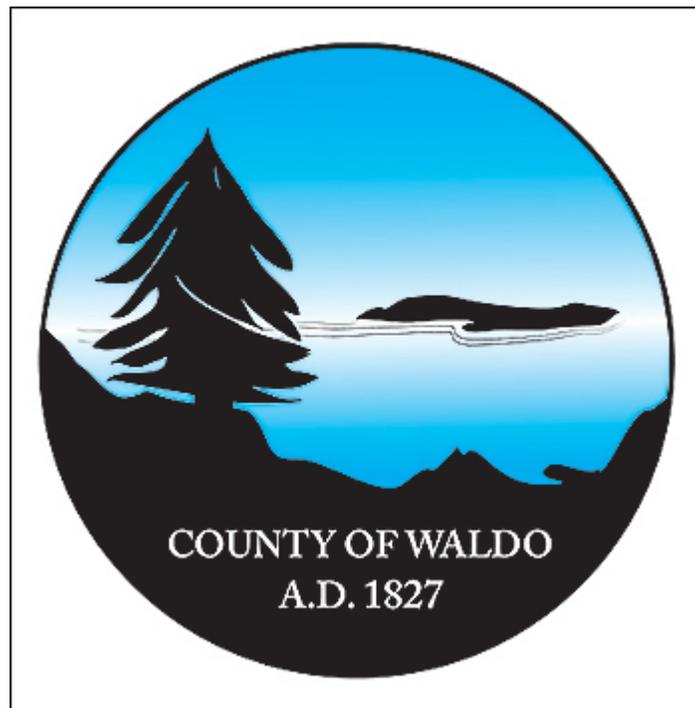


The maps have been removed from this version because of size of the document (99 mB).  
Please contact Waldo County EMA for a copy on disk.

***2011***  
***HAZARD MITIGATION PLAN***  
***for***  
***WALDO COUNTY, MAINE***



**September 2011**

Waldo County Emergency Management Agency  
45A Congress Street, Belfast, ME 04915



# WALDO COUNTY HAZARD MITIGATION PLAN

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# WALDO COUNTY HAZARD MITIGATION PLAN

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# WALDO COUNTY HAZARD MITIGATION PLAN

## SECTION 1 - INTRODUCTION

Understanding that the Local Mitigation Plan requirements in §201.6 of the Interim Final Rule applies to local jurisdictions, the County of Waldo, 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 Disaster Mitigation Act (DMA) of 2000 specifically requires mitigation planning for natural hazards. It does not require mitigation planning for manmade hazards. The 2004 version of the Waldo County Hazard Mitigation Plan was developed solely for natural hazards. The Waldo County Hazard Mitigation Planning Team decided to continue to review only natural hazards for this version of the Plan.

The Waldo County Hazard Mitigation Plan includes the following sections:

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

Waldo County in the State of Maine, combines the scenic beauty of the rugged Maine coast with the lush forests and farmlands of the inland hills, yielding harvests both cultivated and wild.

The County consists of 38,511 residents (Census 2007 estimate) living in 14,726 households (Census 2000). The County contains 730 square miles, 85.6% land surface (607 square miles) and 14.4% water. This derives a population density of 52.7 people per square mile. There are no U.S. Census designated Metropolitan areas in the County.

There are twenty-five incorporated towns and one incorporated city, which is the county seat of Waldo County. The County government contains the County Sheriff's Office, 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.

Seven of the largest employers in the County are Bank of America, Waldo County General Hospital, Creative Apparel, Penobscot-McCrum Frozen Foods, Duck Trap River Fish Farm, Robbins Lumber, and Matthews Brothers.

# WALDO COUNTY HAZARD MITIGATION PLAN

## MUNICIPAL POPULATIONS (2000 CENSUS)

Town/City	Year Round Population	Median Age	Density	Total Homes	Year Rd Homes	House hold Density
Belfast	6,381	43.3	187.5	3,121	2,765	2.30
Belmont	821	39.8	60.3	393	336	2.44
Brooks	1,022	37.9	41.8	522	410	2.49
Burnham	1,142	37.3	29.3	649	442	2.58
Frankfort	1,041	35.4	42.3	469	400	2.60
Freedom	645	41.6	30.0	321	259	2.49
Islesboro	603	45.9	42.3	741	280	2.15
Jackson	506	37.7	20.1	241	204	2.48
Knox	747	36.8	25.6	324	283	2.64
Liberty	927	38.7	35.8	674	362	2.56
Lincolntonville	2,042	41.7	54.6	1,272	846	2.41
Monroe	882	39.6	22.7	421	355	2.48
Montville	1,002	37.0	23.5	483	391	2.56
Morrill	774	36.9	46.7	331	299	2.39
Northport	1,331	43.4	56.2	943	566	2.35
Palermo	1,220	39.9	30.1	789	491	2.48
Prospect	642	37.4	35.5	286	253	2.54
Searsmont	1,174	37.5	31.1	617	478	2.46
Searsport	2,641	41.0	92.4	1,370	1,130	2.34
Stockton Springs	1,481	40.7	75.5	750	628	2.36
Swanville	1,357	35.9	68.7	730	522	2.60
Thorndike	712	37.4	28.2	337	279	2.55
Troy	963	38.3	27.7	420	365	2.64
Unity	1,889	32.0	47.8	926	713	2.65
Waldo	733	37.7	37.8	313	290	2.53
Winterport	3,602	37.3	101.2	1,461	1,379	2.61
<b>TOTAL</b>	<b>36,280</b>					

# WALDO COUNTY HAZARD MITIGATION PLAN

## COUNTY DEMOGRAPHIC PROFILE - Waldo County, State of Maine

Measure	2000 Waldo	1990 Waldo	2000 Maine	2000 USA
<b>Population</b>				
Total Population	36,280	33,018	1,274,923	281,421,906
% White	97.9	99.3	96.9	62.6
% Black	0.2	0	0.5	12.3
% American Indian	0.4	0	0.6	0.9
% Asian	0.2	0	0.7	3.6
% Hispanic Origin	0.6	0.1	0.7	12.5
<b>Households</b>				
Total Households	14,726	12,415	518,200	105,480,101
Household Units	18,904	16,181	651,901	115,904,641
Avg. Household Size	2.43	2.63	2.39	2.6
<b>Income</b>				
Median Household Income (\$)	33,986	23,148	37,240	41,994
Persons below poverty, % 1997	13.9	16.0	10.9	12.4
Children below poverty, % 1997	18.6	18.6	13.0	16.1
<b>Sex and Age</b>				
Median Age, Total Population	39.3		38.6	35.3
% Female	50.9	50.9	51.3	50.9
% Male	49.1	49.1	48.7	49.1
% Under 5 Years	5.6	7.1	5.5	6.8
% 18 Years and over	75.8	73.0	76.4	74.3
% 65 Years and over	13.6	13.1	14.4	12.4
Population Density (sq. mi.)	49.7	45.2	41.3	79.6

# WALDO COUNTY HAZARD MITIGATION PLAN

## SECTION 2 - PREREQUISITES MULTI-JURISDICTIONAL PLAN ADOPTION

Requirement §201.6(c)(5):	For multi-jurisdictional plans, each jurisdiction requesting approval of the plan must document that it has been formally adopted.
Elements	A. The updated plan indicates the specific jurisdictions represented in the plan.
	B. The local governing body of each jurisdiction has adopted the updated plan.
	C. Supporting documentation (resolution) is included for each participating jurisdiction.

### RESOLUTION

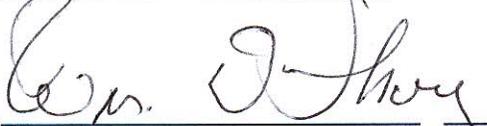
Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

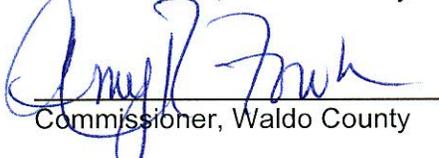
And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Waldo County Commissioners hereby adopt the 2011 Waldo County Hazard Mitigation Plan.

### AUTHORIZING SIGNATURES

 4/26/11  
\_\_\_\_\_  
Commissioner, Waldo County      Date

 4/26/11  
\_\_\_\_\_  
Commissioner, Waldo County      Date

 4/26/11  
\_\_\_\_\_  
Commissioner, Waldo County      Date

# WALDO COUNTY HAZARD MITIGATION PLAN

## RESOLUTION

Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

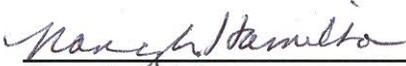
And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Belfast City Council hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

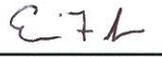
## AUTHORIZING SIGNATURES

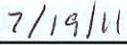
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Mayor, Belfast

\_\_\_\_\_  
Date

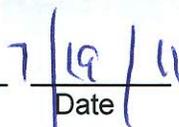
  
\_\_\_\_\_  
Councilor, Belfast

  
\_\_\_\_\_  
Date

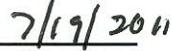
  
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Councilor, Belfast

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Date

# WALDO COUNTY HAZARD MITIGATION PLAN

## RESOLUTION

Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

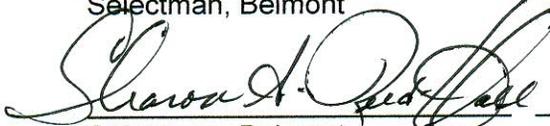
And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Board of Selectmen of the Town of Belmont hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

## AUTHORIZING SIGNATURES

 6/28/11  
Selectman, Belmont Date

 06.28.11  
Selectman, Belmont Date

 6/28/11  
Selectman, Belmont Date

### WALDO COUNTY HAZARD MITIGATION PLAN

#### RESOLUTION

Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Board of Selectmen of the Town of Brooks hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

#### AUTHORIZING SIGNATURES

Arthur G. Butler Jr.      8-4-11  
Selectman, Brooks      Date

W. Michael [Signature]      8-4-11  
Selectman, Brooks      Date

Dan [Signature]      8-4-11  
Selectman, Brooks      Date

### WALDO COUNTY HAZARD MITIGATION PLAN

#### RESOLUTION

Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

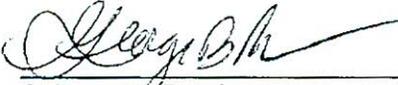
And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Board of Selectmen of the Town of Burnham hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

#### AUTHORIZING SIGNATURES

	<u>5/16/11</u>
Selectman, Burnham	Date

	<u>5/16/11</u>
Selectman, Burnham	Date

	<u>5/16/2011</u>
Selectman, Burnham	Date

## WALDO COUNTY HAZARD MITIGATION PLAN

### RESOLUTION

Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Board of Selectmen of the Town of Frankfort hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

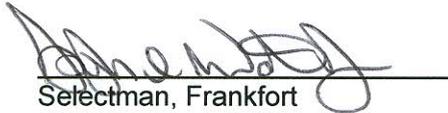
### AUTHORIZING SIGNATURES



Selectman, Frankfort

6-20-2011

Date



Selectman, Frankfort

6/20/2011

Date



Selectman, Frankfort

6/20/2011

Date

## WALDO COUNTY HAZARD MITIGATION PLAN

### RESOLUTION

Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Board of Selectmen of the Town of Freedom hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

### AUTHORIZING SIGNATURES

*C. Donald Price*      7/13/2011  
Selectman, Freedom      Date

*Walt J. Smith*      7/13/2011  
Selectman, Freedom      Date

\_\_\_\_\_  
Selectman, Freedom      Date

# WALDO COUNTY HAZARD MITIGATION PLAN

## RESOLUTION

Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

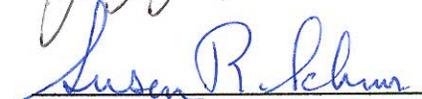
And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Board of Selectmen of the Town of Islesboro hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

## AUTHORIZING SIGNATURES

  
\_\_\_\_\_  
Selectman, Islesboro

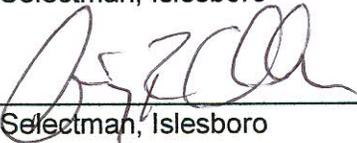
May 10 2011  
Date

  
\_\_\_\_\_  
Selectman, Islesboro

May 11, 2011  
Date

  
\_\_\_\_\_  
Selectman, Islesboro

May 11 2011  
Date

  
\_\_\_\_\_  
Selectman, Islesboro

May 11, 2011  
Date

\_\_\_\_\_  
Selectman, Islesboro

\_\_\_\_\_  
Date

## WALDO COUNTY HAZARD MITIGATION PLAN

### RESOLUTION

Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Board of Selectmen of the Town of Jackson hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

### AUTHORIZING SIGNATURES

John Welch      6/28/11  
Selectman, Jackson      Date

Cynthia Haddock      6-28-11  
Selectman, Jackson      Date

Debra Hadden      6-28-11  
Selectman, Jackson      Date

# WALDO COUNTY HAZARD MITIGATION PLAN

## RESOLUTION

Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Board of Selectmen of the Town of Knox hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

## AUTHORIZING SIGNATURES

Galen D. Larrabee 5/24/11  
Selectman, Knox Date

\_\_\_\_\_  
Selectman, Knox Date

William J. Lyman 5/24/11  
Selectman, Knox Date

## WALDO COUNTY HAZARD MITIGATION PLAN

### RESOLUTION

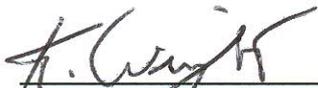
Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

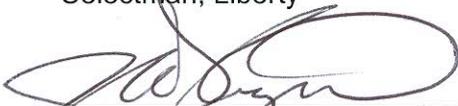
And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Board of Selectmen of the Town of Liberty hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

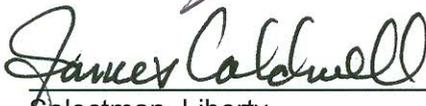
### AUTHORIZING SIGNATURES

  
\_\_\_\_\_  
Selectman, Liberty

7/25/11  
Date

  
\_\_\_\_\_  
Selectman, Liberty

7/25/11  
Date

  
\_\_\_\_\_  
Selectman, Liberty

7/25/11  
Date

# WALDO COUNTY HAZARD MITIGATION PLAN

## RESOLUTION

Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

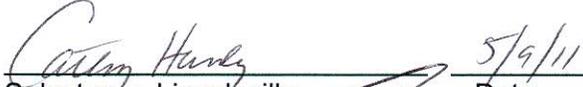
And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

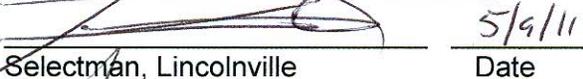
And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

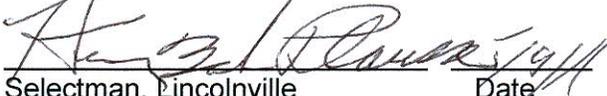
Therefore, the Board of Selectmen of the Town of Lincolnville hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

