and 6-3, there are a number of local ordinances that will significantly reduce the vulnerability of future buildings, infrastructure and critical facilities to the hazards profiled in this Plan. All but two of the municipalities have a comprehensive plan, all but two have a floodplain management ordinance, and all have shoreland zoning ordinances, subdivision regulations, and zoning ordinances. Beginning in December of 2010, a new, statewide building code went into effect. It is too early to predict whether or not this will have an impact on the vulnerability of future buildings and critical facilities, but it will regulate methods of construction.

The Maine Department of Agriculture, Conservation and Forestry has projected that Lincoln County will lose population over the next 10 years, declining from about 33,143 people in 2015 to about 30,597 by 2025, an estimated loss of about 2,546 people or about 8%. Given this projected decline,

there will be very few if any future buildings, infrastructure or critical facilities that will be vulnerable to the identified hazards.

Flooding:

- **Buildings.** With the notable exception of the coastal communities of Boothbay, Boothbay Harbor and Bristol, the majority of damages from flooding in Lincoln County are to roads, not structures. All but two towns have floodplain management ordinances that provide some control over development in flood zones.
- **Infrastructure.** Future roads and their associated storm drainage systems would seem to be the most likely category of infrastructure that would be vulnerable to flooding. However, State and local road construction standards generally ensure that new roads are properly constructed with adequate storm drainage systems. Most if not all roads in the public domain must be designed by a registered professional engineer. Therefore, flooding of future roads is not likely to be a serious issue in Lincoln County.
- **Critical facilities**. Because of the requirements of the Flood Insurance Program, as well as shoreland zoning requirements and a greater awareness of flooding in all communities, future critical facilities will continue to be located outside floodplain areas. The exception may be wastewater treatment plants, due to the need to locate these facilities at lower elevations.

Severe Summer Storm Events:

- **Buildings.** New buildings in Lincoln County will be less vulnerable to severe summer storms because they are built to meet modern code requirements. State-mandated shoreland zoning ordinance regulations for areas within 250 feet of the shoreline of the coast, lakes and ponds, and within 75 feet of streams, limit the location of new buildings in areas prone to coastal erosion and storm surges that often result from Severe Summer Storm Events. Damages may include roof damage from falling trees and debris. There will be less Interior water damage due to wind-driven heavy rains because the roofs of newer buildings generally are properly designed and roofing materials are more resistant to water infiltration. It is unlikely that a Category 1 Hurricane (which is all that has hit Lincoln) or high winds will have any impact on future structures. This hazard primarily creates road debris and downed overhead utility lines.
- **Infrastructure.** Roads will continue to be the most vulnerable category of infrastructure. New roads can be blocked on a temporary basis due to heavy rainfall, and debris such as tree limbs accumulating on the road surface during a storm event.
- **Critical facilities**. Future critical facilities in Lincoln County will be vulnerable to summer storms in the same manner that individual buildings will be vulnerable. However, some of them will have back-up generator systems which will allow building systems to continue operating during a power outage. The municipal base maps that are included in this Plan update identify the location of critical facilities.

Severe Winter storms

- **Buildings.** New buildings in Lincoln County should be less vulnerable to winter storms. Damages may include burst water pipes, but many newer buildings will be better insulated than older ones, thus being better able to retain heat during longer periods of time when there is a power outage. There will be less interior water damage due to ice dams forming on roofs because the roofs of newer buildings generally are properly vented, which allows the roofs to remain cold. Roof collapses due to heavy snow loads will be very rare because newer roofs are designed to withstand heavy snow loads. It is unlikely that a severe winter ~~or summer~~ storm will have any impact on future structures. This hazard primarily impacts local roads and overhead utility lines.

- **Infrastructure.** Roads will continue to be the most vulnerable category of infrastructure. New roads can be just as easily blocked on a temporary basis due to heavy snowfall, ice building up on the road surface, and debris such as tree limbs accumulating on the road surface during a storm event. However, in the present economy, it is unlikely that Lincoln County will experience much new road construction, with the possible exception of small road segments serving subdivisions.
- **Critical facilities**. Future critical facilities in Lincoln County will be vulnerable to winter storms in the same manner that individual buildings will be vulnerable. However, some of them will have back-up generator systems which will allow heating systems to continue operating during a power outage.

Wildfires

- **Buildings.** Wildfires in Lincoln County towns primarily threaten residential structures in the wildland-urban interface. In all Lincoln County communities, homes are allowed to be built in most land use zones. Some communities may decide to provide wildfire protection information to new residents who wish to build new homes at the time they are issued a land use permit.
- **Infrastructure.** Future power, phone and cable lines can be damaged during a wildfire, although the level of future development is expected to be minimal, primarily because of the low growth rate projected for the County.
- **Critical facilities.** Future critical facilities may be vulnerable to a very large wildfire. However, the expectation is that there will be very few new critical facilities constructed during the life of this plan.

Assessing Vulnerability: Estimating Potential Losses

The Lincoln County Emergency Management Agency and Hazard Mitigation Planning Team used historical data to estimate the potential dollar losses if the County were to experience flooding, severe summer storms, severe winter storms and wildfires, the most likely hazards to occur in the County. The vulnerable structures and facilities were identified earlier in the planning process. See the Municipal Base Maps to locate the facilities impacted by flood zones.

The Lincoln County Hazard Mitigation Planning Team estimated the potential losses from Flooding, Severe Summer Storms, Severe Winter Storms, and wildfires. The results are listed on the following pages.

Overview. This section of the Plan relies on historical damages as the basis for estimating future losses, subject to the following:

- Historical damage estimates have been updated, using the Consumer Price Index shown below;
- Presidential Disaster Declarations have been used where possible, updated for inflation using the Consumer Price Index below;
- Where statewide or county damages are used to determine damages for a specific jurisdiction, the damages are pro-rated using the 2010 Census.

The average annual Consumer Price Index for various years is shown below, based on a value of 100 for the years 1982-1984.

Consumer Price Index 1982-1984 = 100		
1947 = 22.3	1991 = 136.2	2004 = 188.9
1954 = 26.9	1992 = 140.3	2005 = 195.3
1980 = 82.4	1993 = 144.5	2006 = 201.6
1981 = 90.9	1994 = 148.2	2007 = 207.3
1982 = 96.5	1995 = 152.4	2008 = 215.3
1983 = 99.6	1996 = 156.9	2009 = 214.5
1984 = 103.9	1997 = 160.5	2010 = 218.1
1985 = 107.6	1998 = 163.0	2011 = 224.9
1986 = 109.6	1999 = 166.6	2012 = 229.6
1987 = 113.6	2000 = 172.2	2013 = 233.0
1988 = 118.3	2001 = 177.1	2014 = 236.7
1989 = 124.0	2002 = 179.9	
1990 = 130.7	2003 = 184.0	

Flooding. This plan uses worst-case, real-life damages to calculate potential flood losses, and assumes that historic patterns will hold for the future. The worst case flood is the Patriot's Day storm of 2007, which resulted in a Presidential Disaster Declaration of about $22 million in damages to 13 counties. Using the Consumer Price Index (CPI), the damages in 2014 dollars would be about $25,120,000 (multiply $22 million by 236.7 – the CPI for 2014, and divide by $207.3 – the CPI for 2007). Damages in Lincoln County from the Patriot's Day storm amounted to $1.105 million, which would be $1.262 million in 2014 dollars.

The methodology for calculating potential losses in Lincoln County is to assume the greater of:

1) Actual damages from the Patriot's Day storm updated using the Consumer Price Index (column B in the table on the next page),
2) Actual damages from flooding other than the Patriot's Day Storm, updated using the Consumer Price Index, when they are greater than the updated damages from the Patriot's Day storm (column C),
3) Flood losses based on $22 per capita (column D). The $22 is calculated by taking the population of the counties that suffered damages in the Patriot's Day Storm (1,038,831 – the population of the State exclusive of Aroostook, Penobscot and Piscataquis Counties which were not included in the declaration) and dividing it into total Patriot's Day storm damages in 2009 dollars ($22,764,000) to get a per capita cost of $22. Each town's population is multiplied by $22 to get potential damages.

The maximum flood loss (column E) is the greater of columns B, C or D. In most cases, column B results in the highest loss estimate.

Potential Flood Losses in Lincoln County					
	A. Actual Patriot's Day 2007 Flood Losses	**B. Updated 2007 Flood Losses Using CPI**	**C. Other Flood Losses Updated with CPI when Higher than 2007**	**D. Flood Losses Based on $25/Capita**	**E. Maximum Potential Flood Loss**
Alna	$24,871	$28,398	$36,541	$17,725	$28,398
Boothbay	151,713	$173,225		$78,000	$173,225
Boothbay Harbor	73,620	$84,059		$54,125	$84,059
Bremen	32,971	$37,646		$20,150	$37,646
Bristol	148,137	$169,143		$68,875	$169,143
Damariscotta	38,394	$43,838		$55,450	$55,450
Dresden	34,355	$39,227		$41,800	$41,800
Edgecomb	98,908	$112,933		$31,225	$112,933
Jefferson	12,105	$13,821	$563,649	$60,675	$563,649
Monhegan Island Plt	28,741	$32,816		$1,725	$32,816
Newcastle	178,185	$203,452		$43,800	$203,452
Nobleboro	4,472	$5,106	$20,762	$41,075	$41,075
Somerville	48,086	$54,905	$121,040	$13,700	$121,040
South Bristol	54,290	$61,988		$22,300	$61,988
Southport	13,385	$15,283		$15,150	$15,283
Waldoboro	78,128	$89,207	$148,978	$126,875	$148,978
Westport Island	18,682	$21,331	$39,482	$17,950	$39,482
Whitefield	55,144	$62,963		$57,500	$62,963
Wiscasset	11,448	$13,071	$65,862	$93,300	$93,300
Total	**$1,105,635**	**$1,262,412**		**$861,425**	**$2,086,680**

[93] 1993 flood damages, updated using CPI
[05] 2005 flood damages, updated using CPI
[08] 2008 flood damages, updated using CPI
[10] 2010 flood damages, updated using CPI

Severe Summer Storms. Hurricane damages are included in the Severe Summer Storm Events category profiled in this Plan, and not as a separate category due to the low occurrence of hurricanes in Lincoln County, as noted earlier in this Plan. Worst case, real life damages were used to calculate potential damages from hurricanes. The most recent, devastating hurricane to hit Lincoln County was Hurricane Carol in 1954.