## AUTHORIZING SIGNATURES

  
\_\_\_\_\_  
Selectman, Lincolnville                      Date

  
\_\_\_\_\_  
Selectman, Lincolnville                      Date

  
\_\_\_\_\_  
Selectman, Lincolnville                      Date

  
\_\_\_\_\_  
Selectman, Lincolnville                      Date

\_\_\_\_\_  
Selectman, Lincolnville                      Date

## WALDO COUNTY HAZARD MITIGATION PLAN

### RESOLUTION

Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

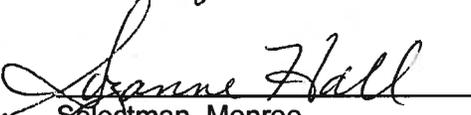
And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Board of Selectmen of the Town of Monroe hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

### AUTHORIZING SIGNATURES

  
Selectman, Monroe                      5/25/11  
Date

  
Selectman, Monroe                      5/25/11  
Date

  
Selectman, Monroe                      5/25/11  
Date

## WALDO COUNTY HAZARD MITIGATION PLAN

### RESOLUTION

Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

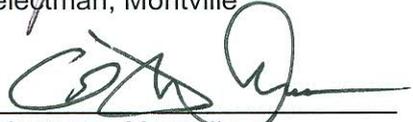
And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Board of Selectmen of the Town of Montville hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

### AUTHORIZING SIGNATURES

  
\_\_\_\_\_  
Selectman, Montville      Jun 7, 2011  
Date

  
\_\_\_\_\_  
Selectman, Montville      6/7/11  
Date

  
\_\_\_\_\_  
Selectman, Montville      6-7-11  
Date

*Copy*

## WALDO COUNTY HAZARD MITIGATION PLAN

### RESOLUTION

Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Board of Selectmen of the Town of Morrill hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

### AUTHORIZING SIGNATURES

*Thomas W. Smith*      *7-29-11*  
Selectman, Morrill      Date

*Randall R. Lane*      *8/1/11*  
Selectman, Morrill      Date

*John A. Thompson*      \_\_\_\_\_  
Selectman, Morrill      Date

## WALDO COUNTY HAZARD MITIGATION PLAN

### RESOLUTION

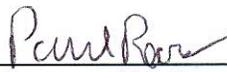
Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

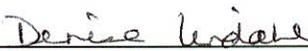
And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Board of Selectmen of the Town of Northport hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

### AUTHORIZING SIGNATURES

  
\_\_\_\_\_  
Selectman, Northport      5/2/11  
Date

  
\_\_\_\_\_  
Selectman, Northport      5/2/11  
Date

  
\_\_\_\_\_  
Selectman, Northport      5/2/11  
Date

### WALDO COUNTY HAZARD MITIGATION PLAN

#### RESOLUTION

Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Board of Selectmen of the Town of Palermo hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

#### AUTHORIZING SIGNATURES

*Sophie E. Shadden*      8-18-11  
 Selectman, Palermo                      Date

*H. Dean Potter*      8-18-11  
 Selectman, Palermo                      Date

*Ralph C. ...*      8-18-11  
 Selectman, Palermo                      Date

## WALDO COUNTY HAZARD MITIGATION PLAN

### RESOLUTION

Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Board of Selectmen of the Town of Prospect hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

### AUTHORIZING SIGNATURES

Diane Terry                      5/3/11  
Selectman, Prospect              Date

Bill Sneed                      5/3/2011  
Selectman, Prospect              Date

Heather Boynton              5/3/2011  
Selectman, Prospect              Date



# WALDO COUNTY HAZARD MITIGATION PLAN

## RESOLUTION

Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

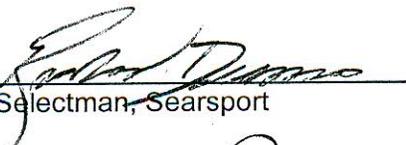
And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

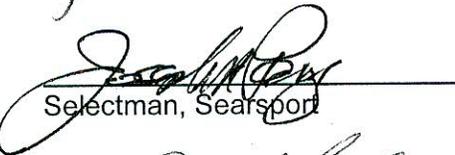
And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Board of Selectmen of the Town of Searsport hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

## AUTHORIZING SIGNATURES

  
\_\_\_\_\_  
Selectman, Searsport      6-21-11  
Date

  
\_\_\_\_\_  
Selectman, Searsport      6-21-11  
Date

  
\_\_\_\_\_  
Selectman, Searsport      07-01-11  
Date

  
\_\_\_\_\_  
Selectman, Searsport      6/16/11  
Date

  
\_\_\_\_\_  
Selectman, Searsport      6-21-11  
Date

# WALDO COUNTY HAZARD MITIGATION PLAN

## RESOLUTION

Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Board of Selectmen of the Town of Stockton Springs hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

## AUTHORIZING SIGNATURES

Sarah H. Bradford      6/23/11  
Selectman, Stockton Springs      Date

Robert Cook      6/23/11  
Selectman, Stockton Springs      Date

Tom Fraser      6-23-11  
Selectman, Stockton Springs      Date

### WALDO COUNTY HAZARD MITIGATION PLAN

#### RESOLUTION

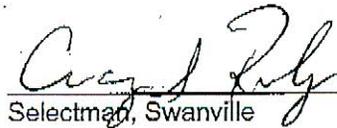
Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

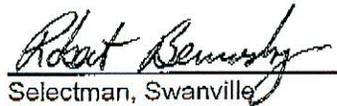
And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Board of Selectmen of the Town of Swanville hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

#### AUTHORIZING SIGNATURES

	<u>8/24/11</u>
Selectman, Swanville	Date

	<u>8/24/11</u>
Selectman, Swanville	Date

_____	_____
Selectman, Swanville	Date

# WALDO COUNTY HAZARD MITIGATION PLAN

## RESOLUTION

Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Board of Selectmen of the Town of Thorndike hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

## AUTHORIZING SIGNATURES

James Bennett      5-4-11  
Selectman, Thorndike      Date

Stanley Ditton      5/4/11  
Selectman, Thorndike      Date

Serald Berry      5/4/11  
Selectman, Thorndike      Date

## WALDO COUNTY HAZARD MITIGATION PLAN

### RESOLUTION

Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Board of Selectmen of the Town of Troy hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

### AUTHORIZING SIGNATURES

Brian Pepin                      6-6-11  
Selectman, Troy                      Date

Paul A. Weston                      6-6-11  
Selectman, Troy                      Date

Chris Pappas                      6-6-11  
Selectman, Troy                      Date

# WALDO COUNTY HAZARD MITIGATION PLAN

## RESOLUTION

Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

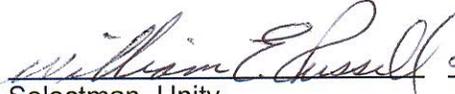
And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

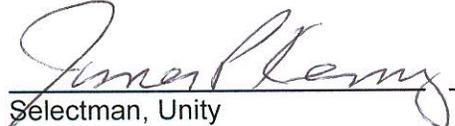
And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Board of Selectmen of the Town of Unity hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

## AUTHORIZING SIGNATURES

  
\_\_\_\_\_  
Selectman, Unity                      Date

 8/4/2011  
\_\_\_\_\_  
Selectman, Unity                      Date

 8/4/2011  
\_\_\_\_\_  
Selectman, Unity                      Date

# WALDO COUNTY HAZARD MITIGATION PLAN

## RESOLUTION

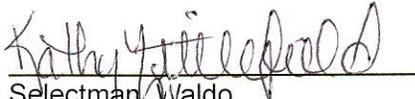
Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

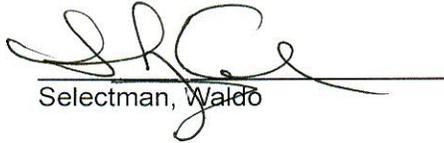
And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Board of Selectmen of the Town of Waldo hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

## AUTHORIZING SIGNATURES

  
\_\_\_\_\_  
Selectman, Waldo                      08/01/2011  
Date

  
\_\_\_\_\_  
Selectman, Waldo                      08-01-2011  
Date

\_\_\_\_\_  
Selectman, Waldo                      \_\_\_\_\_  
Date

# WALDO COUNTY HAZARD MITIGATION PLAN

## RESOLUTION

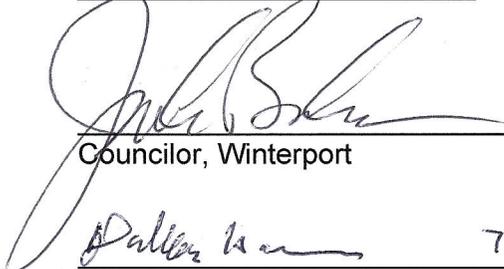
Whereas natural disasters may occur at any time, we recognize that to lessen the impacts of these disasters we will save lives, property and the environment in Waldo County;

And whereas the revision of the County Hazard Mitigation Plan is necessary for the development of a risk assessment and effective mitigation strategy;

And whereas the 25 towns and one city of Waldo County are committed to the mitigation goals and measures as presented in this plan;

Therefore, the Town Council of the Town of Winterport hereby adopts the 2011 Waldo County Hazard Mitigation Plan.

## AUTHORIZING SIGNATURES

 _____ Councilor, Winterport	<u>7-12-11</u> Date
 _____ Councilor, Winterport	<u>7-12-11</u> Date
 _____ Councilor, Winterport	<u>12-5-11</u> Date
 _____ Councilor, Winterport	<u>7-12-11</u> Date
 _____ Councilor, Winterport	_____ Date

# WALDO COUNTY HAZARD MITIGATION PLAN

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# WALDO COUNTY HAZARD MITIGATION PLAN

## SECTION 3 - PLANNING PROCESS

### MULTI-JURISDICTIONAL PLANNING PARTICIPATION

<b>Requirement §201.6(a)(3)</b>	<b>Multi-jurisdictional plans (e.g., watershed plans) may be accepted, as appropriate, as long as each jurisdiction has participated in the process... Statewide plans will not be accepted as multi-jurisdictional plans.</b>
---------------------------------	--

The Waldo County Hazard Mitigation Plan is a multi-jurisdictional plan and has been prepared by a Hazard Mitigation Planning Team hosted by the Waldo County Emergency Management Agency with representatives from the county and municipal governments. The Planning Team also met or spoke with representatives of each of the 26 municipalities, the private sector, and individual residents to collect their comments and recommendations on the identification of hazards, assessment of vulnerabilities and risks, and the determination of mitigation goals and measures.

#### The Hazard Mitigation Planning Team consisted of the following representatives:

Dale Rowley	County of Waldo	EMA Director
Olga Rumney	County of Waldo	EMA Deputy Director
Jim Richards	City of Belfast	EMA Director, Fire Chief, Ambulance Dir
Morris Leathers	Town of Belmont	EMA Director, EMS Officer
Dan Miron	Town of Brooks	EMA Director
John Berryman	Town of Burnham	EMA Director
Earl Anderson	Town of Frankfort	EMA Director, Fire Chief
Craig Overlock	Town of Freedom	EMA Director
James Waterman	Town of Freedom	EMA Deputy Director, Fire Chief
Fred Porter	Town of Islesboro	EMA Dir, Police Chief, Ambulance Dir
Donald Nickerson Jr	Town of Jackson	EMA Director
Matthew Shaw	Town of Knox	EMA Director, Fire Chief, EMS Officer
Joan Sheldon	Town of Knox	EMA Deputy Director
Elise Brown	Town of Liberty	EMA Director
Ronald Young	Town of Lincolnville	EMA Director, Police Chief
Mario Tribuzio	Town of Monroe	EMA Director, Fire Officer
John York	Town of Montville	EMA Director, Fire Chief
Darrell Smith	Town of Morrill	EMA Director
Peter Simpson	Town of Northport	EMA Director, Deputy Fire Chief
Elden Glidden	Town of Palermo	EMA Director, Fire Chief
Tim Terry	Town of Prospect	EMA Director, Fire Chief
James Ames	Town of Searsport	EMA Director, Fire Chief
James Dittmeier	Town of Searsport	EMA Director, Fire Chief
Loren W Cole	Town of Stockton Springs	EMA Director, EMS Officer
Terry Sawyer	Town of Swanville	EMA Director, Fire Warden
Carol Coffin	Town of Thorndike	EMA Director
Lawrence Raymond Jr	Town of Troy	EMA Director, Fire Chief
Lisa Chase	Town of Troy	EMA Deputy Director
Ronald Stevenson	Town of Unity	EMA Director, Fire Officer
Alphonzo "Tom" Wagner	Town of Waldo	EMA Director
Thomas Doe	Town of Winterport	EMA Director, Fire Chief

## WALDO COUNTY HAZARD MITIGATION PLAN

Every municipality in Waldo County had at least one member on the County Hazard Mitigation Planning Team. Additionally, other county and municipal officials participated through the collection of data involving land use planning, capitol improvement plans, roadway information, and damage information from past disaster events. Every municipality participated in the development and selection of their community's Mitigation Measures.

### Documentation of local participation

Waldo County held all its planning meetings as open forums. Notices to municipal town offices, press releases sent to the local newspaper, and the County EMA website were utilized to advertise and explain the mitigation planning process to the public. The Team included opportunities for the public and our neighboring counties to comment on the plan during all stages of its formation. The Planning Team reviewed the existing County Hazard Mitigation Plan, existing county and municipal emergency plans and incorporated information, as appropriate. Sign in sheets were completed for all meetings.

### Status of Local Participation

All 26 municipalities in Waldo County participated and approved the original County Hazard Mitigation Plan completed in 2004. All 26 municipalities in Waldo County participated and approved this revised County Hazard Mitigation Plan completed in 2009. The following chart summarizes the level of participation. All town representatives exchanged e-mails with the County EMA office regarding the Hazard Mitigation measures. The number of meetings attended by a representative is also shown. In some cases, towns sent more than one representative, but the number is for the quantity of meetings there was at least one representative.

Municipality	Meetings	E-Mail
Belfast	5	X
Belmont	8	X
Brooks	7	X
Burnham	7	X
Frankfort	4	X
Freedom	7	X
Islesboro	4	X
Jackson	3	X
Knox	8	X
Liberty	7	X
Lincolntonville	6	X
Monroe	5	X
Montville	6	X

Municipality	Meetings	E-Mail
Morrill	7	X
Northport	8	X
Palermo	5	X
Prospect	5	X
Searsmont	8	X
Searsport	7	X
Stockton Sprn	7	X
Swanville	6	X
Thorndike	4	X
Troy	8	X
Unity	3	X
Waldo	7	X
Winterport	6	X

# WALDO COUNTY HAZARD MITIGATION PLAN

## DOCUMENTATION OF THE PLANNING PROCES

<b>Requirement §201.6(b)</b>	<b>In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:</b> <b>(1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;</b> <b>(2) 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; and</b> <b>(3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.</b>
<b>§201.6(c)(1)</b>	<b>The plan shall document the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.</b>

### A. Narrative Description

The planning process included a series of meetings for local officials, augmented by follow-up e-mail messaging and various phone calls.

On Tuesday, September 23, 2008, the Waldo County Hazard Mitigation Planning Team met for the first time to review the steps for the revision of the County Hazard Mitigation Plan.

On Wednesday, October 16, 2008 the Waldo County EMA hosted a public forum to explain the Hazard Mitigation Planning process.

On Tuesday, October 28, 2008 the Waldo County Hazard Mitigation Planning Team met to update the County Hazard Identification and Risk Analysis. The Planning Team determined that for the revision of the plan, they would continue with the originally identified hazards of flooding and winter storms, and would add hurricanes to this version. Due to new data acquired from the Maine Forest Service that demonstrates a much lower severity and probability of major wildfires, the hazard of wildfires was dropped from the revised plan. The Team also identified changes in public facilities and discussed new vulnerabilities.

On Tuesday, January 27, 2009, the Waldo County Hazard Mitigation Planning Team met to review the mitigation goals and measures from the last plan version and develop new goals and measures for the current plan.

On Tuesday, May 26, 2009, the Waldo County Hazard Mitigation Planning Team met to continue the review of the mitigation goals and measures from the last plan version and develop new goals and measures for the current plan.

On Tuesday, June 30, 2009, the Waldo County Hazard Mitigation Planning Team met to update the mitigation goals and measures.

On Tuesday, July 28, 2009, the Waldo County Hazard Mitigation Planning Team met to update the information related to municipal land use and floodplain management policies.

## **WALDO COUNTY HAZARD MITIGATION PLAN**

On Tuesday, August 25, 2009, the Waldo County Hazard Mitigation Planning Team met to review the initial draft of the revised County Hazard Mitigation Plan. This meeting was also advertised in the local newspaper as a public forum.

On Tuesday, September 22, 2009, the Waldo County Hazard Mitigation Planning Team met to review the 2nd draft of the revised County Hazard Mitigation Plan. This meeting was also advertised in the local newspaper as a public forum.

On Tuesday, March 23, 2010, the Waldo County Hazard Mitigation Planning Team met to review the 3rd draft of the revised County Hazard Mitigation Plan. Selectmen were also invited to this meeting and hard copies of the plan were handed out for markup.

After incorporating the final comments, the plan was then sent off for review by the State Mitigation Officer and by FEMA prior to the plan being formally adopted by the elected Municipal Officers and County Commissioners.

### **B. People who were involved in the planning process**

Waldo County updated its existing County Hazard Mitigation Plan in 2008 and 2009. The Waldo County Commissioners assigned the responsibility the development of the original and revised hazard mitigation plans to the Waldo County Emergency Management Agency. The County EMA office formed a local hazard mitigation planning team composed of representatives from county government and from the 26 municipal governments. This Team met on several occasions over the course of 12 months. See page 33 for the list of members.

### **C. How the public was given an opportunity to be heard**

An effort was made to solicit public input during the planning process. A general public meeting was held on Wednesday, November 12, 2008, shortly after the first meeting of the Planning Team in the County EMA offices. This meeting was advertised in the local newspaper.

Another general public meeting, at which elected municipal officials were also invited, was held in the County EMA office on September 22, 2009 to receive comment on the final draft. These meetings were advertised by distributing letters and posters to all the municipal offices.

However, we must admit that there was very little participation from the general public, non-profits and local businesses, who basically and repeatedly expressed that they had little or no interest in this project or the plan.

### **D. Opportunities for additional comments**

A press release was released to the local newspaper, the Republican Journal, to advertise and explain the mitigation planning process to county residents. The Press Release included the phone number, postal address, e-mail address, and website address of the County EMA office, so that those who could not attend public forums would have a chance to voice concerns or to provide input during the planning process. See the Press Release that follows this section.

# WALDO COUNTY HAZARD MITIGATION PLAN

## **E. Review and incorporation of existing plans and studies**

The Hazard Mitigation Planning Team was assisted in the revision of the 2004 version of the Plan by the County Emergency Management Director, who facilitated the meetings, assisted in research and outreach programs, completed GIS mapping, completed the loss estimates, and consolidated the information and comments provided by the planning team and the public. The 2007 version of the State Plan was also reviewed. The Risk Assessment portion of this plan provides a more detailed summary of plans, studies, and other materials that were used identify and document various hazards. The Hazard Analysis has been incorporated into the latest version of the County Emergency Operations Plan (EOP). All information from the 2010 version of the Hazard Mitigation Plan is available for inclusion into municipal comprehensive plans.

## **F. How the Planning Team reviewed and analyzed each section of the Plan and whether each section was revised**

All sections of the 2004 County Hazard Mitigation Plan were reviewed and analyzed during the development of the 2010 version of the Plan. The Maine Emergency Management Agency's "Guidelines for Preparing County Hazard Mitigation Plans" and FEMA's 2008 version of the "Multi-hazard Mitigation Planning Guidance under the Disaster Mitigation Act of 2000" or "Bluebook" were both consulted during the revision process.

Section 1 – Introduction: Revisions incorporated new page numbers due to an expansion of much of the Plan. Also, "Multi-Jurisdictional Planning Participation" was moved from Section 2 to Section 3.

Section 2 – Prerequisites: Each jurisdiction was given its own signature page. Also, "Multi-Jurisdictional Planning Participation" was moved from Section 2 to Section 3.

Section 3 - New information was added due to new requirements identified in MEMA Guidance and FEMA revised Blue Book. Also, "Multi-Jurisdictional Planning Participation" was moved from Section 2 to Section 3.

Section 4 – Risk Assessment: A new risk assessment was completed. Due to new information, hurricanes were added and wildfires were eliminated from the profiled hazards in the Plan. The hazard maps were redeveloped using updated GIS information.

Section 5 – Mitigation Strategy: Wildfire mitigation goals and measures were eliminated from the Plan. Hurricane mitigation goals and measures were added. The status of the original mitigation measures and new mitigation measures were included. The costs estimates were re-calculated.

Section 6 – Plan Maintenance Process: New dates were identified for plan maintenance.

# WALDO COUNTY HAZARD MITIGATION PLAN

## PRESS RELEASE

(Belfast, Maine) -- The Waldo County Emergency Management Agency (EMA) has initiated an effort to update the County Hazard Mitigation Plan using the guidelines as provided by the Federal Emergency Management Agency.

The purpose of a Hazard Mitigation Plan is to assess the County's risk to likely disasters, inventory critical infrastructure and special need populations, and develop goals and strategies to lessen the impacts of a potential disaster. Examples of disaster mitigation include floodplain management, whereby new construction in floodplains is limited, and the cutting back of tree limbs from electric power lines to prevent the trees from damaging the lines in a storm.

"One of the most important aspects of the Hazard Mitigation Planning process is the involvement of the public in the revision of the County Plan," stressed Dale Rowley, Director of the Waldo County EMA program. "Inputs from all municipalities and all interested citizens are vital in order to make this plan work."

County residents, businesses, non-profit groups, and municipal officials with knowledge of past disaster events, repetitive areas of repair after storms and floods, and locations of critical facilities and utilities and special needs populations that could be impacted by a disaster are strongly encouraged to provide that information to the Hazard Mitigation Planning Team hosted by the Waldo County EMA office.

The next County Hazard Mitigation Planning Team meeting is scheduled for October 28<sup>th</sup> at 7:00 pm in the County EMA office. A Public Forum is scheduled for November 12<sup>th</sup> at 2:00 pm in the County EMA office.

For more information, contact Dale Rowley at phone 338-3870 or by e-mail at [emadirector@waldocountyme.gov](mailto:emadirector@waldocountyme.gov) . You may also visit the Waldo County Emergency Management Agency website at <http://www.uninets.net/~dsrowley/waldoema.html> or write or visit the office at 45A Congress Street, Belfast, ME 04915.

# WALDO COUNTY HAZARD MITIGATION PLAN

## SECTION 4. RISK ASSESSMENT

§201.6(c)(2) of the Rule outlines specific information that Waldo 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.

This section includes the following seven subsections as follows:

- Identifying Hazards
- Profiling Hazards
- Assessing Vulnerability: Overview
- Assessing Vulnerability: Identifying Structures
- Assessing Vulnerability: Estimating Potential Losses
- Assessing Vulnerability: Analyzing Development Trends
- Multi-jurisdictional Risk Assessment

# WALDO COUNTY HAZARD MITIGATION PLAN

## IDENTIFYING HAZARDS

<b>Requirement §201.6(c)(2)(i):</b>	<b>The risk assessment shall include a description of the type ... of all natural hazards that can affect the jurisdiction...</b>
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The Waldo County Hazard Mitigation Planning Team re-identified various natural hazards that could impact Waldo County. They are addressed in the County Hazard Mitigation Plan. These hazards were identified through an extensive process that utilized input from the Hazard Mitigation Planning Team members, public input, researching past disaster declarations in the County, a review of current maps, and a hazard vulnerability assessment completed by the Waldo County Emergency Management Agency and the Hazard Mitigation Planning Team. The Hazard Vulnerability Assessment is shown on page 19.

The following table identifies the natural hazards to be profiled.

<b>Hazard</b>	<b>How identified</b>	<b>Why identified</b>
Flooding	Review of FIRM Maps Review of SLOSH Maps Input from residents Review of past disaster declarations Identification of repetitive losses Hazard Vulnerability Assessment on page 43	Associated with the effects of spring runoff and coastal storms. Several repetitive loss properties and roadways are located in the County. The County contains one major river and many streams and lakes, and is located along the coast. Several coastal communities experience coastal flooding during major storm events- winter and summer.
Severe Winter Storm Events	Review of past disaster declarations Inputs from residents Hazard Vulnerability Assessment on page 43	Maine is frequently hit with blizzards, "Northeaster" storms, and ice storms.
Hurricanes	Review of past disaster declarations Review of library historical data Input from residents Hazard Vulnerability Assessment on page 43	The County is hit about every two decades by a hurricane. They are typically no greater than a Category 1. Flooding from these events will be discussed under the Flooding hazard.

The primary hazard events profiled in this plan are flooding, hurricanes and severe winter storm events. The results of these events are coastal and inland flooding and high winds. These three hazards (flooding, winter storms, and hurricanes) are also in line with the top three hazards identified in the 2007 State of Maine Enhanced Hazard Mitigation Plan.

The 2004 version of the Plan contained the Hazard of wildfires. Wildfires were dropped from this plan when new data was provided by the Maine Forest Service. The data showed that the severity of wildfires (i.e., acres burned per fire) has dropped drastically over the last 100 years. Although the reported numbers of fire has increased 6-fold, the average size of a wildfire has decreased from an average of 500 acres per fire to 1 acre per fire. The average number of fires over 1,000 acres has dropped to less than one per year. The majority of the "big" fires are in the unorganized territories, of which Waldo County has none.

## WALDO COUNTY HAZARD MITIGATION PLAN

The following table identifies 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 “guarantee” that any of these events will not or could not occur and cause great damage. It was decided by the Waldo County Hazard Mitigation Planning Team to keep our plan simple by only profiling the top three hazards.

Avalanche	Review of USGS Maps	There are no mountains in the county that hold large amounts of snow which would create avalanches.
Blight/ Infestation	Review of State Entomological Office historical records Inputs from residents Risk Assessments Hazard Vulnerability Assessment on page 43	Though the 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.
Coastal Erosion	Input from State Planning Office Input from NRCS Input from Maine DEP Input from residents	The County is undergoing development pressure along the coast. Coastline stabilization measures have been implemented in the past year.
Drought	Review of State EMA records Review of NOAA records Hazard Vulnerability Assessment on page 43	Rainfall data doesn't show a serious problem. The drought effects have never been sufficient enough to create disaster conditions.
Earthquake	Review of Maine Geological Survey records Hazard Vulnerability Assessment on page 43	Although small Earthquakes are common in Maine, no significant damaging movement has occurred in 20,000 years.
Landslide	Review of Maine Geological Survey records	Landslides are not common and very little damages have occurred in Waldo County.
Severe Thunderstorm	Review of NWS records Review of Maine EMA records	Although we frequently get severe thunderstorms, they rarely cause major widespread damage. Thunderstorms have not caused disaster situations greater than the residential structure fire threat.
Subsidence	Review of Maine Geological Survey records	There has been one known cases of subsidence in Waldo County. (Stockton Springs affecting 2 homes.)
Tornado	Review of NWS records Hazard Vulnerability Assessment on page 43	On average, 1-2 tornadoes occur in the State of Maine each year, yet there have been no loss of life or major damages in many years.
Wildfire	Review of Maine Forest Service records Inputs from residents Hazard Vulnerability Assessment on page 43	Much of the County is covered with forests. However, Waldo County does not have a history of large wildfires. Overall, wildfire acres burned per year have been reduced dramatically in the past 40 years.

# WALDO COUNTY HAZARD MITIGATION PLAN

## HISTORICAL CHART OF HAZARD EVENTS IN WALDO COUNTY

The following chart is a compilation of the Waldo County Hazard Mitigation Team's research efforts to determine what disaster events have occurred in Waldo County in the last century. We found few disasters during the first half of the 20<sup>th</sup> Century. This is due in part from the poor records that were kept; the fact that there was very little development in the County before 1950; and the fact that the residents mostly lived in homes built in the 19<sup>th</sup> Century which were built to withstand winter storms and were built out of known flood areas. After 1950, people started moving in from outside the State and these people began to build in flood-prone areas and in less hardy structures.

YEAR	MONTH	DAY	WALDO DAMAGE ESTIMATE	STATEWIDE DAMAGE ESTIMATE	TYPE OF DAMAGE	DECLARATION
1954	August	31	Unknown	\$75,000,000	Hurricane Carol	SBA
1954	September	11	Unknown	\$112,000,000	Hurricane Edna	Disaster
1963	October	29	Unknown	Unknown	Hurricane Ginny	
1969			\$198,479	Unknown	Flooding	
1973	April	24	Unknown	\$908,404	Flooding	Prez Denied
1973	December		Unknown	\$3,000,000	Flooding	
1973	July	1	Unknown	Unknown	Flooding	SBA
1974	May	29	\$240,110	\$3,000,000	Flooding	
1978	February	8	Unknown	\$20,693,181	Flooding	Disaster
1978	January	10	Unknown	Unknown	Winter Storm	
1979	September	6	Unknown	Unknown	Tropical Storm David	
1980	October	25	Unknown	\$715,350	Coastal Storm	SBA
1985	September	27	Unknown	Unknown	Hurricane Gloria	
1987	April		\$180,149	Unknown	Flooding	
1991	August	20	Unknown	\$212,000,000	Hurricane Bob	Disaster
1992	March	11	\$551,479	Unknown	Flooding	Disaster
1993	March	15	\$85,823	Unknown	Winter Storm	Emergency
1994	April		Unknown	Unknown	Ice Jams & Flooding	Disaster
1996	January		\$202,253	Unknown	Flooding	
1998	January	13	\$2,530,680	Unknown	Ice Storm	Disaster
2004	February	5	Unknown	Unknown	Flooding	DR 1508
2005	August	10	\$645,441	Unknown	Flooding	DR 1591
2007	March	17	\$322,864	Unknown	Flooding	DR 1691
2007	April	16	\$934,650	Unknown	Flooding	DR 1693
2008	April	29	\$296,550	Unknown	Flooding	Disaster
2008	December	11	\$210,000	Unknown	Ice Storm	Disaster
2009	January	9	\$225,125	Unknown	Winter Storm	DR 1815
2009	July	30	\$424,660	Unknown	Severe Summer Storm	DR 1852

The spreadsheet on the following page was used by the Waldo County Hazard Mitigation Planning to review the known disaster events and to analyze the severity and likelihood of these events. The analysis allowed the team to prioritize the events. The team decided to concentrate on the top three prioritized hazards for profiling. These included Severe Winter Storms, Hurricanes and Flooding. Historical disaster event information also bears this out.