Carol produced $5,000,000 in damages to a swath of coastal Maine that included the following counties: Lincoln, Cumberland, Knox, Sagadahoc, Waldo and York. The population of these six counties totaled 351,465 people (1950 Census), resulting in a per capita damage of $14/person. In 2014 dollars, this would be $123 (multiply $14 by the 2014 CPI of 236.7 and divide by the 1954 CPI of 26.9). There has been a substantial amount of primary and secondary home and commercial development in these six counties since 1954, and the population of these six counties increased to 627,076 people by the year 2010 (U.S. Census). The per capita damages should therefore be increased to $219 (multiply $123 by 627,076 and divide by 351,465).

The following table includes a town-by-town estimate of potential hurricane damages based on the 2010 Census and a per capita damages figure of $219.

Potential Hurricane Damages in Lincoln County		
Town/City	**Year-Round Population 2010**	**Potential Hurricane Damages (Population x $219)**
Alna	709	$155,271
Boothbay	3,120	$683,280
Boothbay Harbor	2,165	$474,135
Bremen	806	$176,514
Bristol	2,755	$603,345
Damariscotta	2,218	$485,742
Dresden	1,672	$366,168
Edgecomb	1,249	$273,531
Hibbert's Gore	1	$219
Jefferson	2,427	$531,513
Monhegan Island Plantation	69	$15,111
Newcastle	1,752	$383,688
Nobleboro	1,643	$359,817
Somerville	548	$120,012
South Bristol	892	$195,348
Southport	606	$132,714
Waldoboro	5,075	$1,111,425
Westport Island	718	$157,242
Whitefield	2,300	$503,700
Wiscasset	3,732	$817,308
Total	**34,457**	**$7,546,083**

Severe Winter storms. This plan uses worst-case, real-life damages to calculate potential winter storm damages, and assumes that historic patterns will hold for the future. For Lincoln County, the worst storm is the ice storm of 1998, which resulted in a statewide Presidential Disaster Declaration of $47,748,466. The actual damages were closer to $100,000,000 because the Disaster Declaration did not cover damages to power lines and private structures. Using the Consumer Price Index, the $47.7 million in damages would be $69.3 million in 2014 dollars (multiply $47.7 million by 236.7 – the CPI for 2014, and divide by 163.0 – the CPI for 1998). The 1998 damages in Lincoln County totaled $292,000 (far less than some interior counties), which would be $424,027 in 2014 dollars.

The methodology for calculating potential losses in Lincoln County is to assume the greater of:

1) Actual damages updated using the Consumer Price Index (column B in the table below), or

2) Winter storm losses based on $52 per capita (column C in the table below). The $52 is calculated by taking the population of the State (1,328,361) and dividing it into total 1998 ice storm damages in 2014 dollars ($69.3 million) to get a per capita cost of $52. Each town's population is multiplied by $52 to get potential damages.

The maximum winter storm loss (column D) is the greater of column B or C.

Potential Winter Storm Losses in Lincoln County

	A. Actual 1998 Ice Storm Damages	B. Updated Ice Storm Losses Using CPI for 2014	C. Winter Storm Losses Based on $52 Per Capita	D. Maximum Potential Winter Storm Loss
Alna	$3,135	$4,552	$36,868	$36,868
Boothbay	24,610	$35,734	$162,240	$162,240
Boothbay Harbor	10,473	$15,207	$112,580	$112,580
Bremen	1,942	$2,820	$41,912	$41,912
Bristol	5,593	$8,121	$143,260	$143,260
Damariscotta	8,969	$13,023	$115,336	$115,336
Dresden	30,449	$44,212	$86,944	$86,944
Edgecomb	26,858	$38,998	$64,948	$64,948
Hibbert's Gore	$0	$0	$52	$52
Jefferson	14,286	$20,743	$126,204	$126,204
Monhegan Island Plt	0	$0	$3,588	$3,588
Newcastle	1,370	$1,984	$91,104	$91,104
Nobleboro	5,948	$8,636	$85,436	$85,436
Somerville	29,579	$42,949	$28,496	$42,949
South Bristol	0	$0	$46,384	$46,384
Southport	0	$0	$31,512	$31,512
Waldoboro	48,113	$69,860	$263,900	$263,900
Westport Island	4,933	$7,163	$37,336	$37,336
Whitefield	61,607	$89,453	$119,600	$119,600
Wiscasset	13,990	$20,313	$194,064	$194,064
Total	**$291,855**	**$423,773**	**$1,791,764**	**$1,806,217**

Wildfires. This plan uses worst-case, real-life damages to calculate potential wildfire losses, and assumes that historic patterns will hold for the future. The 1947 fire was the worst on record, although it was actually a series of wildfires that flared over Eastern and Southern Maine. The 1947 fire caused an estimated $30,000,000 in damages to Cumberland, Hancock, Oxford and York Counties. The damage in 2014 dollars would be about $318.4 million (multiply $30 million by 236.6 – the CPI for 2014, and divide by 22.3 – the CPI for 1947). While there is significantly more development in each of these counties today than there was in 1947, fire-fighting capabilities have also increased substantially since that time so there may be no need to further increase the damage estimate. The probability that a wildfire such as the 1947 fire will hit Maine during the five-year period covered by this Plan is low.

The methodology for calculating potential wildfire losses in Lincoln County is based on the damages that occurred in the 1947 fire in Cumberland, Hancock, Oxford and York Counties. The population of these counties is 591,055. Divide $318.4 million (the 1947 fire in 2014 dollars) by 591,055 to get a per capita cost of $539. Multiply each town's population by $539 to get potential wildfire damages.

Potential Wildfire Damages in Lincoln County		
Town/City	**Year-Round Population 2010**	**Potential Wildfire Damages (Population x $539)**
Alna	709	$382,151
Boothbay	3,120	$1,681,680
Boothbay Harbor	2,165	$1,166,935
Bremen	806	$434,434
Bristol	2,755	$1,484,945
Damariscotta	2,218	$1,195,502
Dresden	1,672	$901,208
Edgecomb	1,249	$673,211
Hibbert's Gore	1	$539
Jefferson	2,427	$1,308,153
Monhegan Island Plantation	69	$37,191
Newcastle	1,752	$944,328
Nobleboro	1,643	$885,577
Somerville	548	$295,372
South Bristol	892	$480,788
Southport	606	$326,634
Waldoboro	5,075	$2,735,425
Westport Island	718	$387,002
Whitefield	2,300	$1,239,700
Wiscasset	3,732	$2,011,548
Total	**34,457**	**$18,572,323**

Assessing Vulnerability: Analyzing Development Trends

The Planning Team is not aware of any changes in development that would necessitate revisions to this Plan. Lincoln County is located along the mid-coastline of Maine and is largely rural. A majority of the County's land use is designated as rural and is primarily forestland or farmland. The largest town, Waldoboro, which has a year-round population of 5075, is located near the coast on the eastern end of the County. There are no suburbs in Lincoln County. The land uses within the county generally consist of: Residential, Resource Protection, Agricultural, Industrial, Institutional and Commercial areas.

How has Lincoln County's population been changing in recent years? The Maine Department of Agriculture, Conservation and Forestry and the U.S. Census Bureau estimate that Lincoln County has lost population since 2010, although by different amounts during slightly different time frames.

- The Maine Department of Agriculture, Conservation and Forestry estimates that Lincoln County's population has declined from 34,379 in 2010 to 33,143 in 2015; a loss of 1,236 people or about 4% during this 5-year time period.
- The U.S. Census estimates that Lincoln County's population has declined from 34,457 in 2010 to 34,170 in 2014, a loss of 287 people, or about 1% during this 4-year time period.

The majority of the residential development and population increase for Lincoln County in the last 10 years has occurred in the coastal communities. Commercial growth in the past 10 years has been

primarily located on the US Route 1 transportation corridor in the towns of Damariscotta, Newcastle, Waldoboro, and Wiscasset. This trend is expected to continue.

The State of Maine Legislature enacted the Growth Management Act in 1989 (Title 30-A, Chapter 187, subchapter 2) which requires each community to develop a municipal comprehensive plan. The municipal comprehensive plans recommend that development occur in appropriate areas taking into account the environment, physical constraints, location of utility services, similarity to existing development, and proximity to flood zone areas.

The municipalities must review existing conditions and predict future needs in order to develop their own plans, policies, and ordinances. A local zoning ordinance must be based on and be consistent with the municipal comprehensive plan.

All but one of the municipalities in Lincoln County have enacted floodplain management ordinances, and all have shoreland zoning ordinances, either locally adopted or state-imposed (if the community has not enacted a local ordinance meeting state minimum standards). Many communities also have other land use ordinances such as subdivision review ordinances and site plan review ordinances. As of December, 2010, a state building code regulates the construction of residential and non-residential development.

The chart on the following page lists the zoning districts that are in effect in Lincoln County communities. In general, residential and non-residential structures are not permitted in resource protection and stream protection districts.

Flooding may potentially impact all land use areas and zones within the 18 communities in Lincoln County. This hazard has the primary impact of potentially shutting down transportation, since it is primarily the roads that are subject to flooding in the County. This could impact business, industry, commerce and schools and delay many social and emergency services.

The majority of the municipalities (18 of 19 in Lincoln County have enacted floodplain ordinances to prevent new commercial, industrial, and institutional development within flood zones. The Town of Whitefield voted to join the NFIP program at their March 2016 Annual Town Meeting.

There are some existing commercial developments within flood zones in the County. These businesses have been in place for many years and may be upgraded to meet floodplain ordinances as the structures are renovated or replaced. Additionally, there are a number of homes and seasonal camps that are within the flood zones. Likewise, as these properties are mortgaged, they may be required to be upgraded in order to meet the floodplain ordinances.

Severe summer storms may impact all land use areas and zones within the 19 communities in Lincoln County. This hazard has the primary impact of potentially shutting down transportation, since it is primarily the roads that are subject to the effects of high winds and the subsequent toppling of trees onto roads. This could impact business, industry, commerce and schools and delay many social and emergency services.

Severe winter storms may impact all land use areas and zones within the 19 communities in Lincoln County. This hazard has the primary impact of potentially shutting down transportation and power, which will shut down business, industry, commerce and schools and stop all social and emergency services.

Wildfires may have an impact on the residential properties located within the wildland-urban interface. Because Lincoln County is a very densely forested, sparsely populated area, there are a great

number of homes that are at risk to destruction by forest fires. Currently, no municipality in Lincoln County is known to have wildfire restrictions or requirements on residential development.

The communities of Lincoln County understand that flooding, severe summer storms, severe winter storms, and wildfires can have a major impact on their lives and way of life. Nearly all Lincoln County municipalities have land use ordinances which strive to restrict or control development in flood zones, coastal storm surge areas and along major transportation routes.

Boothbay Harbor submitted the following, which is typical of the communities in Lincoln County.

"As a coastal community whose economy is based on fishing, tourism, marinas, and boatyards, a severe southeast coastal storm would have a heavy economic impact on Boothbay Harbor. Most shoreline areas would be inundated. In the summertime, the population increases from 2,334 to between 12,000 and 15,000 people. In a category 2 hurricane, the Sewer District Treatment Plant and the Department of Marine Resources facility would be flooded. In both situations, pipelines to six inhabited islands could be disrupted, interfering with potable water supplies and fire protection on those islands. Waterfront support for five of the islands originates in Boothbay Harbor."

The zoning districts that are known to be in effect in Lincoln County are:

Municipality	**Land Use Districts**
Alna	Resource Protection, Stream Protection, Limited Residential, Head of Tide Village, Alewife Fishery
Boothbay	C1, C2, C3, General Residential, Industrial Park, Village, Maritime Commercial, Shoreland Overlay Zone (Resource Protection and Stream Protection), Special Residential, Water Reservoirs, Wellhead Protection, Bigelow Laboratory Contract Zone, Watershed Overlay
Boothbay Harbor	General Residential, Special Residential, General Business, Downtown Business, Maritime/Water Dependent, Resource Protection, Shoreland, Stream Protection
Bremen	Commercial Fisheries, Residential, Stream Protection, Resource Protection
Bristol	Resource Protection, Stream Protection, Village, Parks and Recreation, residential (all shoreland zoning districts)
Damariscotta	Commercial (C1 Downtown, C2 Other), General Residential, Rural, Wireless Communication, Municipal, Shoreland (Stream Protection, Resource Protection, Residential, Limited Commercial AA, Limited Commercial AB, Medical Facility)
Dresden	Dresden Mills Village, Water Resource Management Overlay, Rural Living, General Use, Resource Protection, Shoreland
Edgecomb	General Development, Limited Residential, Resource Protection, Stream Protection
Jefferson	Stream Protection, Resource Protection, Limited Residential, Limited Commercial, General Development
Monhegan Island Plt	General, Maritime, Residential, Recreation, Aquifer Recharge, Soils & Geology, Shore lands, Unusual Area, Wetlands
Newcastle	Village Center, Village Residential, Village Business, District A, District B, Rural, Light Industrial, Commercial, Maritime Activity, Resource Protection, Wildlife Habitat Overlay
Nobleboro	Resource Protection, Limited Residential, Stream Protection
Somerville	Shoreland Protection, Stream Protection, Development Zone, Conservation Areas
South Bristol	Commercial, Residential, Resource Protection, Fresh Water
Southport	Shoreland Protection, Resource Protection

Municipality	Land Use Districts
Waldoboro	Resource Protection, Limited Residential, Limited Commercial, General Development, Water Dependent Commercial Maritime, Stream Protection, Excluded Areas, Water Bodies, Wetland Areas
Westport Island	Pond, Rural Residential, Commercial
Whitefield	Limited Commercial, Limited Residential – Recreational, Resource Protection, Stream Protection, Wetlands
Wiscasset	Shoreland Resource Protection, Shoreland Residential, Shoreland Business, Stream Protection, Residential, Business, Village Waterfront, Commercial, Rural

Multi-Jurisdictional Risk Assessment

Lincoln County is a small Maine county of 34,457 people living in 456 square miles located along the mid-coast of Maine. There are 19 municipalities within the County. Most municipalities contributed to the risk assessment analyses performed for the Lincoln County Hazard Mitigation Plan.

The Planning Team identified flooding as the most significant risk to the entire County, followed in severity by severe summer storms, severe winter storms and wildfires.

Although all areas are at risk from forest fires, it is the less densely-populated areas of the inland communities that face extensive acreage losses. This is due to the lack of roadways (accessibility) within the forest land. Additionally, the resources for wildland fire-fighting from the inland municipal departments are very limited, due to the small population base.

Hurricane Winds and Flooding in Lincoln County will primarily effect the coastal communities which are susceptible to hurricane storm surge.

The coastal communities of Boothbay, Boothbay Harbor, Bremen, Bristol, South Bristol are more susceptible to ice storms and coastal storm surges than the inland communities. The ice storm risk is due to the slightly warmer temperatures that these communities experience from the coastal waters. The storm surges also affect the beach areas of these communities, which are highly developed due to the tourist business and attraction of living on the coast.

MUNICIPAL BASE MAPS

This section contains a county base map and base maps of the 19 communities of Lincoln County.

5. MITIGATION STRATEGIES

Mitigation Strategy

Requirement: §201.6(c)(3): (The plan must include) a mitigation strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools. This section shall include:

(i) A description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

(ii) A section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure. All plans approved by FEMA after October 1, 2008, must also address the jurisdiction's participation in the NFIP, and continued compliance with NFIP requirements, as appropriate.

(iii) An action plan describing how the actions identified in paragraph (c)(3)(ii) of this section will be prioritized, implemented and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

(iv) For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.

Element	
	C1: Does the plan document each jurisdiction's existing authorities, policies, programs and resources, and its ability to expand on and improve these existing policies and programs?
	C2: Does the Plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate?
	C3: Does the Plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards?
	C4: Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure?
	C5: Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction?
	D2: Was the plan revised to reflect progress in local mitigation efforts?
	D3: Was the plan revised to reflect changes in priorities?

C1. Existing Authorities, Policies, Programs and Resources. Below is a summary of existing authorities, policies, programs and resources available to accomplish hazard mitigation. See also the table that follows this summary.

- **Town Manager, Administrator, Administrative Assistant to the Selectmen:** Some towns in Lincoln County have a town manager, others have an administrator whose duties may vary from those of a town manager, and still others have an administrative assistant to the selectmen who may serve as staff to the selectmen but may not have the powers of a town manager to hire staff. In the table below, "TM" indicates town manager; "A" indicates administrator, and "AA" indicates administrative assistant.
- **Staff Resources**: Staff resources, where available, usually consist of a planner or community development director. There are no towns in Lincoln County with staff resources devoted exclusively to hazard mitigation.
- **Public Works or** Road Commissioner: Some of the larger towns have a public works director, but most have a road commissioner. The road commissioner might also be the town manager or board of selectmen.
- **Flood Hazard Ordinance:** All of the towns that are in the Flood Insurance Program have a flood hazard ordinance in effect. In the following table, the designation "LUPC" indicates that the plantation's flood plains are under the regulatory jurisdiction of the State's Land Use Planning Commission (LUPC).
- **All of the towns in Lincoln County** are required to have a shoreland zoning ordinance, whether adopted by the municipality or imposed by the Maine Department of Environmental Protection. The designation LUPC indicates that the plantation's shore lands are under the regulatory jurisdiction of the State's Land Use Planning Commission.
- **Form of Government**: In the following table, the letters "ST" indicate the selectmen/town meeting form of government; and the designation LUPC indicates that the plantation is governed by the State's Land Use Planning Commission.
- **Resources**: In addition to staffing or other expertise, funding resources are from local taxes and/or grants that are funded by taxes or private donations.

All jurisdictions in Lincoln County could expand and improve their existing capabilities if additional funds, beyond their existing tax bases, became available to address hazard mitigation projects listed on the following pages.

Authorities, Policies, Programs and Resources Available to Accomplish Hazard Mitigation							
Town	**Town Manager**	**Staff involved in Local Planning**	**Public Works or Road Commissioner**	**EMA Director**	**Flood Hazard Ordinance**	**Shoreland Zoning Ordinance**	**Form of Government**
Alna			X	X	X	X	ST
Boothbay	TM		X	X	X	X	ST
Boothbay Harbor	TM		X	X	X	X	ST
Bremen			X	X	X	X	ST
Bristol	A			X	X	X	ST
Damariscotta	TM	X	X	X	X	X	ST
Dresden			X	X	X	X	ST
Edgecomb			X	X	X	X	ST
Jefferson			X	X	X	X	ST
Monhegan Island Plt.			X	X	LUPC	LUPC	LUPC
Newcastle	A			X	X	X	ST
Nobleboro			X	X	X	X	ST
Somerville			X	X	X	X	ST
South Bristol			X	X	X	X	ST
Southport			X	X	X	X	ST
Waldoboro	TM	X	X	X	X	X	ST
Westport Island	AA		X	X	X	X	ST
Whitefield	AA		X	X		X	ST
Wiscasset	TM	X	X	X	X	X	ST

While Lincoln County EMA does not have any direct authority to implement hazard mitigation projects in the municipalities, it does oversee the preparation of the County Hazard Mitigation Plan and its updates, supports hazard mitigation training and coordination of local EMA directors and does participate in grant application development.

C2. Participation in the National Flood Insurance Program

All but one of the towns in Lincoln County are in the Flood Insurance Program, as shown the table below (the Town of Westport Island joined the program in 2013; the Town of Whitefield voted to join the program at their March, 2016 town meeting). As a condition of participation in the program, 18 of the 19 towns have enacted floodplain management ordinances that limit new development in floodplain areas.

Monhegan Island Plantation is under the jurisdiction of Maine's Land Use Planning Commission (LUPC). LUPC has agreed to administer and enforce the NFIP for all jurisdictions that are under its control and has modified its requirements to include floodplain management regulations.

The table below summarizes the participation of Lincoln County municipalities in the NFIP.

Lincoln County Communities Participating in the NFIP

Town	Init FHBM[1]	Init FIRM[1]	Curr Eff Map Date[1]	Reg-Emer Date[1]	Adoption and Enforcement[2]
Alna	01/03/75	03/01/05	07/16/15	03/01/05	X
Boothbay	02/07/75	06/03/86	07/16/15	06/03/86	X
Boothbay Harbor	02/14/75	06/03/86	07/16/15	06/03/86	X
Bremen	01/31/75	02/04/87	07/16/15	02/04/87	X
Bristol	02/21/75	06/19/89	07/16/15	06/19/89	X
Damariscotta	02/14/75	09/30/88	07/16/15	09/30/88	X
Dresden	09/20/74	05/19/87	07/16/15	05/19/87	X
Edgecomb	01/03/75	10/01/02	07/16/15	10/01/02	X
Jefferson	10/25/74	10/18/88	07/16/15	10/18/88	X
Monhegan Island Plt.	-	7/16/15	07/16/15	4/30/84	X
Newcastle	02/21/75	04/01/03	07/16/15	04/01/03	X
Nobleboro	02/14/75	11/15/89	07/16/15	11/15/89	X
Somerville	04/25/75	04/03/87	07/16/15	04/03/87	X
South Bristol	04/11/75	07/16/90	07/16/15	07/16/90	X
Southport	01/17/75	05/17/88	07/16/15	05/17/88	X
Waldoboro	11/01/74	04/03/85	07/16/15	04/03/85	X
Westport Island	01/03/75	09/01/13	07/16/15	09/01/13	X
Whitefield[3]		NA	NA	NA	
Wiscasset	05/24/77	04/16/91	07/16/15	11/20/91	X

[1] Source: FEMA Community Status Book Report as of August, 2015.