# WALDO COUNTY HAZARD MITIGATION PLAN

## Hazard Vulnerability Assessment Spreadsheet: Identify the Hazards

INCIDENT	OCCURRENCE		SEVERITY/MAGNITUDE				EMERGENCY PREPAREDNESS			TOTAL POINT VALUE	Rank
	LIKELIHOOD	DEATHS & INJURIES TO PEOPLE	PROPERTY LOSSES & DAMAGES	ECONOMIC IMPACT TO	DAMAGE TO ENVIRONMENT	PREPLANNING	RESPONSE RESOURCES				
<b>Incidents may be Caused by one or many different Hazards</b>	<i>Frequent = 8</i> <i>Probable = 6</i> <i>Occasional = 4</i> <i>Remote = 2</i> <i>Improbable = 0</i>	>50 Deaths = 8 10-49 Deaths = 6 1-9 Deaths = 4 Mass Injuries = 2 No Injuries = 0	> \$1,000,000 = 4 > \$500,000 = 3 > \$100,000 = 2 > \$10,000 = 1 < \$1,000 = 0	State = 4 Region = 3 Community = 2 Group = 1 No Impact = 0	Catastrophic = 4 Major = 3 Moderate = 2 Low = 1 None = 0	Thorough = 1 Moderate = 2 Little = 3	Plenty = 1 Adequate = 2 Insufficient = 3	96	4		
Animal/Insect Infestation	4	0	2	3	3	1	2	96			
Building/Structural Collapse	2	6	3	2	0	3	3	132	4		
Cyber Attack	2	0	2	4	0	2	2	48			
Drought	4	0	2	3	2	1	2	84			
Epidemic/Pandemic	2	8	0	4	0	2	3	120	5		
Explosion	2	6	3	2	0	2	2	88			
Fire (Multiple Structures)	4	4	4	2	0	2	1	120	5		
Fire (Wildland/Forest) * 7947	2	4	4	3	3	2	2	112	6		
Flooding	6	2	3	4	2	2	2	264	1		
HazMat Release (EHS)	2	4	1	1	2	2	2	64			
High Winds (Hurricane)	4	4	4	3	2	2	3	260	2		
High Winds (Tornado)	2	4	4	2	0	2	2	80			
High Winds (Microburst)	4	2	2	1	0	2	1	60			
Landslide	2	0	2	1	2	1	1	20			
Major Earthquake	2	2	4	2	0	3	2	80			
Severe Winter Weather	8	4	2	4	1	1	2	264	1		
Terrorist Attack	2	6	2	2	0	1	1	40			
Transportation Accident (MCI)	4	6	2	0	0	2	3	160	3		
Water Control Structure Failure	2	0	2	1	1	1	2	24			

# WALDO COUNTY HAZARD MITIGATION PLAN

## PROFILING HAZARDS

<b>Requirement §201.6(c)(2)(i):</b>	<b>The risk assessment shall include a description of the ... 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.</b>
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### Severe Winter Storm Events

Waldo County is subject to severe winter storm events. The entire county is subject to major snowfall events; however, the northern half of the county typically will receive greater snowfall amounts. Again, the entire County can experience a major ice storm, as it did in January 1998; however, the coastal communities on the mainland and on the islands, which contain the vast majority of the population, experience ice storms more frequently. Finally, the entire County is very susceptible to "Northeaster" storms, especially from the very high winds that are involved in such a storm.

The Gulf Stream follows a path up the eastern seaboard bringing major storms with it to the Gulf of Maine. Much colder air flows down from Canada and collides with the Gulf Stream over the New England region. There have been three Federally-declared winter storm disaster events in the last 12 years. The worst storm in the past 12 years was an ice storm that occurred in January 1998 and caused \$2,530,680 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 limited building damages. However, most winter storms in the County are major snow storms which overtax the highway snow removal operations and cause localized power outages.

It is expected that a severe winter storm will cause damage in Waldo County at least once every three years. Storm events are shown on the County Base Map included in this section.

### Hurricanes

Waldo County is subject to Hurricane events. Waldo County is a coastal county located on Penobscot Bay. The County has been impacted by six Category 1 hurricanes or severe tropical storms from 1954 to 1991. The County averaged a hurricane/tropical storm every six years. It has been 19 years since the last hurricane impacted Waldo County. Waldo County is overdue.

Since the County is only about 25 miles deep from the coast, all parts of the County are subject to the effects of a Hurricane. However the coastal towns will be hardest hit during the storm with storm surge and very high winds and rainfall. The northern half of the county will experience heavy rainfalls that will overwhelm rudimentary storm water control systems and will experience trees on power lines and in the roads.

It is expected that a Category 1 hurricane will cause major destruction in Waldo County at some point within the next decade.

# WALDO COUNTY HAZARD MITIGATION PLAN

## Flooding

Waldo County is subject to riverine, storm surge, and wetland area flooding. The County EMA has reviewed the County's Flood Insurance Rate Maps (FIRMs) and Flood Insurance Study (FIS) 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 base maps. The Municipal Base Maps show the areas susceptible to potential flooding. This provides a clear picture of areas and structures most vulnerable to flooding.

There are three major rivers located along the border of Waldo County. The Penobscot River and Bay is bordered on the towns of Belfast, Frankfort, Islesboro, Lincolnville, Northport, Prospect, Searsport, Stockton Springs and Winterport. The Sebastacook River is bordered by the Town of Burnham. A smaller river, the Passagassawakeg River flows through the City of Belfast. There are no dams on the Penobscot river in Waldo County, although there is a large number of dams on the river, north in Penobscot County. The majority of the Waldo County dams are small and located at the outlets of lakes and ponds and would not have a major flooding impact. If a large dam on the Penobscot River, such as the Dolby dam in northern Maine were to catastrophically fail, it would take several days for the flooding to occur along the Penobscot River section in Waldo County. This would provide us with sufficient warning time to prepare for the floodwaters. There is one dam in Waldo County on the Sebastacook River, however, the banks of the Sebastacook River are high in Burnham and outside the flood zone. This Dam has never failed, is in excellent condition and procedures are in place for effective flood management. Flooding from the Penobscot and Sebastacook rivers is not expected to be likely; however, flooding by the Penobscot River would be catastrophic if it were to occur.

The most susceptible communities to coastal flooding are Islesboro and Lincolnville. The island community of Islesboro is split into two halves during a storm surge and Public Safety is unable to reach or protect the other half of the community during a flooded state. Lincolnville Beach, which is also the home of a major State of Maine Ferry Service, is very susceptible to flooding and several Lincolnville Beach area businesses have been flooded repeatedly in the past.

The majority of the flood damage in the County is caused by water runoff in the springtime which undercuts or overtops rural roads. When Maine has an above average snowfall for the winter and than warmer temperatures and rainfall suddenly arrive in early spring, the snow pack melts off quicker then the watersheds can handle. This causes local water bodies to overflow their boundaries and flood nearby road surfaces. Typically, this road damage is not major, though it can absorb the municipal road maintenance budget for an entire year and does happen in several of the towns every year.

It is expected that a major flood event will cause mostly road damage in Waldo County at least once every 2 years. Flood zones are shown on the Municipal Base Maps included in this section.

# WALDO COUNTY HAZARD MITIGATION PLAN

## COUNTY BASE MAP

This section contains base maps of the entire geographic area of Waldo County. The base maps were completed in ArcInfo GIS format by an intern student from the College of the Atlantic and contain the following layers:

### County and Municipal Boundaries

Neither the State of Maine nor the National Weather Service maintain data on snowfall and ice storms on a town-by-town basis. Normally there are only one or two locations within a Maine County that record weather data. For Waldo County, the only weather station is located in Belfast. Therefore, the entire county is modeled as one entire hazard area for severe winter storms.

The vast majority of the flood maps for Waldo County were completed in the 1970s by the U.S. Department of Housing and Urban Development. Most of the maps do not have base flood elevations and have proven to be inaccurate over the years.

The County Map may be used to orient the user of this plan to the locations of the municipalities in relation to each other.

The National Weather Service (NWS) "Maine Weather Regions" is also attached for reference purposes. Waldo County is subdivided into two weather regions – "Interior" and "Midcoast". Throughout this plan, discussion is made as to the two separate weather patterns that split Waldo County into the "northern" or "interior" and into the "southern" or "coastal".

# WALDO COUNTY HAZARD MITIGATION PLAN

## MUNICIPAL BASE MAPS

This section contains base maps of the 25 towns and one city located in Waldo County. The maps were completed in ArcInfo GIS format by an intern student from the College of the Atlantic and contain the following layers:

- Municipal Boundaries
- State and Local Roads and Bridges
- USGS Topographical Contours
- Ocean, Lakes, Ponds, Rivers, Streams, and Wetlands
- Locations of critical facilities
- Georeferenced Aerial Photos

- FEMA FIRM Flood zone Areas
- FEMA/ACE Hurricane Surge Inundation Areas

The purpose of these maps is to graphically identify those facilities that overlap with flood and coastal surge zone hazard areas in order to determine what assets are potentially impacted.

None of the Municipal Comprehensive Land Use Plans with Waldo County are maintained in a GIS format and could not be mapped for this project.

There is no common map scale for any of the maps; the largest view of each town was used. The maps are for reference purposes only and not for detailed measurements.

NOTE: For those municipalities that had critical facilities impacted by potential flood zones or hurricane inundation areas, a second map was created of the potential hazard area which zoomed in on that area. Text balloons were added to these “zoomed in maps” to indicate the facilities or systems that could be impacted.

# WALDO COUNTY HAZARD MITIGATION PLAN

## ASSESSING VULNERABILITY: OVERVIEW

<b>Requirement §201.6(c)(2) (ii):</b>	<b>[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]</b>
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The Hazard Mitigation Plan identified 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 Waldo County are municipal offices, fire and police stations, ambulance garages, post offices, town garages and sand/salt sheds, hospitals and clinics, electric and communication utilities, water and wastewater treatment facilities, hazardous material sites, and public schools.

Severe winter storms will primarily impact power and telecommunications hard lines and roadways. Electrical and telephone lines may be torn down due to falling trees. Roadways will either be covered in deep snow, ice, or tree and utility line debris.

High winds from hurricanes will primarily impact power and telecommunications hard lines and roadways. Electrical and telephone lines may be torn down due to falling trees. Roadways will either be covered with utility line debris. High winds may also cause trees to fall on homes, businesses and public building. There is no history of hurricane winds in Waldo County severely damaging structures. However, public safety radio communications towers could be damaged or destroyed. Flooding from hurricanes will be covered in the next paragraph.

Flooding can result from winter storms, hurricanes or spring runoff. Flooding in Waldo County will primarily impact roadways and storm water management systems that become overwhelmed by the storm water runoff. Roadways, culverts, and ditches become flooded and washed out. There are various locations around local lakes that can cause flooding to homes and camps along the lakes, especially during spring runoff. Hurricanes may cause local coastal flooding from storm surge to coastal businesses and homes.

# WALDO COUNTY HAZARD MITIGATION PLAN

## ASSESSING VULNERABILITY: ADDRESSING REPETITIVE LOSS PROPERTIES

<b>Requirement §201.6(c)(2) (ii):</b>	<b>[The risk assessment must also address National Flood Insurance Program (NFIP) insured structures that have been repetitively damaged by floods.]</b>
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The Director of the Maine Floodplain Management Program, an office within the Maine State Planning Office, was consulted regarding NFIP insured structures that have been repetitively damaged by floods. The Director provided the information, with the stipulation that the addresses of the properties are not published in the plan, due to privacy issues.

There are only two repetitive loss properties in Waldo County. One is located in the town of Lincolnville and one in the Town of Unity. The property in Lincolnville has been damaged by coastal flooding and the property in Unity has been damaged by lakeside flooding.

Both properties were last damaged over 12 years ago. The total payments paid by the NFIP to repetitive loss properties in Waldo County is \$123,413.75.

Since there have been no payouts in over 12 years and we have had several dozen flood events in the past 12 years (including in the areas those two properties are located), it appears that these two properties have been retrofitted to mitigate further damages.

# WALDO COUNTY HAZARD MITIGATION PLAN

## ASSESSING VULNERABILITY: IDENTIFYING STRUCTURES

<b>Requirement §201.6(c)(2) (ii)(A):</b>	<b>The plan should describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas.</b>
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**Existing Critical Facilities:** The Waldo 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 three hazards most likely to impact the County are severe winter storms, hurricanes, and flooding. The analysis revealed the following:

Severe Winter Storm Hazard: 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. No critical structures were identified as in danger from a severe winter storm.

Flooding Hazard: A 100-year flood could have an impact on the Brooks Post Office, the Winterport Docks and the Frankfort Village fire station. The most likely coastal flooding will occur from storm surge created by a "Northeaster". The most severe, though less likely, coastal flooding would be caused by a Category 1 Hurricane. The downtown areas of Lincolnville Beach, Belfast and Searsport, residential areas in Lincolnville, Northport, Belfast, Searsport, Stockton Springs, Prospect, Frankfort, Winterport, and Islesboro could be partially flooded by a Category 1 Hurricane. A Category 1 hurricane could impact the Penobscot McCrum Potato processing plant, the Belfast Boathouse, the Frankfort Town Office & Post Office, the Islesboro Ferry landings, the Lincolnville Beach Fire Station, and the Winterport Docks. A Category 2 storm could impact the Belfast Wastewater Treatment Plant, the Frankfort Village Fire Station, the Lincolnville Beach Post Office, and the Winterport Water Pumping Facility.

However, the most likely damage in the County from flooding that occurs at least once every two years is damage to local roads.