[2] Based on all available information, this community has adopted and continues to enforce a floodplain management ordinance, including regulating new construction in Special Flood Hazard Areas. Lincoln County EMA is not aware of any new construction in Special Flood Hazard Areas.

[3] Voted to join the NFIP at the March, 2016 town meeting.

Community assistance activities include EMA meetings that have kept local officials informed of hazard mitigation issues and have periodically included presentations by experts and

officials on various mitigation topics. For example, Lincoln County EMA held a recent workshop on the impacts of various sea level rise scenarios prepared by the Lincoln County Planning Commission.

C3. Goals

The Hazard Mitigation Planning Team reviewed the goals contained in the 2011 Hazard Mitigation Plan and determined that these goals should continue to guide this 2016 Hazard Mitigation Plan update. The goals relate to the hazards profiled in this plan and include the following:

Flooding: Reduce potential damage, injury and loss of life in Lincoln County caused by flooding.

Winter and summer storms: Reduce potential damage, injury and loss of life in Lincoln County after a severe winter storm, summer storm or hurricane event.

Wildfires: Reduce potential damage, injury and loss of life in Lincoln County caused by wildfires.

The Hazard Mitigation Planning Team relied heavily on MEMA staff input as well as Lincoln County EMA's contacts with individual municipalities for the development of the prioritized mitigation projects.

C4. Comprehensive Range of Specific Actions and Projects
C5. Action plan

COUNTY ACTIONS

GENERAL GOALS AND MITIGATION ACTIONS

Note:

- A new column, Timeframe, has been added in accordance with FEMA guidelines.
- The designation “2016-2021” in the timeframe column indicates that the action does not have a specific beginning and end date (such as a construction project), but is rather a recurring action that cannot be pinpointed to a specific date or dates. In it are actions that will depend on circumstances which cannot be predicted in advance, such as a flooding threat, rapid snowmelt, or thunderstorm activity. The recurring action can occur at any time during the 5-year period covered by this plan.
- Actions over which the County has no control or authority have been deleted.
- Actions which are very broad and apply over multiple jurisdictions have been deleted.
- Other actions have been modified to emphasize a County action.
- The responsibility column has been modified, where applicable, by limiting the responsibility to the County. Lincoln County does not have control or authority over the responsible parties now shown as deletions.
- FEMA elements C4 and C5 are both addressed in the format of the County Actions table below and in the table of projects by municipality.
- **Funding.** The major sources of funding for the County actions are financial support for the operation of Lincoln County EMA (County taxes, FEMA EMPG grants, Homeland Security funds, matching funds provided by time spent by local officials on hazard mitigation).

Flooding

In Lincoln County, the most likely damages caused by coastal and river flooding are the destruction of roadways caused by washouts and undercutting. It does not appear that there are any critical facilities in the 100 year flood zone. However, there are several facilities that are located in the Hurricane Surge Inundation Areas. Most communities are using the FIRM information to control development in flood zones. There has been no use of the Hurricane Inundation Surge Areas to control development. There could be loss of life caused from drowning during storm surge conditions. Flood waters may also contaminate public and private water supplies and damage personal and real property.

Goal: Reduce damage, injury and loss of life in Lincoln County caused by flooding.

Mitigation Actions	Responsibility	Timeframe	Status
A. **406 Funding.** Maximize the use of 406 funds through the Public Assistance (PA) Program. Analysis: This is an important aspect of the PA program for several reasons. Because it is written into the PA scope of work and budget, the work can be completed more quickly than by going through the 404 grant program. Because the State pays 15% of the local share, the community only pays 10%, lessening the financial burden after a disaster for infrastructure protection and improvement.	County EMA Director	2016-2021 as 406 funds become available	New
B. NFIP Participation. Continue to assist municipalities in complying with the requirements of the National Flood Insurance Program, as well as actions needed to ensure municipal compliance with flood insurance requirements including adoption of upgraded ordinances. Provide specific information on the EMA website, social media, and at one or more meetings and/or training sessions related to hazard mitigation. Analysis: Now that FEMA has prepared more detailed flood maps, more homeowners who didn't know they were in a flood hazard area may want to purchase flood insurance. Continued municipal participation in the flood insurance program will keep the insurance option open for property owners and businesses.	Lincoln EMA	2016-2021 as needed	One town - Westport Island, has joined the program since 2011 plan completion. Another – Whitefield, has voted to join the program at the March, 2016 town meeting.

Mitigation Actions	Responsibility	Timeframe	Status
C. Problem Documentation. Encourage municipalities to document the costs of repairing recurring flood damages to ditches, culverts, roadway drainage systems and roads.	Lincoln EMA		Already discussed at one meeting to update plan; will be repeated annually
D. Grant and Training Opportunities – Notify communities of grant opportunities, workshops for developing competitive applications and training on best practices.	County EMA Director	2016-2021 As available	New – as available

Severe Summer and Winter Storms

Severe summer storms. In Lincoln County, the most likely damages caused by the high winds from a severe summer storm or hurricane event are the loss of electrical power, from downed power transmission lines, and the blockage of roadways, from tree debris. There could be loss of life caused by debris falling on an individual, or from storm-related vehicle accidents. Other types of general damage to personal and real property may be caused by severe storm or hurricane winds.

Severe winter storms. The most likely damages caused by a severe winter storm event are the loss of electrical power, from downed power transmission lines, and the blockage of roadways, from tree debris or winter snow or ice. There could be loss of life caused by delayed responses from emergency services, the improper use of backup heat sources, freezing conditions, debris falling on an individual, or from storm-related vehicle accidents. Other types of general damage to personal and real property may be caused by high blizzard winds.

Goal: Reduce damage, injury and loss of life in Lincoln County after a severe winter storm, summer storm or hurricane event.

Mitigation Actions	Responsibility	Timeframe	Status
A. Generators. Assist municipalities in applying for fire or mitigation grant funds for generators at critical facilities that are not in flood hazard areas. Analysis: As of a FEMA policy change in 2012, generators are eligible for mitigation funding. Generators can ensure the proper functioning of critical facilities during emergencies, thus making the whole community more resilient.	County EMA Director	2016-2021	New

Mitigation Actions	Responsibility	Timeframe	Status
B. 406 Funding. Maximize the use of 406 funds through the Public Assistance (PA) Program. Analysis: This is an important aspect of the PA program for several reasons. Because it is written into the PA scope of work and budget, the work can be completed more quickly than by going through the 404 grant program. Because the State pays 15% of the local share, the community only pays 10%, lessening the financial burden after a disaster for infrastructure protection and improvement.	County EMA Director	2016-2021 As 406 funds become available	New
C. Website/Media Outreach. Include hazard mitigation information on the EMA website, social media and/or work with the media on public service announcements.	County EMA Director	2016-2021 as needed	New
D. Infrastructure Protection. Inform local officials about training exercises, technical assistance and potential funding opportunities aimed at infrastructure protection. Analysis: Since there is constant turnover in public officials, and funding resources constantly ebb and flow, information flow is critical to keeping current officials up to date.	County EMA Director	2016-2021 as opportunities arise	New

Wildfires

In Lincoln County, the most likely immediate damages caused by a wildfire are injuries, possible loss of life, loss of prime timberland, and the destruction of personal and real property, especially homes. The loss of electrical power is possible, since the majority of high voltage transmission lines pass through heavily wooded areas. The very presence of a wildfire may close commerce, resulting in major losses of income for local businesses. Subsequent damages might include flooding if the land has been cleared of vegetation by wildfire.

Goal: Reduce damage, injury and loss of life in Lincoln County caused by Wildfires.

Mitigation Actions	Responsibility	Timeframe	Status
A. Public Education. Notify local officials of fire prevention workshops offered by the Maine Forest Service (MFS). Include fire prevention information on the EMA website and social media. Include "fire-wise" information on the EMA website and social media. Analysis: The MFS has a wide variety of resources that can be accessed by the communities and businesses. These range from website information, social media, to individual consultations on methods for reducing potential damages from wildfires.	County EMA Director	2016-2021 as needed	New
B. Mutual Aid. Evaluate the status of mutual aid agreements. Provide assistance to municipalities to update as necessary. Analysis: 90 percent of all fire fighters in Maine are volunteers. These volunteers must first leave their regular jobs to access the fire trucks and equipment *before* going to fight fires. Because few communities could support a fully staffed fire department, mutual aid is both a life-saver, and, cost effective. There is wholehearted support for mutual aid and therefore a great deal of cooperation and support among municipal fire departments. This has bolstered the fire-fighting capabilities of all communities. Lincoln EMA is actively involved with municipal emergency response capabilities.	County EMA Director	2016-2021 as needed with EMA Directors and fire departments	New
C. Grant Applications. Notify municipalities of available grants to improve local fire-fighting capabilities by including specific information on the EMA website, social media, and at one or more meetings and/or training exercises.	County EMA Director	2016-2021 as opportunities arise	New

Rating of Actions and Establishment of Priorities

The Lincoln County Hazard Mitigation Planning Team established priorities by hazard for the general mitigation actions set forth on the previous pages. The Team used the following criteria to rank each of the actions:

1. Life safety
2. Population benefited
3. Probability of community acceptance
4. Probability of funding
5. Feasibility of implementation

Each strategy was rated high (3 points), medium (2 points) or low (1 point) for each of the criteria, with the result that priorities were established by total score (the higher the points, the higher the priority).

Rating of Flood Mitigation Actions

	Life Safety	Population Benefited	Probability Community Acceptance	Probability Funding	Feasibility of Implementation	Total Score
A. 406 Funding	3	3	3	3	3	15
B. NFIP participation	2	2	3	3	3	13
C. Problem documentation	2	3	3	2	2	12

Rating of Severe Summer and Winter Storm Mitigation Actions

	Life Safety	Population Benefited	Probability Community Acceptance	Probability Funding	Feasibility of Implementation	Total Score
A. Generators	3	3	3	3	3	15
B. 406 Funding	3	3	3	3	3	15
C. Website/Media Outreach	3	3	2	3	3	14
D. Infrastructure Protection	3	3	3	2	3	14

Rating of Wildfire Mitigation Actions

	Life Safety	Population Benefited	Probability Community Acceptance	Probability Funding	Feasibility of Implementation	Total Score
A. Public Education	3	2	3	3	3	14
B. Mutual Aid	3	3	3	3	3	15
C. Grant Applications	2	2	2	2	2	10

PRIORITIZED LOCAL MITIGATION PROJECTS

Projects listed in priority order. Most of the municipalities in Lincoln County identified one or more action items consistent with the County-wide goals and actions, to mitigate hazards at the local level. The jurisdictions, as well as the specific actions they will pursue, are listed in priority order in the following table. The time frames shown are based upon the availability of materials and funding.

Criteria for prioritization. The list of local projects was developed separately by each municipality and in consultation with the County. Local officials did not use formal, written criteria for the identification of local projects. Local officials utilized the following criteria to develop and informally prioritize the list of projects:

- local knowledge of the frequency and extent of local damages
- local knowledge of project priorities, based on frequency and severity of damages
- local knowledge of the benefits that could result from the projects vs. the assumed costs of the projects
- local knowledge of the weather, the geography and topography of the community
- technical and financial abilities of their respective communities to address hazards and mitigate the impacts of hazards.

Use of a cost-benefit analysis. Since most Lincoln County communities have tight budget constraints, in virtually all cases involving expenditure of local funds, there will be a very rigorous, line-by-line analysis of cost effectiveness during the budget review process and public discussion. This review is at least equal to a formal benefit-cost calculation because each expenditure item will be carefully scrutinized rather than simply being plugged into a formula. For purposes of grant applications, however, MEMA and the County EMA have made it clear to local officials that a formal cost benefit analysis will have to be prepared when they apply for mitigation funding.

Project Status. The projects were initially included in the Plan based on an expectation that there would be sufficient federal funds to help pay for many of the projects, but this has not been the case. Many municipalities simply do not have the resources to construct these projects using only local funds, and this has been indicated by the phrase “deferred, lack of funds.”

Timeframe. Some of the projects have been completed, as indicated in the table of projects. Some are newly listed. However, the vast majority of projects are carry-overs from the last plan update, so an approximate time frame has been assigned to each project, subject to the availability of funds which, in most cases, have not been secured as of this writing.

The time frames start when funding becomes available and permitting is completed.

- Short Term: 1-2 years
- Medium Term: 3-4 years
- Long Term: 5 years

Municipal inaction to date does not mean lack of interest. Most municipalities do not have the funds to implement the projects, in part because scarce municipal resources are dedicated to winter and summer road maintenance, school costs and county budgets, to name a few, and municipal finances are also being squeezed by state funding cutbacks in revenue sharing, education, county jails and other areas of government. Therefore, for all of the reasons stated above, projects with the status “Deferred – lack of funds” may have to be carried over to the next planning cycle.

The time frames set forth in this plan are subject to change if funding sources become available.

Potential Funding Sources.

Potential funding sources for local projects include, but are not limited to:

- Local tax money
- MaineDOT local road assistance funds
- FEMA Hazard Mitigation Assistance (HMA) grant funds
- Maine Department of Environmental Protection (DEP) culvert grants
- Community Development Block Grant (CDBG) funds
- Other (e.g. private benefactors, emerging grant programs)

D2. Progress in Local Mitigation Efforts

The table below reflects progress in local mitigation efforts. See status column.

D3. Revisions to Reflect Changes in Priorities

The table below reflects progress in local mitigation efforts. See discussion on how projects were prioritized, page 5-1.

Note: References to culverts on the following pages refer to upsizing or lengthening culverts, unless otherwise stated. Over the years, FEMA has established project useful life standards for typical mitigation project types. FEMA's project useful life standard for culverts ranges from 25-50 years, depending on type of materials used. Other examples are: generators - 19 years, elevations – 30 years, and acquisition/demolitions - 100+ years.

Hazard Mitigation Projects

Town	Project (in Order of Priority	Cost	Timeframe	Responsible Agency	Status
Alna	1) Egypt Rd; Install cast in place headwalls on intake and outlet.	$12,000	Medium Term	Road Commissioner	Deferred – lack of funds
	2) Baily, Lothrop, and Sheepscot Rd; Stone line plunge pool 40' x 8' x 3'.	$2,000	Short Term	Road Commissioner	Deferred – lack of funds
	3) Baily Rd; Add 48'' x 40' HDPE culvert and elevate road 18' x 60' x 2' and stabilize shoulders.	$20,000	Medium Term	Road Commissioner	Deferred – lack of funds
	4) Lothrop Rd; Add (4) 24'' x 40' HDPE cross culverts and rip rap intake and outlets.	$12,000	Medium Term	Road Commissioner	Deferred – lack of funds
Boothbay	1) Dover Rd; Upsize (4) 8'' x 40' culverts with 15'' x 40' HDPE culverts and rip rap intake and outlets.	$14,000	Medium Term	Road Commissioner	Deferred – lack of funds
	2) East & West Side Rd. on Barters Island; Ditch 8,000' and add check dams as needed, upsize (8) culverts with 18'' x 40' HDPE culverts and remove ledge as needed.	$52,000	Long Term	Road Commissioner	Deferred – lack of funds
	3) Ocean Point Rd (shore Rd.) Stabilize banks 7,500' x 20' on average.	$90,000	Long Term	Road Commissioner	Deferred – lack of funds

Town	Project (in Order of Priority	Cost	Timeframe	Responsible Agency	Status
(Boothbay)	**4) Back River Cross Rd; Upsize existing 36'' x 40' culvert with 8' x 4' x 40' bottomless box and riprap intake and outlet.**	**$45,000**	**Long Term**	**Road Commissioner**	**Deferred – lack of funds**
	5) Pension Ridge Rd; Upsize 12'' x40' culvert with 24'' x 40' HDPE culvert and rip rap intake and outlet.	**$3,000**	**Short Term**	**Road Commissioner**	**Deferred – lack of funds**
	6) King Philips Trail; Stabilize shoulders 2,500' x 20' and upsize existing Culvert with 24'' x 40' HDPE and rip rap intake and outlet.	**$35,000**	**Medium Term**	**Road Commissioner**	**Deferred – lack of funds**
Boothbay Harbor	**1) Townsend Ave, Atlantic Ave, and Union St; Upsize underground drainage 5,000' x 12'' with 5,000' x 28'' and add (30) catch basins.**	**$275,000**	**Long Term**	**Public Works.**	**Deferred – lack of funds**
	2) Spruce world Beach Rd; Upsize 24'' x 40' cmp with 36'' x 40' HDPE culvert and rip rap intake and outlet.	**$5,000**	**Medium Term**	**Public Works.**	**Deferred – lack of funds**
Bremen	**1) Rial Herald Rd; Ditch 5,000', upsize and realign existing cmp with 24'' x 40' squash pipe.**	**$25,000**	**Medium Term**	**Road Commissioner**	**Deferred – lack of funds**
	2) Town Hall; Install French drains 100' and reseed.	**$4,000**	**Short Term**	**Road Commissioner**	**Deferred – lack of funds**

Town	Project (in Order of Priority	Cost	Timeframe	Responsible Agency	Status
Bristol	1) Install fixed generator at Bristol Fire/Rescue Station #1 (New Harbor)	$17,185	Short Term	Select Board Electrician	Completed 2015 DR-4108 HMGP grant
	2) Back Shore Rd; Stabilize Road shoulder 95' x 20' x3' with geo textile and large fractured stone.	$13,000	Short Term	Road Commissioner	Completed
	3) Moxie Cove/ Morrison St; Remove ledge as needed and add (1) 30'' x 40' and (1) 24'' x 40' HDPE cross culverts and rip rap intake and outlets.	$8,000	Short Term	Road Commissioner	Completed
	4) Browns Cove Rd; Remove ledge as needed and add (1) 15'' x 40' and (2) 24'' x 40' HDPE cross culverts and rip rap intake and outlets.	$10,000	Short Term	Road Commissioner	Completed
	1) Split Rock Road; Upsize culverts and lift road above flood level.	Unknown	Short Term	Road Commissioner	Newly Listed
	2) Route 130; In conjunction with MaineDOT, elevate road above flood stage.	Unknown	Short Term	Road Commissioner	Newly Listed
Damariscotta	1) Miles St; Stabilize road shoulder with fracture stone 500' x 10'.	$40,000	Medium Term	Public Works	Engineering cost estimates prepared
	2) Egypt Rd; Elevate road 300' x 21' x 2', add 36'' x 40' HDPE culvert and repave.	$32,000	Medium Term	Public Works	Engineering cost estimates prepared

Town	Project (in Order of Priority	Cost	Timeframe	Responsible Agency	Status
(Damariscotta)	**3) Back Meadow Rd; Elevate 100' x 5' x 21' stabilize shoulders and repave.**	**$18,000**	**Short Term**	**Public Works**	**Engineering cost estimates prepared**
	4) Chapman St; Divert water away from homes behind shopping center.	**$45,000**	**Long Term**	**Public Works.**	**As part of $750,000 CDBG grant, new box culvert installed near Church Street to improve storm water drainage on Chapman, Hodgdon, Church and Pleasant Streets.**
	5) Vine Street; Construct drainage system to reduce flooding of adjacent residential & commercial properties.	**Unknown**	**Long Term**	**Public Works**	**New**
	6) Belvedere Road; Upsize 4 culverts to improve drainage	**Unknown**	**Medium Term**	**Public Works**	**New; one culvert close to Route 1 bypass upsized. 2 culverts to be upsized in 2017; one in 2018.**
	7) Pumping Station Lane; Upsize one culvert.	**Unknown**	**Short Term**	**Public Works**	**New; completed**
	8) Municipal Parking Lot; Construct floodwall and reconstruct parking lot to reduce flooding.	**Unknown**	**Long Term**	**Public Works**	**New; preliminary engineering completed in 2014**

Town	Project (in Order of Priority	Cost	Timeframe	Responsible Agency	Status
(Damariscotta)	**9) Areas vulnerable to sea level rise; Fortify areas subject to flooding due to sea level rise including downtown, Miles Road, Oyster Creek (on Belvedere).**	**Unknown**	**Long Term**	**Public Works**	**New**
	10) Great Salt Bay School Shelter; Install generator.	**$50,000**	**Short Term**	**Public Works**	**New**
	11) YMCA Shelter; Install generator	**$21,887**	**Short Term**	**Public Works**	**New**
Dresden	**1) Bog Rd; Upsize existing multiple culverts with 10' bottomless HDPE culvert with precast footing and rip rap intake and outlets**	**$35,000**	**Long Term**	**Road Commissioner**	**Deferred – lack of funds**
	2) Calls Hill Rd; Upsize existing 48'' x 40' cmp with 60'' x 50' HDPE culvert and rip rap intake and outlet.	**$12,000**	**Long Term**	**Road Commissioner**	**Deferred – lack of funds**
Edgecomb	**1) Mount Hunger Rd Site 1; Ditch 1,200' and remove ledge in ditch line as needed Approx. 150 cyd.**	**$8,000**	**Short Term**	**Road Commissioner**	**Deferred – lack of funds**
	2) Spring Hill Farms Rd; Ditch 1,500' and remove ledge in ditch line as needed approx. 150 cyd.	**$9,000**	**Short Term**	**Road Commissioner**	**Deferred – lack of funds**
	3) Mount Hunger Rd Site 2; Elevate 1,000' x 21' x 12'' and upsize (4) existing culverts with 24'' x 40 HDPE culverts..	**$40,000**	**Long Term**	**Road Commissioner**	**Deferred – lack of funds**