Hurricane Hazard: Could impact the same facilities listed under Flooding and Winter Storms and the Stockton Springs Town Garage and Public Dock facilities.

In addition to critical facilities, Waldo County contains at-risk populations that should be factored into a vulnerability assessment. These include a relatively large population of elderly residents who live alone in very rural areas and who have with limited mobility.

An analysis of the local municipal comprehensive plans and general growth patterns for the Waldo County communities indicates that there will be a slight but constant increase (5-10%) in residents expected over the next 10 years.

Commercial growth in the past 15 years has been mostly limited to the City of Belfast, with the arrival of the credit card giant, MBNA-New England in the mid 1990s. MBNA was recently bought by Bank of America. BoA employs almost 2,000 people. Except for MBNA/BoA, there has been only sporadic and small scale commercial or industrial development in Waldo County. This trend is expected to continue. The top seven employers in Waldo County include Bank of America, Creative Apparel, Waldo County Healthcare Inc., Pride MFG Company, Atlantic Salmon of Maine, Penobscot Frozen Food, and Hannaford Supermarkets.

## WALDO COUNTY HAZARD MITIGATION PLAN

The following chart identifies the type and number of critical facilities in each Waldo County town. These facilities are located on the GIS maps included in this section.

### County Asset Inventory by Municipality

Town	Municipal Office	Fire Station	Police Station/Office	Public Works	Public Water Service	Waste Water Treatment	Library	Public Schools	Shelters	Hospital /Clinic	Nursing Home	Airport /Seaport	Dams	HazMat Facilities
Belfast	1	1	1	1	1	1	1	4	1	2	3	2	2	3
Belmont	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Brooks	1	1	0	0	0	0	0	1	0	1	0	0	0	0
Burnham	1	2	0	1	0	0	0	0	0	0	0	0	1	0
Frankfort	1	2	0	0	0	0	1	1	0	0	0	0	1	0
Freedom	1	1	0	1	0	0	0	0	0	0	0	0	1	0
Islesboro	1	1	1	1	0	0	1	1	1	1	0	2	0	0
Jackson	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Knox	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Liberty	1	1	0	1	0	0	1	1	0	1	0	0	1	0
Lincolnton	1	2	1	1	0	0	1	1	1	0	1	1	0	0
Monroe	1	1	0	0	0	0	1	1	0	0	0	0	0	0
Montville	1	1	0	1	0	0	0	0	0	0	0	0	3	0
Morrill	0	1	0	1	1	0	0	1	0	0	0	0	1	0
Northport	1	1	0	0	1	0	0	1	0	0	0	0	0	0
Palermo	1	1	0	0	0	0	1	1	0	0	0	0	0	0
Prospect	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Searsmont	1	1	0	0	0	0	1	1	1	0	0	0	1	0
Searsport	1	2	1	1	1	1	1	3	1	1	1	1	1	2
Stockton Springs	1	1	1	1	1	0	1	1	0	1	0	1	1	0
Swanville	1	0	0	0	0	0	0	1	0	0	0	0	1	0
Thorndike	1	1	0	0	0	0	0	1	1	0	0	0	0	0
Troy	1	1	0	1	0	0	0	1	0	0	0	0	0	0
Unity	1	1	0	1	0	0	1	1	0	1	1	0	0	0
Waldo	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Winterport	1	1	0	1	1	1	1	2	1	1	0	0	1	0
<b>TOTAL</b>	<b>25</b>	<b>28</b>	<b>5</b>	<b>13</b>	<b>6</b>	<b>3</b>	<b>12</b>	<b>24</b>	<b>7</b>	<b>9</b>	<b>6</b>	<b>7</b>	<b>15</b>	<b>5</b>

## WALDO COUNTY HAZARD MITIGATION PLAN

The majority of the residential development and population increase in Waldo County in the last 10 years has occurred in Winterport, Searsmont, Lincolnville, and Swanville. Relative to their population sizes, Belmont, Burnham, Jackson, Morrill, Palermo, Prospect, Searsmont, Swanville, and Troy all experienced large population growths, though small in actual numbers.

### **Future Critical Facilities:**

Most of the Waldo County towns have very small populations; are very rural; and do not have planning departments, building codes or even a full time code enforcement officer (CEO). (Six of the towns all have the same part-time CEO who is a retired hardware store owner). The State of Maine has recently passed a state statute creating a State building code based on the International Building Code. However, only towns with a population of 2,000 or greater must enforce the State Building Code. This applies to only four (Belfast, Lincolnville, Searsport and Winterport) of the 26 towns. Only the City of Belfast has a full time CEO.

Assessing where future development will occur in the towns in Waldo County is difficult due to a lack of municipal data, planning, policies and programs. There is very little commercial, industrial, and public construction completed in most of these communities. There is some residential construction; however, there is very little controlling guidance on single-family home construction in the State of Maine at any level of government. Shoreland zoning, floodplain ordinances, and septic system designs are about the only controlling guidance in residential construction.

Severe Winter Storm Hazard: It is very unlikely that a severe winter storm will have any impact on future structures. This hazard primarily impacts local roads and overhead utility lines.

Hurricane: Hurricanes in Waldo County towns primarily threaten coastal residential structures in the storm surge inundation areas. All Waldo County municipalities allow homes to be built anywhere, in any land use zone. Hurricanes also primarily impact local roads and overhead utility lines. Homes could be damaged by falling trees.

Flooding Hazard: The majority of damages from flooding in Waldo County is to roadways, not structures. We were unable to find any records of public structures being lost in the County due to flooding. However, 23 of 26 towns do have floodplain ordinances that provide some control over development in identified flood zones. Most town officials agree that the old HUD flood maps are very inaccurate. Those towns that do not have flood zone ordinances do not have any special flood hazard areas that could ever flood structures – they are primarily streams that could potentially overtop local roads (most old gravel roads with insufficient storm drainage).

Currently, the existing County Emergency Operations Center (EOC), which is located in the basement of the County Jail, does receive some minor flooding (1-3 inches) on the floor surface during severe spring storms. A new County EOC is planned for construction in the fall of 2010 with an expected open date of the summer of 2011. The new facility will be above ground and have an engineered stormwater management system.

# WALDO COUNTY HAZARD MITIGATION PLAN

## ASSESSING VULNERABILITY: ESTIMATING POTENTIAL LOSSES

<b>Requirement §201.6(c)(2) (ii)(B):</b>	<b>The plan should describe vulnerability in terms of an estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(i)(A) of this section and a description of the methodology used to prepare the estimate...</b>
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The Waldo County Emergency Management Agency and Hazard Mitigation Planning Team, with assistance during the initial version of this plan from Unity College used GIS modeling, GPS data collection, field inspections, and historical data to estimate the potential dollar losses if the County were to experience severe winter storms, flooding, 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 County and Municipal Base Maps to locate the Facilities impacted by the Hazard Areas.

The Waldo County Hazard Mitigation Planning Team estimated the potential losses from Severe Winter Storms, Flooding, and Hurricanes. Figures that were used from 2004 have been recalculated to 2010 prices according to the U.S. Bureau of Labor Standards, Consumer Price Index calculator. From 2004 to 2010 prices are generally 15% higher. The results are listed on the following pages.

# WALDO COUNTY HAZARD MITIGATION PLAN

## Potential Severe Winter Storm losses

The primary damage losses that are expected in Waldo County during a “Northeaster”, blizzard or ice storm would be to overhead utility lines and local roads. In calculating the damage costs, the Planning Team assumed that all local roads would be covered in snow or ice or blocked with tree and utility line debris. The Team used a figure of \$600/mile for road debris clearance or snow removal. The Team also assumed, as a worst case scenario, the loss of 10% all power utility lines and poles from a major winter disaster.

1. Electrical Power Lines and Utility Poles (average) \$50,000 x 10% = \$5,000/mile
2. Telephone Lines = \$2,300/mile to replace x 10% = \$230/mile

Dollar amounts are rounded to the nearest \$50.

No critical structures were identified as in danger from a severe winter storm in Waldo County.

Municipality	Critical Facility	Function Lost	Quantity (Miles)	Damage Cost
Belfast	Electrical Power Lines	Electricity	101.93	\$510,000
	Telephone Lines	Communications	83.73	\$19,250
	Paved Road Surfaces	Transportation	80.53	\$48,300
	Gravel Road Surfaces	Transportation	3.2	\$1,900

Belmont	Electrical Power Lines	Electricity	23.8	\$119,000
	Telephone Lines	Communications	20.55	\$4,750
	Paved Road Surfaces	Transportation	20.55	\$12,350
	Gravel Road Surfaces	Transportation	0	\$0

Brooks	Electrical Power Lines	Electricity	41.8	\$209,000
	Telephone Lines	Communications	35.75	\$8,200
	Paved Road Surfaces	Transportation	23.68	\$14,200
	Gravel Road Surfaces	Transportation	12.07	\$7,250

Burnham	Electrical Power Lines	Electricity	42.7	\$213,500
	Telephone Lines	Communications	39.75	\$9,150
	Paved Road Surfaces	Transportation	39.04	\$23,400
	Gravel Road Surfaces	Transportation	0.71	\$400

Frankfort	Electrical Power Lines	Electricity	43.7	\$218,500
	Telephone Lines	Communications	37.83	\$8,700
	Paved Road Surfaces	Transportation	30.83	\$18,500
	Gravel Road Surfaces	Transportation	7	\$4,200

## WALDO COUNTY HAZARD MITIGATION PLAN

### Potential Severe Winter Storm losses continued

Municipality	Critical Facility	Function Lost	Quantity (Miles)	Damage Cost
Freedom	Electrical Power Lines	Electricity	31	\$155,000
	Telephone Lines	Communications	29.62	\$6,800
	Paved Road Surfaces	Transportation	20.62	\$12,400
	Gravel Road Surfaces	Transportation	9	\$5,400

Islesboro	Electrical Power Lines	Electricity	32.5	\$162,500
	Telephone Lines	Communications	32.5	\$7,500
	Paved Road Surfaces	Transportation	24.84	\$14,900
	Gravel Road Surfaces	Transportation	7.6	\$4,550

Jackson	Electrical Power Lines	Electricity	32	\$160,000
	Telephone Lines	Communications	32	\$7,350
	Paved Road Surfaces	Transportation	24.66	\$14,800
	Gravel Road Surfaces	Transportation	7.34	\$4,400

Knox	Electrical Power Lines	Electricity	43.23	\$216,150
	Telephone Lines	Communications	41.03	\$9,450
	Paved Road Surfaces	Transportation	34.78	\$20,850
	Gravel Road Surfaces	Transportation	6.25	\$3,750

Liberty	Electrical Power Lines	Electricity	44.87	\$224,350
	Telephone Lines	Communications	41.17	\$9,450
	Paved Road Surfaces	Transportation	27.27	\$16,350
	Gravel Road Surfaces	Transportation	13.9	\$8,350

Lincolnton	Electrical Power Lines	Electricity	62.55	\$312,750
	Telephone Lines	Communications	56.25	\$12,950
	Paved Road Surfaces	Transportation	46.25	\$27,750
	Gravel Road Surfaces	Transportation	10	\$6,000

Monroe	Electrical Power Lines	Electricity	61.1	\$305,500
	Telephone Lines	Communications	52	\$11,950
	Paved Road Surfaces	Transportation	25	\$15,000
	Gravel Road Surfaces	Transportation	27	\$16,200

Montville	Electrical Power Lines	Electricity	61.78	\$308,900
	Telephone Lines	Communications	61.78	\$14,200
	Paved Road Surfaces	Transportation	33.78	\$20,250
	Gravel Road Surfaces	Transportation	28	\$16,800

## WALDO COUNTY HAZARD MITIGATION PLAN

### Potential Severe Winter Storm losses continued

Municipality	Critical Facility	Function Lost	Quantity (Miles)	Damage Cost
Morrill	Electrical Power Lines	Electricity	28.1	\$140,500
	Telephone Lines	Communications	24.7	\$5,700
	Paved Road Surfaces	Transportation	21.7	\$13,000
	Gravel Road Surfaces	Transportation	3	\$1,800

Northport	Electrical Power Lines	Electricity	45.82	\$229,100
	Telephone Lines	Communications	45.82	\$10,550
	Paved Road Surfaces	Transportation	43.47	\$26,100
	Gravel Road Surfaces	Transportation	2.35	\$1,400

Palermo	Electrical Power Lines	Electricity	54.58	\$272,900
	Telephone Lines	Communications	54.58	\$12,550
	Paved Road Surfaces	Transportation	53.22	\$31,950
	Gravel Road Surfaces	Transportation	1.36	\$800

Prospect	Electrical Power Lines	Electricity	39.14	\$195,700
	Telephone Lines	Communications	26.44	\$6,100
	Paved Road Surfaces	Transportation	22.44	\$13,450
	Gravel Road Surfaces	Transportation	4	\$2,400

Searsmont	Electrical Power Lines	Electricity	48.11	\$240,550
	Telephone Lines	Communications	42.91	\$9,850
	Paved Road Surfaces	Transportation	38.16	\$22,900
	Gravel Road Surfaces	Transportation	4.75	\$2,850

Searsport	Electrical Power Lines	Electricity	68.9	\$344,500
	Telephone Lines	Communications	53	\$12,200
	Paved Road Surfaces	Transportation	53	\$31,800
	Gravel Road Surfaces	Transportation	0	\$0

Stockton Springs	Electrical Power Lines	Electricity	48.69	\$243,450
	Telephone Lines	Communications	44.29	\$10,200
	Paved Road Surfaces	Transportation	43.29	\$25,950
	Gravel Road Surfaces	Transportation	1	\$600

Swanville	Electrical Power Lines	Electricity	33.88	\$194,400
	Telephone Lines	Communications	31.88	\$7,350
	Paved Road Surfaces	Transportation	31.88	\$19,100
	Gravel Road Surfaces	Transportation	0	\$0

## WALDO COUNTY HAZARD MITIGATION PLAN

### Potential Severe Winter Storm losses continued

Municipality	Critical Facility	Function Lost	Quantity (Miles)	Damage Cost
Thorndike	Electrical Power Lines	Electricity	36.8	\$184,000
	Telephone Lines	Communications	32.8	\$7,550
	Paved Road Surfaces	Transportation	23.2	\$13,900
	Gravel Road Surfaces	Transportation	9.6	\$5,750
Troy	Electrical Power Lines	Electricity	60.08	\$300,400
	Telephone Lines	Communications	56.78	\$13,050
	Paved Road Surfaces	Transportation	41.78	\$25,050
	Gravel Road Surfaces	Transportation	15	\$9,000
Unity	Electrical Power Lines	Electricity	56.73	\$283,650
	Telephone Lines	Communications	48.73	\$11,200
	Paved Road Surfaces	Transportation	43.63	\$26,200
	Gravel Road Surfaces	Transportation	5.1	\$3,050
Waldo	Electrical Power Lines	Electricity	38.12	\$190,600
	Telephone Lines	Communications	28.22	\$6,500
	Paved Road Surfaces	Transportation	19.81	\$11,900
	Gravel Road Surfaces	Transportation	8.41	\$5,050
Winterport	Electrical Power Lines	Electricity	71.91	\$359,550
	Telephone Lines	Communications	67.21	\$15,600
	Paved Road Surfaces	Transportation	67.21	\$40,300
	Gravel Road Surfaces	Transportation	0	\$0
<b>Total County</b>	Electrical Power Lines	Electricity	1,253.27	\$6,266,350
	Telephone Lines	Communications	1,120.77	\$257,800
	Paved Road Surfaces	Transportation	941.73	\$565,050
	Gravel Road Surfaces	Transportation	182.03	\$109,200
<b>Grand Total</b>				<b>\$7,198,400</b>

Estimated Losses to Public Property = \$674,250

Estimated Losses to Private Property = \$6,524,150

It should be noted that this is the total damages to both public (roadways) and private (utilities) property. Municipal mitigation measures will involve only public property which makes up about 9% of the total damages.

## WALDO COUNTY HAZARD MITIGATION PLAN

### Potential Flood losses (to include Hurricane flooding)

The primary damage losses that are expected in Waldo County during any flood event would be damage to local roads. During the development of the original Plan, the Planning Team assumed all roads that were either in the 100-year flood zone or had experienced flooding in the past would be effected. The Team recalculated the cost of roadwork which has increased since the last plan, using \$300,000/mile for rebuilding paved roads and \$150,000/mile for rebuilding gravel roads. Figures were rounded to the nearest \$1,000. Homes are not susceptible to destruction by flooding. Some homes experience flooded basement and there have only been 2 homes in the entire county of 14,726 homes that have experienced repetitive flood damages. A figure of 10% potential damages value is used for structure damage.

The Planning Team used an average damage figure for general road washouts on unpaved surfaces. This was determined by using the average figures from the last five Presidentially Declared storm events which resulted in unpaved road surface damages and for towns which have actually experienced damages. During the revision process, those roads that have been upgraded with mitigation projects by the communities through local, state and federal funds, to include FEMA 404 and 406 funds, have been removed from the original list. State-maintained roads were also removed from the list, as these are not local responsibilities. The following cost figures were determined.

Municipality	Critical Facility	Function Lost	Amt of Damage	Damage Cost
Belfast \$152,000	Penobscot McCrum Food	Economic	1	\$75,000
	Belfast Boathouse	Social	1	\$35,000
	Wastewater Treatment Plt	Utility	1	\$40,000
	Road Washouts	Transportation	Avg	\$2,000
Belmont \$89,000	Back Belmont Road	Transportation	60 LF	\$3,000
	Dickey Mills Road		125 LF	\$7,000
	Halls Corner Road		1000 LF	\$57,000
	Back Belmont Road		200 LF	\$11,000
	Road Washouts		Avg	\$11,000
Brooks \$95,000	US Post Office	Communications	1	\$15,000
	Homes & Camps	Shelter	2 + 12	\$60,000
	Road Washouts	Transportation	Avg	\$20,000
Burnham \$778,000	Residential	Shelter	48	\$304,000
	Religious/Non-Profit	Social	1	\$8,000
	Doherty Road	Transportation	500 LF	\$28,000
	Pond Road Bridge		1	\$200,000
	Pine Lane		400 LF	\$23,000
	Sayward Lane		2400 LF	\$136,000
	Rines Road		1,200 LF	\$68,000
Road Washouts	Avg		\$11,000	
Frankfort \$256,000	Frankfort Town Office		Government	1
	Frankfort Village FD	Public Safety	1	\$30,000
	Loggin Road	Transportation	600 LF	\$28,000
	Marsh Stream Road		1,500 LF	\$71,000
	Mount Waldo Road		1,200 LF	\$57,000
	Treat Road		100 LF	\$5,000
	Road Washouts		Avg	\$45,000

## WALDO COUNTY HAZARD MITIGATION PLAN

### Potential Flood losses continued

Municipality	Critical Facility	Function Lost	Amt of Damage	Damage Cost
Freedom \$250,000	Mitchell Road Bridge	Transportation	1	\$130,000
	Rollins Road		1,200 LF	\$68,000
	Smithton Road		1,000 LF	\$45,000
	Waning Road		500 LF	\$6,000
	Road Washouts		Avg	\$12,000
Islesboro \$5,725,000	Residential	Shelter	200	\$5,000,000
	Commercial	Economic	1	\$25,000
	Industrial	Economic	3	\$437,000
	Main Rd Granite Breakwater	Transportation	500 LF	\$250,000
	Road Washouts	Avg		\$13,000
Jackson \$208,000	Bog Road	Transportation	1,000 LF	\$28,000
	Kimball Road		500 LF	\$28,000
	Works Road		2,200 LF	\$125,000
	Road Washout		Avg	\$27,000
Knox \$18,000	Road Washouts	Transportation	Avg	\$18,000
Liberty \$458,000	Marshall Shore Road	Transportation	5280	\$300,000
	Stevens Pond inlet		1	\$100,000
	Road Washouts		Avg	\$58,000
Lincolntonville \$50,000	State Ferry Terminal Bldg	Transportation	1 ea	\$8,000
	Fire Station	Emergency Svcs	1 ea	\$5,000
	US Post Office	Public Services	1 ea	\$25,000
	Road Washouts	Transportation	Avg	\$12,000
Monroe \$360,000	Residential/Commercial	Shelter/Economic	51 +10	\$306,000
	Back Brooks Road	Transportation	200 LF	\$6,000
	Dahlia Farm Road		200 LF	\$6,000
	Road Washout	Avg		\$42,000
Montville \$167,000	Halldale Road	Transportation	1,000 LF	\$57,000
	Haystack Mt Road		500 LF	\$28,000
	Hogback Mt Road		200 LF	\$11,000
	Morrill Road		250 LF	\$12,000
	North Ridge Road		200 LF	\$10,000
	Randlett Road		500 LF	\$28,000
Road Washouts	Avg		\$21,000	
Morrill \$560,000	Poland Woods Road	Transportation	740 LF	\$42,000
	Weymouth Road		9,000 LF	\$510,000
	Road Washouts		Avg	\$8,000
Northport \$69,000	Mountain Road	Transportation	400 LF	\$23,000
	Park Street		100 LF	\$6,000
	Shore Road		250 LF	\$14,000
	Road Washouts		Avg	\$26,000
Palermo \$162,000	Arnold Lane	Transportation	200 LF	\$6,000
	Beldon Wood Road		600 LF	\$17,000
	Chisholm Pond Road		3,000 LF	\$85,000
	Jones Road		400 LF	\$11,000
	Parmenter Road		1,200 LF	\$34,000
Road Washouts	Avg		\$9,000	

## WALDO COUNTY HAZARD MITIGATION PLAN

### Potential Flood losses continued

Municipality	Critical Facility	Function Lost	Amt of Damage	Damage Cost
Prospect \$18,000	Bowden Point Road Road Washouts	Transportation	200 LF Avg	\$11,000 \$7,000
Searsmont \$23,000	US Post Office Road Washouts	Public Services Transportation	1 ea Avg	\$15,000 \$8,000
Searsport \$648,000	Town Wharf Black Road North Cottage Street Road Washouts	Transportation	1 ea 200 LF 200 LF Avg	\$600,000 \$11,000 \$11,000 \$26,000
Stockton Springs \$66,000	Meadow Road Road Washouts	Transportation	1,000 LF Avg	\$57,000 \$21,000
Swanville \$6,000	Road Washouts	Transportation	Avg	\$6,000
Thorndike \$172,000	East Thorndike Road Files Hill Road Hunt Road Road Washouts	Transportation	2,000 LF 500 LF 400 LF Avg	\$114,000 \$28,000 \$11,000 \$19,000
Troy \$17,000	Road Washouts	Transportation	Avg	\$17,000
Unity \$678,000	Berry Road Bridge Crowell/Hunter Roads East Mussey Road Kanokolus Road Quaker Hill Road Stagecoach Road Waning Road Road Washouts	Transportation	1 800 LF 700 LF 2,000 LF 2,600 LF 2,000 LF 2,000 LF Avg	\$200,000 \$45,000 \$40,000 \$57,000 \$148,000 \$57,000 \$114,000 \$17,000
Waldo \$16,000	Road Washouts	Transportation	Avg	\$16,000
Winterport \$79,000	Winterport Docks Winterport Pumping Stn Road Washout	Commercial Utility Transportation	1 1 Avg	\$50,000 \$20,000 \$9,000
<b>Total County</b>				<b>\$11,120,000</b>

Estimated Losses to Municipal Property = \$4,542,000

Estimated Losses to Federal and State Structural Property = \$313,000

Estimated Losses to Private Property = \$6,265,000

It should be noted that this is the total damages to both public (roadways) and private property. Municipal mitigation measures will impact the public property which makes up about 41% of the total damages.

## WALDO COUNTY HAZARD MITIGATION PLAN

### Potential Hurricane losses

The primary damage losses that are expected in Waldo County during a Hurricane would be the destruction of overhead electrical and telephone utility lines, flooding damage to local roads and residential and commercial structures, tree and utility pole debris in the roads and trees falling on residential structures. Much of these damages were already profiled in the following Damage Loss sections.

<b>Property</b>	<b>Public or Private</b>	<b>Dollar Loss</b>
Roadways damaged by Flooding	Public	\$3,792,000
Roadways covered in debris from High Winds	Public	\$674,250
Municipal Facilities damaged by Flooding	Public	\$750,000
		0
Federal Buildings damages by Flooding	Public (Fed)	\$55,000
State Facilities (minus roads) damaged by Flooding	Public (State)	\$258,000
		0
Overhead Utility Line Damages by High Winds	Private (Utilities)	\$6,524,150
Private property damaged by Flooding	Private	\$6,265,000
<b>TOTAL</b>		<b>\$18,318,400</b>

### Summary of Disaster losses

The following is a summarization of the potential damages that could occur from the three profiled disaster events.

Severe Winter Storm	\$ 7,198,400
Flooding	\$11,120,000
Hurricane	\$18,318,400

# WALDO COUNTY HAZARD MITIGATION PLAN

## ASSESSING VULNERABILITY: ANALYZING DEVELOPMENT TRENDS

<b>Requirement §201.6(c)(2) (ii)(C):</b>	<b>The plan should describe vulnerability in terms of 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.</b>
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Waldo 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 city, Belfast, which has a year-round population of 6,381, is located on the coast in the southern half of the County. There are no suburbs in Waldo County. The land uses within the county generally consist of: Residential, Resource Protection, Agricultural, Industrial, Institutional and Commercial areas.

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 allow development to 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. Most municipalities in Waldo County have enacted Flood zone, Shoreland Zone, and other land use ordinances. Further breakdown of the land use designations is shown on the following chart.

Severe winter storms will have an impact on all land use areas and zones within the 26 communities in Waldo County. This hazard has the primary impact of shutting down transportation and power, which will shut down business, industry, commerce and schools and stop all social and emergency services.

Flooding will have an impact on all land use areas and zones within the 26 communities in Waldo County. This hazard has the primary impact of shutting down transportation, since it is primarily the roads that are the object of flooding in the County. This could impact business, industry, commerce, and schools and delay many social and emergency services.

The majority of the municipalities (23 of 26) in Waldo County have enacted floodplain ordinances to prevent new commercial, industrial, and institutional development within flood zones. Three towns are not members of the NFIP program; these are: Morrill, Prospect, and Waldo. There are some existing commercial developments within flood zones in the County, such as the tourist businesses at Lincolnville Beach. These business have been in place for many years and are 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 are required to be upgraded in order to meet the floodplain ordinances.

Hurricanes will have an impact to land use areas and zones that includes the areas impacted by the Flooding Hazard listed above and the areas impacted by the high winds of the Severe Winter Storms, also listed above.

## WALDO COUNTY HAZARD MITIGATION PLAN

The Belfast Planning Office has indicated that the residential development pressure surrounding Belfast is the largest concern with respect to future land use decisions and hazard mitigation planning. The remainder of the County is expected to undergo a slight increase in residential development pressure to due serving as bedroom communities for Augusta, Waterville and Bangor, which are cities located outside Waldo County.

The Searsport Comprehensive Plan indicates that segments of industrial and residential zones are located in coastal storm surge areas. The town recently re-designated some of these areas to be Marine and Conservation Districts.

The Land Use Types and Growth Areas that have been designated in Waldo County are:

<b>Municipality</b>	<b>Land Use Types</b>	<b>Designated Growth Areas</b>
Belfast	Residential, Waterfront, Commercial, Office, Rural Protection, Airport, Agricultural, Industrial	Commercial, Office, Rural Protection, Airport, Industrial
Belmont	Commercial, Rural, Shoreland, Landfill	Commercial
Brooks	Resource Protection, Residential, General Development, Commercial	Commercial, General Development
Burnham	Resource Protection, Limited Residential, Limited Commercial, General Development, Wetland/Stream Protection	General Development
Frankfort	Growth, Resource Protection, Residential	Growth District
Freedom	Resource Protection, Limited Residential, Limited Commercial, Stream Protection	None
Islesboro	Resource Protection, Limited Residential, Limited Commercial	None
Jackson	Sand & Gravel Aquifer, Freshwater Wetland, Resource Protection, Limited Residential, Stream Protection	State Route 7 Corridor
Knox	Resource Protection, Limited Residential, Stream Protection, Limited Commercial, General Development	General Development
Liberty	Wetland Preservation, Resource Protection, Limited Residential, Limited Commercial, Stream Protection, Wetland Conservation	None
Lincolntonville	General District, Harbor, Limited Commercial, Limited Residential, Resource Conservation, Resource Protection, & Stream Protection	General District
Monroe	Village, Limited Residential, Resource Protection, Stream Protection, Wetlands	Village
Montville	Limited Residential, Resource Protection	None
Morrill	Resource Protection	None
Northport	Historic, General Purpose, Mixed Use, Residential, Rural, Conservation, Shoreland	General Purpose

## WALDO COUNTY HAZARD MITIGATION PLAN

<b>Municipality</b>	<b>Land Use Types</b>	<b>Growth Areas</b>
Palermo	Resource Protection, Limited Residential, Stream Protection	None
Prospect	Rural Residential, Limited Residential, Stream Protection, Resource Protection, Aquifer Protection	None
Searsmont	Resource Conservation, Village, Residential Growth, Commercial, Industrial, Rural Residential	Village, Residential Growth, Commercial & Industrial
Searsport	Commercial, Industrial, Residential, Marine, and Conservation, Resource Protection	Commercial, Industrial, Residential
Stockton Springs	Aquifer, Commercial, Conservation, Residential, Village, Maritime	Commercial, Village, Maritime
Swanville	Resource Protection, Limited Residential, Stream Protection	None
Thorndike	Village, Rural, Flood Hazard, Limited Commercial, Stream Protection, Wetland	Village
Troy	Resource Protection, Limited Residential, Limited Commercial, General Development	General Development
Unity	Resource Protection, Limited Residential, Limited Commercial, Stream Protection, Rural, Flood Hazard, Downtown District, Village, Aquifer Protection	Downtown District, Village
Waldo	Resource Protection, Stream Protection	None
Winterport	Limited Residential, Resource Protection, General Development, Commercial Maritime, Wetlands, Limited Commercial, Stream Protection, Protection District	General Development, Commercial Maritime

# WALDO COUNTY HAZARD MITIGATION PLAN

## MULTI-JURISDICTIONAL RISK ASSESSMENT

<b>Requirement §201.6(c)(2) (iii):</b>	<b>For multi-jurisdictional plans, the risk assessment section must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.</b>
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Waldo County is a mid-sized Maine county consisting of 36,280 people living in 730 square miles located along the mid-coast of Maine. There are 26 municipalities within the County. All twenty-six municipalities contributed to the risk assessment analyses performed for the Waldo County Hazard Mitigation Plan.