Town	Project (in Order of Priority	Cost	Timeframe	Responsible Agency	Status
(Edgecomb)	**4) Parsons Point Rd; Ditch 1,500' and remove ledge in ditch line as needed approx. 300 cyd.**	**$12,000**	**Short Term**	**Road Commissioner**	**Deferred – lack of funds**
	5) Old County Rd; Ditch 1,200' and remove ledge in ditch line as needed approx. 100 cyd. And upsize 36" x 40' cmp with 48" x 40 HDPE culvert.	**$16,000**	**Long Term**	**Road Commissioner**	**Deferred – lack of funds**
Great Salt Bay Water District	**Pumping Station Rd; Ditch and line 1,000'.**	**$9,000**	**Short Term**	**Water District**	**Deferred – lack of funds**
Jefferson	**1) Goose Hill Rd; Ditch and line 600' and add 18" x 40' HDPE cross culvert.**	**$8,000**	**Medium Term**	**Road Commissioner**	**Deferred – lack of funds**
	2) Hodgkin's Hill Rd; Upsize existing twin 15" x 40' cmps with 36" x 40' HDPE culvert. and berm upstream side of road 100' x 12" x 12".	**$6,000**	**Medium Term**	**Road Commissioner**	**Deferred – lack of funds**
	3) Hinks Rd; Upsize existing 18" x 40' cmp with 24" x 40' HDPE culvert.	**$3,500**	**Short Term**	**Road Commissioner**	**Deferred – lack of funds**
	4) 401 Hinks Rd; Elevate furnace and circuit breaker box in basement.	**$2,000**	**Short Term**	**Town Selectmen**	**Deferred – lack of funds**
	5) Sennett Rd; Ditch 500' and remove ledge as needed.	**$3,000**	**Long Term**	**Road Commissioner**	**Deferred – lack of funds**

Town	Project (in Order of Priority	Cost	Timeframe	Responsible Agency	Status
Miles General Hospital	1) Schooner Rd; Upsize existing 36'' x 150' rcp with 48'' x 150' HDPE culvert.	$38,000	Medium Term	Hospital Administrator	Deferred – lack of funds
Monhegan Lighthouse Museum	1) Elevate road bed 200' x 12' x 18'' and add 15'' x 20' HDPE cross culvert.	$20,000	Long Term	Museum Director	Deferred – lack of funds
Monhegan Island	1) Lighthouse Hill Rd; Elevate 2,000' x 10' x 2' shape and add 15'' x 20' cross culvert.	$104,000	Long Term	Road Commissioner	Deferred – lack of funds
	2) Fire Station/ Emergency shelter; Replace existing 30' x 24' building with two story building of same detentions and add backup generator.	$120,000	Long Term	Town Selectmen	Deferred – lack of funds
	3) Monhegan Cemetery; Stabilize wall 800' x 4'with geotextile, stone and indigenous plantings.	$42,000	Medium Term	Town Selectmen	Deferred – lack of funds
	4) Horn's Hill / Burnt Head Rd; Elevate 200' x 10' x 2' upsize existing 12'' 20' cmp with 15'' x 20' HDPE culvert, add 15'' x 20' HDPE cross culvert and rip rap 50' x 1' x 1'	$16,000	Long Term	Road Commissioner	Deferred – lack of funds
Newcastle	1) East Old County Rd; Ditch and line 2,400' upsize (2) 12'' x 40' cmps with 18'' x 40' HDPE culverts and add (2) 18'' x 40' HDPE cross culverts.	$36,000	Long Term	Road Commissioner	Deferred – lack of funds

Town	Project (in Order of Priority	Cost	Timeframe	Responsible Agency	Status
(Newcastle)	**2) North Dyer Neck Rd; Ditch and line 2,200' and add (5) 18" x 40' HDPE cross culverts.**	**$40,000**	**Long Term**	**Road Commissioner**	**Deferred – lack of funds**
	3) Station Rd; Ditch and line 2,600' and add (2) 18" x 40' HDPE cross culverts.	**$38,000**	**Long Term**	**Road Commissioner**	**Deferred – lack of funds**
	4) Indian Trail Rd; Ditch 1,600' and add (4) 18" x 40' HDPE culverts and rip rap intake and outlets.	**$16,000**	**Long Term**	**Road Commissioner**	**Deferred – lack of funds**
Nobleboro	**1) Install fixed generator at Nobleboro Municipal facility/Fire Station**	**$35,196**	**Short Term**	**Select Board Electrician**	**New – DR-4108 HMGP grant; expect summer 2016 installation**
	2) Bremen / Duck Puddle Rd; Elevate 300' x 21' x 5' upsize existing culvert with 10' x 8' x 50' box culvert and rip rap intake and outlet' and repave.	**$65,000**	**Long Term**	**Joint project with Nobleboro and Waldoboro**	**Deferred – lack of funds**
	3) Upper Cross Rd; Ditch 7,000' add (2) 24" x 40' HDPE cross culverts and (7) 15" x 20' HDPE driveway culverts.	**$21,000**	**Long Term**	**Road Commissioner**	**Deferred – lack of funds**
Somerville	**1) Install fixed generator the Somerville Fire Station**	**$32,000**	**Long Term**	**Select Board Electrician**	**New**
	2) Crummett Mountain Rd; Elevate 250' x 21' x 2' and add 24" x 40' HDPE overflow culvert.	**$25,000**	**Long Term**	**Road Commissioner**	**Deferred – lack of funds**

Town	Project (in Order of Priority	Cost	Timeframe	Responsible Agency	Status
(Somerville)	**3) Colby Rd; Relocate roadway 250' x 5' and add driveway culvert 15" x 20', ditch 1,000' and add check dams as needed.**	**$26,000**	**Long Term**	**Road Commissioner**	**Deferred – lack of funds**
South Bristol	**1) Carl Baily Road; Ditch east side of road.**	**$2,500**	**Short Term**	**Road Commissioner**	**New**
	2) Sprit Rock Rd; Upsize existing 24" x 40' cmp with 36" x 40' HDPE culvert, rip rap intake and outlet and repave.	**$5,000**	**Short Term**	**Road Commissioner**	**Completed 2015 with 2 culverts side by side**
	3) Clark cove Rd; Upsize existing 24" x 40' cmp with 36" x 40' HDPE culvert, rip rap intake and outlet and repave.	**$6,000**	**Short Term**	**Road Commissioner**	**Completed 2015**
	4) Carl Baily Rd; Upsize existing 24" x 40' cmp with 36" x 40' HDPE culvert, rip rap intake and outlet and repave.	**$5,000**	**Short Term**	**Road Commissioner**	**Completed 2014**
	5) Thompson Inn Rd; Upsize existing 18" x 40' cmp with 36" x 40' HDPE culvert, rip rap intake and outlet and repave.	**$5,000**	**Short Term**	**Road Commissioner**	**Completed 2014**
Southport	**1) Campbell Rd; Upsize existing 15" x 50' cmp with 24" x 50' HDPE culvert and stabilize road shoulder 150' x 20' on average.**	**$12,000**	**Short Term**	**Road Commissioner**	**Deferred – lack of funds**
Unorganized Territory	**Improve ditches and drainage on county roads**	**$35,000**	**Long Term**	**County Commissioners**	**Deferred – lack of funds**

Town	Project (in Order of Priority	Cost	Timeframe	Responsible Agency	Status
Waldoboro	1) Bremen / Duck Puddle Rd; Elevate 300' x 21' x 5' upsize existing culvert with 10' x 8' x 50' box culvert and rip rap intake and outlet' and repave.	$85,000	Long Term	Joint project with Nobleboro Road Commissioner	Deferred – lack of funds
	2) Feyler's Corner / Old Augusta Rd; Elevate 1,000' x 21' x 2' Upsize (3) 24" x 40'cmps with 36" x 40' HDPE culverts, add (2) 48" x 40' HDPE culverts and repave.	$75,000	Long Term	Public Works.	In Progress
	3) Elm St. Upsize existing culvert with 10' x 6' x 40' box culvert and rip rap intake and outlet.	$45,000	Long Term	Public Works.	Deferred – lack of funds
	4) Storer Mountain Rd; Ditch and line 1,000' and add check dams as needed.	$12,000	Short Term	Public Works.	Deferred – lack of funds
	5) Jackson Rd; Improve ditches 1,000' and add check dams as needed.	$4,000	Short Term	Public Works.	Deferred – lack of funds
	6) Storer Mountain Road; Upsize existing 5'x36" CMP culvert with 5'x36" HDPE and lower 12-18".	$60,000	Long Term	Public Works	New
	7) Marble Avenue; Install (2) 48" x 40' HDPE culverts, rip rap intake and outlet and 800' of ditches	$80,000	Medium Term	Public Works	New
	8) Wagner Bridge Road; Elevate 300' x 32' x 4'. Upsize existing 4' x 36' CMP culvert with 5' x 40' HDPE culvert, rip rap intake and outlet and repave.	$40,000	Short Term	Public Works	New

Town	Project (in Order of Priority	Cost	Timeframe	Responsible Agency	Status
Westport Island	1) Install fixed generator at the Westport Island Fire Station.	$45,000	Short Term	Select Board Fire Dept.	Applied for HMGP grant Jan. 2016
	2) West Shore Rd; Ditch and line 2,000', remove ledge as needed and add 15'' x 30' HDPE cross culvert.	$25,000	Long Term	Road Commissioner	Deferred – lack of funds
	3) East shore Rd; Ditch and line 2,000', remove ledge as needed.	$20,000	Long Term	Road Commissioner	Deferred – lack of funds
	3) Main (town) Rd; Ditch 1,000'.	$5,000	Short Term	Road Commissioner	Deferred – lack of funds
Whitefield	1) Devine Rd; Ditch and line 2,000, add check dams as needed and add 30'' x 40' HDPE cross culvert.	$12,000	Medium Term	Road Commissioner	Deferred – lack of funds
Wiscasset	1) Foley Rd; Add 24'' x 40' overflow HDPE culvert.	$3,000	Short Term	Public Works.	Deferred – lack of funds
	2) Loweltown Rd; Upsize existing twin 30'' x 40' HDPE culverts with 8' x 4' x 40' bottomless box culvert.	$35,000	Long Term	Public Works.	Deferred – lack of funds
	3) Pottles Cove Rd; Ditch 200' and add 15'' x 40' HDPE cross culvert.	$4,000	Short Term	Public Works.	Deferred – lack of funds
	4) Old Dresden Rd; Add (1) 15'' x 40' HDPE cross culvert.	$3,500	Short Term	Public Works.	Deferred – lack of funds

Town	Project (in Order of Priority	Cost	Timeframe	Responsible Agency	Status
(Wiscasset)	**5) Pinewood Dr; Upsize and realign with 15" x 40' HDPE cross culvert.**	**$3,500**	**Short Term**	**Public Works.**	**Deferred – lack of funds**
	6) Public Works Garage; Upsize 400' x 24" culvert with 30" x 400' HDPE culvert.	**$30,000**	**Long Term**	**Public Works.**	**Deferred – lack of funds**

6. PLAN MAINTENANCE PROCEDURES

Monitoring, Evaluating and Updating the Plan
Requirement §201.6(c)(4)(i): (The plan shall include a plan maintenance process that includes) a section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.