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

The coastal communities of Belfast, Lincolnville, Northport, Searsport, and Stockton Springs 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 affect the beach areas of these communities, which are highly developed due to the tourist business and attraction of living on the coast. The inland communities are more susceptible to high snowfall events. Winds from severe Winter Storms and from Hurricanes will be higher in the coastal communities than the inland communities.

The Town of Winterport, which is located along the banks of the Penobscot River is concerned about the possibility of a major oil spill from one of the oil tankers that transit the River. There are no local spill mitigation capabilities and any response to a major mishap could take hours to implement. This type of hazard could create major environmental damage to the River and cause a severe economic impact to the community.

# WALDO COUNTY HAZARD MITIGATION PLAN

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# WALDO COUNTY HAZARD MITIGATION PLAN

## SECTION 5. MITIGATION STRATEGY

§201.6(c)(3) of the Rule outlines measures that localities must take in developing their mitigation strategies. Specifically, the Local Hazard Mitigation 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 entails the development of goals from which specific mitigation actions and projects will be derived. All mitigation actions must be prioritized according to a cost-benefit analysis, with a focus on how effective the actions are expected to be with respect to their cost. For multi-jurisdictional plans, each jurisdiction must show the specific actions they will undertake.

This section includes the following five subsections as follows:

Local Hazard Mitigation Goals

Identification and Analysis of Mitigation Actions

Implementation of Mitigation Actions

Multi-jurisdictional Mitigation Actions

Status of Mitigation Actions from 2004 Plan

# WALDO COUNTY HAZARD MITIGATION PLAN

## LOCAL HAZARD MITIGATION GOALS

<b>Requirement §201.6(c)(3) (i):</b>	<b>The hazard mitigation strategy shall include: a description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.</b>
Definitions	<b>Goals</b> are general guidelines that explain what you want to achieve. They are usually long-term and represent global visions, such as “eliminate flood damage.” <b>Objectives</b> define strategies or implementation steps to attain the identified goals. Unlike goals, objectives are specific, measurable, and have a defined completion date. Objectives are more specific, such as “adopt a zoning ordinance prohibiting new development in the floodplain.”

The Waldo County Hazard Mitigation Planning Team met to review and analyze the County's risk assessment studies. The following goals were determined to have the greatest benefit in hazard reduction in the County. The descriptions, goals, and objectives for each are as follows:

### **SEVERE WINTER STORM EVENTS**

In Waldo County, 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 has also been 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 blizzard winds. The very presence of a severe winter storm will keep tourists away from the area, resulting in major losses of income for local businesses. Therefore, the goals and objectives to mitigate the damages from severe winter storms are:

#### **Goal 1: Reduce damage, injury and loss of life in Waldo County after a winter storm event**

- Objective 1.1. Lessen the future loss of life and personal injuries resulting from severe storms.
- Objective 1.2. Reduce real and personal property damages caused by severe storms.
- Objective 1.3. Assure all emergency facilities have temporary backup power capabilities.
- Objective 1.4. Assure prompt restoration of critical transportation links.

There is no history in Waldo County of winter storms causing major damages to buildings and infrastructure. As mentioned above, winter storms cause power outages and temporarily create impassable or dangerous roads. Therefore, it has been determined by the County Planning Team that there is no need for mitigation actions to address new buildings and infrastructure.

### **FLOODING**

In Waldo County, the most likely damages caused by flooding are the damages to roadways caused by washouts and undercutting. Though there are very few critical facilities in the 100-year flood zone, 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; however, there has been no use of the Hurricane Inundation Surge Areas to control development. There could be loss of lives caused by delayed responses from emergency services and from drowning during high water (river and lake) conditions. Flood waters may also contaminate public and private water supplies and damage personal and real property. Flooding may shut down businesses, resulting in major losses of income for local businesses and residents. Therefore, the goals and objectives to mitigate the damages from flooding are:

# WALDO COUNTY HAZARD MITIGATION PLAN

## **Goal 2: Reduce damage, injury and loss of life in Waldo County caused by flooding**

- Objective 2.1. Lessen the future loss of life and personal injuries resulting from flooding.
- Objective 2.2. Reduce real and personal property damages caused by flooding.
- Objective 2.3. Assure prompt restoration of critical transportation links.
- Objective 2.4. Minimize damage to private drinking water supplies caused by flooding.

There is little history in Waldo County of flooding causing major damages to public and commercial buildings and infrastructure. There is even little evidence of major damages to residential structures. There were only one residential NFIP claim in the entire County in the last 13 years. As has been shown in various sections of this plan, flooding in Waldo County damages roads. Therefore, it has been determined by the County Planning Team that there is no need for mitigation actions to address new buildings and infrastructure.

The Towns of Morrill, Prospect and Waldo have not adopted floodplain ordinances, and are not required to by the Mitigation Act of 2000 and the associated regulations in order for this plan to be approved. The Planning Team has added mitigation actions to “encourage” the three towns to participated in the NFIP, however, the decision to do so will be theirs. They have not joined, because they do not have a history of flooding of buildings and structures.

## **HURRICANE EVENTS**

In Waldo County, the most likely damages caused by a hurricane event are the loss of electrical power from downed power transmission lines; the blockage of roadways from tree debris and utility poles and lines; damages to coastal residential properties; and damage to roadways caused by washouts and undercutting. There may also be loss of life caused by delayed responses from emergency services, debris falling on individuals, or from storm-related vehicle accidents. Other types of general damage to personal and real property may be caused by high winds and ineffective storm water management systems. The very presence of a hurricane will keep tourists away from the area, resulting in major losses of income for local businesses. Therefore, the goals and objectives to mitigate the damages from severe winter storms are:

## **Goal 3: Reduce damage, injury and loss of life in Waldo County after a hurricane**

- Objective 3.1. Lessen the future loss of life and personal injuries resulting from hurricanes.
- Objective 3.2. Reduce real and personal property damages caused by hurricanes.
- Objective 3.3. Assure prompt restoration of critical transportation links.
- Objective 3.4. Assure all emergency facilities have temporary backup power capabilities.

The typical damages to public buildings and infrastructure (old or new) caused by hurricanes are due to flooding (which has already been addressed in Goal 2) and power outages.

The State of Maine has recently adopted, by statute, the International Building Code as the Maine State Building Code. Any new public or commercial buildings in Maine will need to meet these standards. Municipal governments will no longer have local building codes. Local Code Enforcement Officers will enforce the State Building Code, but only in tow with populations greater then 2,000 people. Twenty two of the twenty six municipalities have less then 2,000 residents and are not required to enforce the Code. All Towns do enforce the State Shoreland Zoning requirements which include aspects of floodplain management.

# WALDO COUNTY HAZARD MITIGATION PLAN

## IDENTIFICATION AND ANALYSIS OF MITIGATION ACTIONS

<b>Requirement §201.6(c)(3) (ii):</b>	<b>The mitigation strategy shall include 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.</b>
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Waldo County has identified several hazard mitigation actions that would benefit the County and municipalities and was analyzed by the Waldo County Hazard Mitigation Planning Team. These actions were identified in the Mitigation Planning Team meetings and during meetings with public officials representing the municipalities. The identified mitigation actions are broken out by the Goals and Objectives for each hazard and was analyzed using a decision matrix that follows this list.

The following mitigation goals, objectives and actions are appropriate for the communities of Waldo County and have been selected by the duly appointed representatives of those communities. There are no hazards in Waldo County that cause major damages to public or private buildings; except structure fires, which is not profiled in this plan.

The Hazard Mitigation Act of 2000, and the associated regulations, do not require that a community that has no flooding threat to structures must develop mitigation actions to counter a threat that does not exist.

### **Goal 1: Reduce damage, injury and loss of life in Waldo County after a severe winter storm event**

#### **Objective 1.1. Lessen the future loss of life and personal injuries resulting from severe winter storms.**

Action 1.1.1. Educate the public on dangers of severe winter storms.

Action 1.1.2. Develop procedures to locate and identify special health need populations.

#### **Objective 1.2. Reduce real and personal property damages caused by severe winter storms.**

Action 1.2.1. Educate home owners about winter storm preparations.

Action 1.2.2. Encourage homeowners to have generators and non-electrical heating systems.

#### **Objective 1.3. Assure all emergency facilities have temporary backup power capabilities.**

Action 1.3.1. Provide generators at all critical facilities such as Public Safety Departments.

#### **Objective 1.4. Assure prompt restoration of critical transportation links.**

Action 1.4.1. Train and equip volunteer Road Debris Clearance Teams.

Action 1.4.2. Develop mutual aid agreements with local Snowmobile clubs.

# WALDO COUNTY HAZARD MITIGATION PLAN

## **Goal 2: Reduce damage, injury and loss of life in Waldo County caused by flooding**

### **Objective 2.1.** Lessen the future loss of life and personal injuries resulting from flooding.

Action 2.1.1. Educate drivers on risks of crossing flooded roadways.

Action 2.1.2. Acquire necessary barricade equipment and supplies.

### **Objective 2.2.** Reduce real and personal property damages caused by flooding.

Action 2.2.1. Encourage or assist home owners to relocate, elevate or retrofit homes in flood zones.

Action 2.2.2. Relocate, elevate or retrofit public facilities in flood zones.

Action 2.2.3. Educate business owners to relocate, elevate or retrofit business structures.

Action 2.2.4. Adopt floodplain ordinances in those Towns which haven't enacted ordinances.

### **Objective 2.3.** Assure prompt restoration of critical transportation links.

Action 2.3.1. Upgrade ditches, culverts, and roadway drainage systems.

Action 2.3.2. Elevate or relocate road surfaces.

### **Objective 2.4.** Minimize damage to private drinking water supplies caused by flooding.

Action 2.4.1. Provide water test kits to local residents whose private wells become flooded.

## **Goal 3: Reduce damage, injury and loss of life in Waldo County after a hurricane**

(Actions that are already covered under Severe Winter Storms & Flooding will not be repeated).

### **Objective 3.1.** Lessen the future loss of life and personal injuries resulting from hurricanes.

Action 3.1.1. Educate the public on staying away from coastal shorelines.

### **Objective 3.2.** Reduce real and personal property damages caused by hurricanes.

Action 3.2.1. Develop plans to handle surges in boat mooring requirements.

Action 3.2.2. Update current Floodplain ordinances with hurricane surge inundation information.

### **Objective 3.3.** Assure prompt restoration of critical transportation links.

### **Objective 3.4.** Assure all emergency facilities have temporary backup power capabilities.

Note : Actions 1.1.1, 1.1.2, 1.2.1, 1.3.1, 1.4.2, 2.1.1, 2.2.1, 2.2.2, 2.2.3, 2.2.4, 2.3.1, 2.3.2, and 3.2.2 correspond with similar State mitigation actions.

## WALDO COUNTY HAZARD MITIGATION PLAN

**Requirement:  
§201.6(c)(3) (iii):**

**[The mitigation strategy section shall include] an action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdictions. 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.**

(Note: Implementation and administration will be dealt with in the next section.)

The decision matrix format located on the next page was used by the Waldo County Hazard Mitigation Planning Team as a quantified approach using pre-selected criteria. The population numbers, dollar values, and other quantified factors under each rank value were selected to be appropriate to the size of Waldo County, the number of jurisdictions, and the policies of the Planning Team. This matrix was used by comparing the proposed mitigation action with each of the descriptions for each criteria category, and the "best fit" selected. Then, the sum of the numbers selected under each criterion is totaled to derive the priority rank for the initiative. The higher the resulting number, the higher the priority of the initiative. This matrix was adapted from the Florida Department of Community Affairs' Local Mitigation Strategy Guidebook and used by the Waldo County Hazard Mitigation Planning Team.