§201.6(c)(4)(i) requires a formal plan maintenance process to take place to ensure that the Mitigation Plan remains an active and pertinent document. The plan maintenance process includes a schedule for monitoring and evaluating the plan at least every five years, and continued public participation throughout the plan maintenance process.

This section also includes an explanation of how the county and municipal governments intend to incorporate their mitigation strategies into any existing planning mechanisms they have.

Eighteen months prior to the Hazard Mitigation Plan update deadline, Lincoln County Emergency Management Agency will organize a Hazard Mitigation Planning Committee meeting. Lincoln County EMA will invite the public, Town Managers, Selectmen, EMA directors and other interested parties to participate.

The Hazard Mitigation Planning Committee will review existing hazards of concern and determine whether any new hazards were presented throughout the past four years. The status of current mitigation projects will be updated and new projects will be added as needed. Once all hazards, projects, maps and county information have been updated, the Lincoln County Hazard Mitigation Plan draft will be submitted to MEMA for review and recommendations before the final draft is forwarded to FEMA for conditional certification.

Monitoring the Plan

Progress on the plan will be monitored via monthly meetings with MEMA and/or local EMAs and following every federally declared disaster. The second quarter Local EMA meeting of each County fiscal year will include a project and risk assessment review. The mitigation plan and project application process will also be addressed at each federal disaster declaration kick-off meeting and will be reinforced via email announcements for workshops and grant application deadlines.

Evaluating the Plan

The plan is constantly being evaluated through various measures at county and local levels. Annually and after each disaster declaration, Lincoln County EMA will review the hazards in the risk assessment section of this plan. In addition, Lincoln County EMA will contact towns in regards to Form 7 briefings and submittals, workshops on project applications, and for the status on existing projects and the addition of new projects.

Updating the Plan

The plan will be updated every five years. The method for determining what changes might be necessary will be to review and assess information gathered from disaster declarations, unusual weather events and/or significant changes in science or legislation. As previously described, part of

that schedule will be reviews on a monthly basis and after disasters, but in the fourth year of the plan, a more in depth review will take place, and the plan will be updated accordingly.

Incorporating Mitigation into other Planning Mechanisms	
Requirement §201.6(c)(4)(ii): (The plan shall include a plan maintenance process that includes) a process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.	
Element	C6. Does the plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate?

Identification of Local Planning Mechanisms

County government is limited in scope and authority in the State of Maine and does not have the manpower, authority, or fiscal capabilities to guide and control development within the towns in the County. Within Maine, most government authority is with State statutes and rules and with municipal "Home Rule" ordinances.

Municipalities in Lincoln County have already incorporated strategies recommended by or consistent with this Plan into local planning mechanisms as discussed in the paragraphs below. By adopting this plan, each community, as well as Lincoln County, is agreeing to continue implementation of strategies aimed at mitigating hazards identified in this Plan. As documented in Section 5, the municipalities in Lincoln County have a variety of planning and regulatory mechanisms for managing land use at the local level, thereby minimizing the exposure of future development to natural hazards.

In addition to the regular public meetings of their boards of selectmen, all towns in Lincoln County hold annual town meetings which are an integral part of public planning. These meetings allow all citizens equal opportunity to communicate their concerns and opinions on the state of the town and how to move forward with these concerns. The citizens in attendance at these meetings have a vested interest in the town and how and what is funded annually.

Available planning mechanisms at the municipal level, and the extent to which they have incorporated hazard mitigation, include:

- Local flood plain management Ordinances; as documented in Section 5, 18 of 19 municipalities have joined the Flood Insurance Program and have adopted floodplain management ordinances aimed at managing development in flood-prone areas. The town of Whitefield voted to join the Flood Insurance Program at the March, 2016 town meeting. In addition, Monhegan Island Plantation is in the Flood Insurance Program by virtue of being under the regulatory jurisdiction of the State's Land Use Planning Commission.
- Shoreland zoning ordinances; all of the towns in Lincoln County are required to have a shoreland zoning ordinance, whether adopted by the municipality or imposed by the Maine Department of Environmental Protection. Shoreland zoning ordinances contain requirements for locating structures outside of known flood hazard areas and/or for complying with the requirements of municipal flood plain management ordinances.
- Local comprehensive plans (most Lincoln County municipalities have adopted a comprehensive plan). Comprehensive plans are policy documents that address a wide range of issues affecting the future of the community, and those relating to public safety and environmental protection would be consistent with the strategies contained in this plan. In general, local comprehensive plans do not include recommendations on specific projects,

although they may contain recommendations that roads and their associated infrastructure be upgraded as funds become available.

- Capital improvement plans (some of the larger municipalities have capital improvement plans; most of the smaller ones do not, but they do have local budgeting processes which are used to examine potential expenditures in detail and establish overall spending priorities).
- Road maintenance planning efforts. These may include priorities for local improvements, but not necessarily engineering studies or cost benefit analyses.
- Emergency management and mitigation planning.
- Fire prevention planning and coordination, including participation in mutual aid agreements and multi-town wildfire training exercises, and:
- Grant writing (many of the County's municipalities have been active in applying for grants to address municipal priorities).

Note: See Strategy section of this plan for a town-by-town summary of existing authorities, policies, programs and resources available to accomplish hazard mitigation.

Note: There were very few ordinance-related mitigation measures identified by the Lincoln County Hazard Mitigation Planning Team and those identified were determined to be low in priority. All of the mitigation measures that were identified and selected by the individual towns are structural projects.

Incorporating Mitigation Strategies and Related Information into Local Planning Mechanisms.

County government does not have the authority to control local planning mechanisms. However, the County EMA Director can provide information to local units of government, as well as technical assistance.

After adoption of the Mitigation Plan, the Lincoln County EMA Office will assist the municipal officers in implementing their selected mitigation measures. The County EMA Office will conduct ~~annual~~ periodic reviews and surveys with the municipal officers and local EMA directors to determine the status of their measures. The County EMA office will assist the municipalities with the completion of FEMA Pre-Disaster Mitigation and Hazard Mitigation Grant packages.

Explanation of How Local Governments Incorporated Strategies and other Information.

In addition to the planning mechanisms discussed above, there has been progress in some additional areas, but no known actions in other areas:

- Comprehensive plans – no State money for new plans or updates
- Road maintenance planning efforts – many towns in Lincoln County are now using MEMA's Road Tracker to document repair costs
- Emergency management and mitigation planning – limited because of volunteer EMA directors and no budgets
- Ordinances –no State money for new plans or updates
- Grant applications – a few of the County's municipalities have been active in applying for grants to address mitigation issues

The County EMA and all municipal EMAs have continued to advise their respective jurisdictions on pending hazard events, such as winter storms, as well as posted public service announcements in public locations such as municipal offices.

The County EMA has notified municipal EMAs and local officials of hazard mitigation workshops such as those related to the Pre-Disaster and Hazard Mitigation Grant programs, workshops with hazard

mitigation content such as those sponsored by Maine's Local Roads Center that deal with the use of geo-textiles, and workshops dealing with various sea level rise scenarios and how they may affect specific municipalities.

The responsible agency within each municipality that is responsible for the implementation and completion of each mitigation measure will notify the County EMA Office whenever assistance is needed or whenever a measure is completed. Existing programs such as the municipal road maintenance plan, emergency management program and local fire prevention programs will be utilized to their greatest extent to complete the community's mitigation measures.

Continued Public Participation	
Requirement §201.6(c)(4)(iii): (The plan shall include a plan maintenance process that includes) a discussion on how the community will continue public participation in the plan maintenance process.	
Element	A5. Is there discussion on how the community(ies) will continue public participation in the plan maintenance process?
	A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)?

Lincoln County is dedicated to involving the public directly in the continual reshaping and updating of the Hazard Mitigation Plan. The Hazard Mitigation Plan Evaluation Team members are responsible for the review and update of the plan. Although they represent the public to some extent, the public will be able to directly comment on and provide feedback about the plan. All meetings will continue to be open to the public for opportunities to comment on and provide meaningful input on the Plan.

Copies of the plan will be provided to the municipalities Emergency directors and kept on hand at all municipal town offices in the County. The existence and location of these copies will be publicized by public notice in the local papers and/or on our website and social media. Contained in the plan is the address and phone number of Lincoln County EMA Office, which is responsible for keeping track of public comments on the plan.

A public meeting will also be held after each Mitigation Plan Evaluation Team review meeting. This public meeting will provide the public a forum for which they express concerns, opinions, or ideas about the plan. The County EMA Office will publicize and host this meeting.

In Lincoln County, hazard mitigation is far more than a written plan. It is an important part of the overall mission of the Lincoln County Emergency Management Agency (EMA), and is fully integrated into the comprehensive nature of the EMA's emergency management responsibilities. Most of the EMA's activities and communications emphasize the importance of planning, preparation, mitigation, training, and emergency response. A partial list of EMA's public outreach efforts includes:

- Maintaining and updating the EMA's website;
- Including on the website and social media public information materials;
- Including on the website and social media notice of training opportunities for local public safety personnel;
- Communicating with the public on an on-going basis through Nixel;
- Maintaining emergency communications systems;
- Holding meetings and training sessions with local EMA officials;

- Participating in public outreach efforts such as the annual Maine Preparedness Conference, the most recent of which was attended by over 600 people;
- Working with Lincoln County Regional Planning Commission to being information on sea level rise to local EMA Directors.

Lincoln County EMA will also continue to provide advisories on its website and social media when public safety may be impacted by hazards such as flooding or severe winter storms.

See discussion on page 6-1 for monitoring, evaluating and updating the plan.

Lincoln County Emergency Management Agency
34 Bath Road, Wiscasset, Maine 04578
Office Phone: (207) 882-7559
E-mail: thartung@LCC911.me

Lincoln County, Maine

Hazard Mitigation Plan Update

Appendix

Tod Hartung,
Director

Lincoln County
OFFICE OF EMERGENCY MANAGEMENT
34 Bath Road, P.O. Box 249
Wiscasset, Maine 04578
Phone: (207) 882-7559 Fax: (207) 882-7550

www.LincolnCountyEMA.net

Agenda
Local EMA Director's Meeting
January 22nd, 2015

Beginning at 1800 hours dinner served

- **Call to Order** – *Chief Paul Leeman, JR.*
- **Old Business**
  - → Elections (nomination for current officers to retain positions)
  - → HMGP – Tod
  - → D4H - Kris
- **New Business**
  - → Updates from Country Directors' Meeting – Tod
  - → Upcoming Training Dates – See handout
- **Local Updates**
- **Comments for the Good of Order**
- **2015 Meetings:**

  - March 19th, 2015 1800 @ LC EMA/911 Conference Room
  - May 21st, 2015 1800 @ LC EMA/911 Conference Room
  - October 22nd , 2015* 1800 @ LC EMA/911 Conference Room

Lincoln County

OFFICE OF EMERGENCY MANAGEMENT

34 Bath Road, P.O. Box 249
Wiscasset, Maine 04578

Phone: (207) 882-7559 Fax: (207) 882-7550

Tod Hartung,
Director

www.LincolnCountyEMA.net

- December 17th, 2015 1800 @ LC EMA/911 Conference Room

Tod Hartung,
Director

Lincoln County
OFFICE OF EMERGENCY MANAGEMENT
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Agenda
Local EMA Director's Meeting
March 18th, 2015

Beginning at 1800 hours dinner served

- **Call to Order** –

- **New Business**
  - → Updates from the County
    - Emergency Preparedness Conference: Kris
    - Training: Ken
    - HSGP FY13 Clean-up: Tod
  - → HMPG Presentation
    by Joanne Mooney, MEMA & Rich Rothe, Rothe & Associates

- **Local Updates**

- **Comments for the Good of Order**

- **2015 Meetings:**

  - May 21st, 2015 1800 @ LC EMA/911 Conference Room
  - October 22nd , 2015* 1800 @ LC EMA/911 Conference Room
  - December 17th, 2015 1800 @ LC EMA/911 Conference Room

Tod Hartung,
Director

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www.LincolnCountyEMA.net

Agenda
Local EMA Director's Meeting
May 21st, 2015

Beginning at 1800 hours dinner served
Please be sure to sign-in with your round trip travel time (minutes)

- **Call to Order** –
- **New Business**
  - → Updates from the County
    - Tod
      - Updates from MEMA
      - HMGP – next meeting end of June, beginning of July
    - Casey
      - 9-1-1 updates
      - SERC updates
    - Kris
      - Local EMPG Applications (no application date however work plans can still be prepped)
      - Resource Sheets
      - New Website Design
        - Please send in any comments or suggestions in
        - Email your town/FD/EMS/EMA/LE websites and social media addresses so they can be linked.
- **Local Updates**
- **Comments & Notations for the Good of Order**
  - Hurricane Season begins June 1st
    - Hurricane Preparedness Week May 24th-30th
  - Other preparedness topics:
    - June: Hurricane Safety, Lightning Safety, Wildfire Safety;
    - July: Fireworks & Park Safety, Heat & Drought Safety, Youth Preparedness;
    - August: get ready for National Preparedness Month (September)

    (Ready.gov has press kits, ideas, and schedules ready to go)
- **2015 Meetings:**
  - October 22nd , 2015* 1800 @ LC EMA/911 Conference Room
  - December 17th, 2015 1800 @ LC EMA/911 Conference Room

EXAMPLE OF LOCAL SURVEY RETURN NOBLEBORO

Lincoln County Hazard Mitigation Planning Municipal Survey 2015

In order to begin updating the Lincoln County Hazard Mitigation Plan, Lincoln County EMA requests your participation by providing answers to the following questions. Completion of this survey is one of several ways that each municipality can stay involved in the update process, and it is vital that each municipality participate. Municipalities that do not participate in this plan will not be eligible for FEMA Hazard Mitigation Grants. For many communities, this can and has amounted to tens of thousands of dollars. The County cannot assess your municipality's requirements and needs, or determine the correct mitigation measures that will work for your community without your assistance. Several municipalities have provided a point of contact to participate in regular planning meetings. The 2015 Lincoln County Hazard Mitigation Plan Update will profile: flooding, severe winter and summer storms, and wildfires.

1. **Community Name:**

2. **Flooding:** Please identify areas in your municipality that are susceptible to damages from flooding and/or that have had repeated damages (such as road overtopping, culvert damages, coastal erosion): Swamp on East Pond Road

   Bridge + Culvert on Branch Road

3. **Severe winter storms:** Please identify areas in your municipality that are susceptible to severe winter storms (such as ice jams and power outages):

   None

4. **Severe summer storms:** Please identify areas in your municipality that are susceptible to severe summer storms (such as power outages, debris removal):

   None

5. **Wildfire/property damages:** Please identify areas in your municipality that would be susceptible to wildfire/forest fires (such as homes or vacation properties built in the woods):

   None

6. **Vulnerable populations:** Please identify vulnerable populations in your municipality (for example, are there any dead-end roads where residents could be isolated):

7. **Governance:** When does your Select Board, Board of Assessors or City Council regularly meet (for example, first Monday of the month):

   Every other Wednesday

8. **Local contact information:** Please list the name, telephone number, email address and physical address of someone in your community that can be contacted about hazard mitigation:

   ?

In addition to completing this survey, we will be requesting your assistance at a later date to update the list of mitigation projects contained in the current Hazard Mitigation Plan.

Use the back of this form to provide additional info. Thank you for taking the time to fill out and return this survey! Please return by **June 19th** to the Lincoln County Emergency Management Agency, POB 249 Wiscasset, Maine 04578, or email to: thartung@lcc911.me

Lincoln Co., ME, CCO Meeting - 1-3pm - Lincoln County Emergency Managment Agency, 34 Bath Road, Wiscasset, ME 04578 - April 1, 2014

Name	Community/Agency	Title	E-Mail	Telephone
Kerry Bogdan	FEMA (Region I)	Project Manager/Senior Engineer	Kerry.Bogdan@fema.dhs.gov	617.956.7576
Sue Baker	State of Maine	State NFIP Coordinator	Sue.Baker@maine.gov	207.287.8063
Brian Lee	STARR (Stantec)	Project Manager	Brian.Lee@starr-team.com	301.220.1880
Brett. Schrey	STARR	Project Engineer	Brett. Schrey@starr-team.com	301-220-1860
EDWARD J. POLEWARCZYK	WISCASSET	SELECTMAN	SELECTMANPOLEWARCZYK @ WISCASSET, ME	207-882-7200
Marcia Spencer-Famous	LUPC / DACF	Senior PLANNER	marcia.spencer-famous @maine.gov	207-287-4933
Janet Parker	ME Floodplain	Planner, CFM	janet.parker@maine.gov	287-9981
Willa Antczak	Waldoboro	planner, CEO	planner@waldoboromaine.org	832-5369
Kyle Santheson	WALDOBORO EMA	EMA Director	ema @waldoboromaine.org	832-5369
Richard Verville	FEMA	Branch Chief		617.956.7554
ANDREW ECKMAN	BOOTHBAY ELK	DEP DIR	ANDREW_ECKMAN@ COMMUNITYLIFESAFETY.COM	207-380-7285
LYNN MALONEY	Town of Newcastle	T. A.	townadmin@newcastle maine.us	563-3441
HENRY BORAN	SOUTHPORT	CEO	CEO SOUTHPORT @ ROADRUNNER.COM	633-3357
JIM GAGNON	SOUTHPORT	BUILDING INSPECTOR HARBOR MASTER	"	"
Mal Carey	Newcastle	NA	malcarey@tidewater.net	586-5008
JoAnn Mooney	MEMA	SHMO	JoAnn.E.Mooney@ma .gov	624-4400

Lincoln Co., ME, CCO Meeting - 1-3pm - Lincoln County Emergency Managment Agency, 34 Bath Road, Wiscasset, ME 04578 - April 1, 2014

Name	Community/Agency	Title	E-Mail	Telephone
Emily Rennott	LCRPC	Community Planner	erenhdt@lcrpc.org	882-3152
Dick Perkins		Chair Board of Appeals	perconst@gmail.com	633-3415
Karen Perkins			Kperkins@tindalandcallahan.com	
Harry Lowd	Bristol	Selectman	lowd@midcoast.com	563-5270
Casey Stevens	LCEMA	Asst. to Director	emamgrasst@lincolncountymaine.me	380-6187
Stan Waitz	Various Towns	Code Officer	Nobleharbor@gmail.com	380-9873
Misty Parker	Wiscasset	Town Planner	townplanner@wiscasset.org	882-8200
Cori Colton	Boothbay	CEO	lcolton@gmail.com	
Gail Kezer	Office of U.S. Sen. Angus S. King, Jr.	Reg Rep	Gail_Kezer@King.senate.gov	883-1588
Allewi's	Town of Nobleboro	Selectmen	—	563-8816
Steve O'Bryan	Damariscotta	EMA Dir	steveobryan@tidewater.net	592-5454
Karen O'Bryan	Damariscotta	with Steve	→	
Kerry Bogdan	FEMA	Sr. Engineer	kerry.bogdan@fema.dhs.gov	
Karl Anderson	FEMA		karl.anderson@fema.dhs.gov	

Lincoln Co., ME, CCO Meeting - 6-8pm - Lincoln County Emergency Managment Agency, 34 Bath Road, Wiscasset, ME 04578 - April 1, 2014

Name	Community/Agency	Title	E-Mail	Telephone
Kerry Bogdan	FEMA (Region I)	Project Manager/Senior Engineer	Kerry.Bogdan@fema.dhs.gov	617.956.7576
Sue Baker	State of Maine	State NFIP Coordinator	Sue.Baker@maine.gov	207.287.8063
Brian Lee	STARR (Stantec)	Project Manager	Brian.Lee@starr-team.com	301.220.1880
George D Richardson Jr.	Westport Island	1st Selectman	Selectmen@ Westport Island @ us	207-882 8477
JoAnn Mooney	MEMA	SHMO	Joann.e.mooney@maine	624-4400 .gov
Tara Hine	Monhegan	First Assessor	monheganplantation@gmail.com	596-0606
Gail Kezer	U.S. Sen Angus S. King Jr.	Regional Rep	Gail_Kezer@king.senate.gov	883-1588
Linda Bryant	Newcastle		—	563-3398
PAUL S. BRYANT	NEWCASTLE			