# WALDO COUNTY HAZARD MITIGATION PLAN

Description of the priority rank value

Criteria Category	4	3	2	1	0
<b>Population Benefited</b>	Over 10,000	2,500 to 10,000	1,000 to 2,500	500 to 1,000	Under 500
<b>Percentage of Jurisdiction Benefited</b>	76 to 100%	51 to 75%	26 to 50%	6 to 25%	Less than 5%
<b>Health and Safety Considerations</b>	Benefit several jurisdictions (over 10,000 people) and/or major portions of County population	Benefit between 2,500 and 10,000 people	Benefit between 1,000 and 2,500 people	Benefit less than 1,000 people	No anticipated benefit
<b>Estimated Cost of Implementing the Initiative</b>	No quantifiable cost	Less than \$50,000	Between \$50,000 and \$100,000	Between \$100,000 and \$1,000,000	Over \$1,000,000
<b>Cost Impact of the Initiative</b>	Over \$1,000,000	\$100,000 to \$1,000,000	\$50,000 to \$100,000	Less than \$50,000	No quantifiable cost impact
<b>Benefit to Cost Ratio</b>	More than +5.0	+4.0 to +4.9	+3.0 to +3.9	+2.0 to +2.9	+1.0 to +1.9
<b>Probability of Community Acceptance</b>	Likely to be endorsed by the entire community	Benefits only those directly affected and not adversely affecting others	Somewhat controversial with special interest groups or small % of community	Strongly opposed by special interest groups or significant % of community	Strongly opposed by most of general population
<b>Probability of Funding</b>	Funding can probably be obtained through local short term budgeting	Funding could be through matching local funds with others	Funding can probably be obtained through local long term budgeting	Only funding source is post-mitigation funds	Potential funding sources not readily apparent
<b>Feasibility of Implementation</b>	Relatively easy to put in place within a year	Not anticipated to be difficult	Somewhat difficult due to complex requirements	Difficult due to significantly complex requirements	Very difficult due to extremely difficult requirements
<b>Consistency with other Plans and Programs</b>	Initiative included in several other plans and programs	Initiative included in two other plans and programs	Initiative included in one other plan or program	Initiative not included in other plan or program	Initiative not consistent with other plans or programs

# WALDO COUNTY HAZARD MITIGATION PLAN

## Table of Mitigation Action Priorities

### WINTER STORMS

Measure	1	2	3	4	5	6	7	8	9	10	Total Pts	Priority
1.1.1.	4	4	2	3	1	2	4	4	3	1	30	3
1.1.2.	2	1	2	3	2	4	2	3	2	1	22	5
1.2.1.	4	4	2	3	1	2	4	4	3	1	30	3
1.2.2.	3	3	3	3	2	4	3	4	3	2	30	2
1.3.1.	4	4	4	2	3	4	4	3	3	2	33	1
1.4.1.	4	4	4	2	3	3	2	0	2	1	25	4
1.4.2.	0	0	1	4	1	1	2	0	3	1	13	6

### FLOODING

Measure	1	2	3	4	5	6	7	8	9	10	Total Pts	Priority
2.1.1.	0	0	1	3	2	4	3	4	3	2	22	3
2.1.2.	2	1	1	3	1	2	3	2	3	3	21	4
2.2.1.	1	1	0	0	4	0	3	0	0	3	12	7
2.2.2.	1	1	0	1	4	0	2	0	2	2	13	6
2.2.3.	0	0	0	3	4	4	3	0	3	2	19	6
2.2.4.	3	1	0	3	4	4	1	0	3	3	22	3
2.3.1.	4	4	2	0	4	1	4	1	2	3	25	2
2.3.2.	4	4	2	0	4	1	4	1	2	3	25	2
2.4.1.	3	1	3	4	2	3	4	4	4	3	31	1

## WALDO COUNTY HAZARD MITIGATION PLAN

### HURRICANES

Measure	1	2	3	4	5	6	7	8	9	10	Total Pts	Priority
3.1.1	1	0	1	3	4	4	2	0	3	4	22	1
3.2.1	0	0	0	3	4	4	2	0	3	4	17	3
3.2.2	2	1	0	3	4	4	1	0	1	4	20	2

### Categories

1. Population Benefited
2. Percentage of Jurisdiction Benefited
3. Health and Safety Considerations
4. Implementation Costs
5. Cost Impact of the Initiative
6. Benefit to Cost Ratio
7. Probability of Acceptance
8. Probability of Funding
9. Feasibility of Implementing
10. Consistency with other Plans

## **WALDO COUNTY HAZARD MITIGATION PLAN**

The Waldo County Hazard Mitigation Planning Team rated the following mitigation actions (in priority order) as the top priorities for the following hazards:

### **A. SEVERE WINTER STORMS MITIGATION ACTIONS**

1. Provide generators at all critical facilities and utilities such as Public Safety Departments.
2. Encourage homeowners to have generators and non-electrical heating systems.
3. Educate home owners about winter storm disaster preparedness.
4. Educate the public on dangers of severe winter.
5. Train and equip volunteer Road Debris Clearance Teams.
6. Develop procedures to locate and identify special need populations.
7. Develop mutual aid agreements with local Snowmobile clubs.

### **B. FLOODING MITIGATION ACTIONS**

1. Provide water test kits to local residents whose private wells become flooded.
2. Upgrade ditches, culverts, and roadway drainage systems.
3. Elevate or relocate road surfaces.
4. Adopt floodplain ordinances in those Towns which haven't enacted ordinances.
5. Educate drivers on risks of crossing flooded roadways.
6. Acquire necessary barricade equipment.
7. Educate business owners to relocate, elevate, or retrofit business structures.
8. Relocate, elevate, or retrofit public facilities in flood zones.
9. Encourage or assist home owners to relocate, elevate, or retrofit homes in flood zones.

### **C. HURRICANE MITIGATION ACTIONS**

1. Educate the public on staying away from coastal shorelines.
2. Update current Floodplain ordinances with hurricane surge inundation information.
3. Develop plans to handle surges in boat mooring requirements.

Note: Waldo County EMA has developed a 24-page comprehensive "Individual and Family Disaster Preparedness Guide" that includes public education on all of the "education" mitigation actions listed above (This include Actions A.2, A.3, A.4, B.5 and C.1). The County EMA has produced 20,000 copies which the county and municipal EMA programs are distributing through the municipal town offices, the local hospital, the school districts, and local service organizations. This was the County of Waldo's primary mitigation measure in the 2004 version of this plan. This guide helps the municipalities with achieving all of the "educational" public information mitigation measures.

# WALDO COUNTY HAZARD MITIGATION PLAN

## MULTI-JURISTIDICATIONAL MITIGATION ACTIONS IMPLEMENTATION AND ADMINISTRATION

Requirement §201.6(c)(3) (iv):	For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.
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Waldo County's Hazard Mitigation Plan encompasses 26 jurisdictions. Strategies for hazard mitigation within the County were identified to reduce overall damage in the County. Although these strategies are aimed at reducing overall damage in the County, each jurisdiction will be responsible for pursuing the actions that are relevant to that jurisdiction. The jurisdictions, along with the specific actions they will pursue, are listed as follows:

Town	Project (In Priority Order)	Cost	Time Line	Responsible Agency
Belfast	1. Distribute the County Family Preparedness Guides	\$0	2 months	EMA
Belmont	1. Dickey Mills Rd: Add (2) 24" x 40' overflow culverts.	\$6,000	4 weeks	Road Comm
	2. Halls Corner/Northport Rd: Ditch 1,000', upsize with (2) 24" x 40' HDPE culverts and repave.	\$10,000	4 weeks	Road Comm
	3. Back Belmont Rd; Add 24" x 40' overflow culvert.	\$3,000	4 weeks	Road Comm
	4. Distribute the County Family Preparedness Guides.	\$0	2 months	EMA
	5. Provide a generator at the Fire Station.	\$4,000	1 month	EMA
Brooks	1. Pond Hill Road: Add/replace 8 culverts & riprap/repave	\$46,000	4 weeks	Road Comm
	2. Distribute the County Family Preparedness Guides	\$0	2 months	EMA
	3. Provide a generator at the Fire Station.	\$2,000	1 month	Fire Dept
Burnham	1. Sayward Ln: Remove 2,000' x 22' x 12" install geotextile fabric and relay 12" base and surface gravel.	\$115,000	6 weeks	Road Comm
	2. Rines Rd: Remove ledge and ditch 1,200' and 15" x 30' driveway culvert and upsize 15" x 30' to 18" x 40' culvert.	\$10,000	3 weeks	Road Comm
	3. Doherty Rd: Elevate 500' x 18' x 18" and add 15" HDPE	\$20,000	4 weeks	Road Comm
	4. Pine Ln: Elevate 400' x 18' x 2' and add geotextile fabric.	\$25,000	4 weeks	Road Comm
	5. Pond Rd: Upgrade concrete box culvert	\$200,000	2 weeks	Road Comm
Frankfort	5. Distribute the County Family Preparedness Guides	\$0		EMA
	1. Treat Pond Rd: Riprap road shoulder 30' x 15' x 3'.	\$4,500	2 weeks	Road Comm
	2. Distribute the County Family Preparedness Guides.	\$0	2 months	EMA
Freedom	3. Provide a generator at the Town Office/EOC.	\$4,000	1 month	Selectmen
	1. Rollins Street: Elevate 1,200' of road and stabilize.	\$42,000	8 weeks	Road Comm
	2. Smithton Rd: Remove 12" x 21" x 1,000' in 4 separate areas and install geotextile fabric and underground drains.	\$45,000	10 weeks	Road Comm
	3. Waning Rd: Remove ledge and ditch 500'.	\$6,000	4 weeks	Road Comm
	4. Mitchell Rd: Replace existing bridge.	\$130,000	12 weeks	Road Comm
Islesboro	5. Distribute the County Family Preparedness Guides.	\$0	2 weeks	EMA
	1. Main Rd: Raise 500 LF of granite breakwater.	\$130,000	8 weeks	Road Comm
Jackson	2. Distribute the County Family Preparedness Guides	\$0	2 months	EMA
	1. Works Rd: Ditch 2,200', remove ledge 575' x 48" x 7' on average and elevate 2,200' x 28' x 1' and repave.	\$60,000	6 weeks	Road Comm
	2. Kimball Hill Rd: Elevate 500' x 26' x 2', add additional 48" x 50' culvert and realign existing 48" x 50' culvert and upsize 12" x 30' to 15" x 40' HDPE culvert.	\$20,000	4 weeks	Road Comm
	3. Bog Rd: Elevate 500' x 28' x 1', upsize (2) 15" x 40' culverts with 18" x 50' HDPE culverts repave and riprap 900' x 15' road shoulders.	\$30,000	4 weeks	Road Comm
	4. Distribute the County Family Preparedness Guides.	\$0	2 months	EMA

## WALDO COUNTY HAZARD MITIGATION PLAN

Town	Project (In Priority Order)	Cost	Time Line	Responsible Agency
Knox	1. Distribute the County Family Preparedness Guides.	\$0	2 months	EMA
	2. Provide a generator at the Town Office/EOC.	\$4,000	1 month	Selectmen
Liberty	1. Distribute the County Family Preparedness Guides.	\$0	2 months	EMA
	2. Provide a generator at the Town Office/EOC.	\$4,000	1 month	Selectmen
Lincolnville	1. Acquire road barricades for flooded roads	\$7,000	2 weeks	Road Comm
	2. Distribute the County Family Preparedness Guides.	\$0	2 months	EMA
	3. Provide a generator at the Fire Station	\$4,000	1 month	Fire Dept
Monroe	1. Dahlia Rd: Install Beaver Culvert 24" x 40', elevate 200' x 21' x 2' stabilize shoulders and riprap.	\$7,900	2 weeks	Road Comm
	2. Back Brooks Rd: Install Beaver Culvert 36" x 40' & riprap	\$5,000	2 weeks	Road Comm
	3. Distribute the County Family Preparedness Guides.	\$0	2 months	EMA
	4. Provide a generator at the Fire Station	\$4,000	1 month	Fire Dept
Montville	1. North Ridge Rd: Add 24" x 40' culvert and repave.	\$30,000	3 weeks	Road Comm
	2. Morrill Rd: Upsize existing 18" x 40' culvert with 24" x 40' HDPE culvert and repave.	\$60,000	3 weeks	Road Comm
	3. Haystack Mt Rd: Add 24" x 40' culverts and repave.	\$10,000	2 weeks	Road Comm
	4. Halldale Rd: Add 24" x 40' culverts and repave.	\$60,000	3 weeks	Road Comm
	5. Randlett Rd: Add 24" x 40' culverts and repave.	\$25,000	3 weeks	Road Comm
	6. Hogback Mt Rd: Add 24" x 40' culverts and resurface.	\$3,000	3 weeks	Road Comm
	7. Distribute the County Family Preparedness Guides.	\$0	2 months	EMA
Morrill	1. Poland Woods Rd: elevate 1,200' x 24' x 3'; stabilize road shoulder and repave.	\$35,000	4 weeks	Road Comm
	2. Weymouth Rd: Upsize existing culverts with 10' x 25' box culvert.	\$425,000	4 weeks	Road Comm
	3. Adopt floodplain ordinance and enter NFIP.	\$100	1 year	Planning Brd
	4. Distribute the County Family Preparedness Guides.	\$0	2 months	EMA
	5. Provide a generator at the Fire Station	\$4,000	1 month	Fire Dept
Northport	1. Shore Rd; Armor (15) outflow culvert swales 5' x 30'	\$6,000	4 weeks	Road Comm
	2. Mountain Rd; Ditch and line 2,000'.	\$18,000	4 weeks	Road Comm
	3. Park St: Ditch and line 500'.	\$5,000	2 weeks	Road Comm
	4. Distribute the County Family Preparedness Guides.	\$0	2 months	EMA
	5. Provide a generator at the Fire Station	\$4,000	1 month	Fire Dept
Palermo	1. Banton Road: Ditching, culverts and gravel.	\$91,000	5 weeks	Road Comm
	2. Marden Hill Rd: Ditch 1,900' and place 1,900' x 22' of geotextile fabric and add 12" base and surface gravel.	\$44,000	Done	Road Comm
	3. Chisholm Pond Road: Ditch 2,500' and place 2,500' x 22' of geotextile fabric and add 12" base and surface gravel.	\$62,000	5 weeks	Road Comm
	4. Parmenter Road: Ditch 1,200' and place 1,200' x 22' of geotextile fabric and add 12" base and surface gravel.	\$28,500	5 weeks	Road Comm
	5. Arnold Lane: Place 40 ft of 24" dia culvert and riprap inlet and outlet.	\$5,200	5 weeks	Road Comm
	6. Jones Road: Place 50 ft of 24" dia culvert; add 400 ft x 22 ft wide 12" surface gravel.	\$10,500	5 weeks	Road Comm
	7. Belden Woods Road: Place 50 ft of 48" dia culvert and riprap inlet/outlet; add 95 ft x 22 ft of 36 in depth of gravel	\$16,500	5 weeks	Road Comm
	8. Distribute the County Family Preparedness Guides.	\$0	2 months	EMA
	9. Provide a generator at the Fire Station	\$3,000	1 month	Fire Dept
Prospect	1. Bowden Point Rd: Upsize existing 24" x 60' culvert to 36" x 60' culvert and riprap intake and outflow and repave.	\$8,000	2 weeks	Road Comm
	2. Adopt floodplain ordinance and enter NFIP.	\$100	1 year	Planning Brd
	3. Distribute the County Family Preparedness Guides.	\$0	2 months	EMA
Searsmont	1. Distribute the County Family Preparedness Guides.	\$0	2 months	EMA
Searsport	1. Town Wharf: Rebuild 500' of exiting pier.	\$556,000	8 weeks	Road Comm
	2. Cottage Rd: Upsize existing culvert and riprap.	\$20,000	2 weeks	Road Comm

## WALDO COUNTY HAZARD MITIGATION PLAN

Town	Project (In Priority Order)	Cost	Time Line	Responsible Agency
Stockton Springs	1. Distribute the County Family Preparedness Guides	\$0	2 months	EMA
Swanville	1. Distribute the County Family Preparedness Guides. 2. Provide a generator at the Town Office/EOC	\$0 \$4,000	2 months 1 month	EMA Selectmen
Thorndike	1. East Thorndike Rd: Ditch 20,000' and upsize (12) 12" x 40' culverts to 18" x 40' culverts and repave.	\$90,000	6 weeks	Road Comm
	2. Files Hill Rd: Ditch 5,000' and realign and lengthen 4' x 40' culvert with 4' x 50' culvert.	\$22,500	4 weeks	Road Comm
	3. Hunt Rd: Ditch 2,500'.	\$8,000	2 weeks	Road Comm
	4. Distribute the County Family Preparedness Guides	\$0	2 months	EMA
Troy	1. Distribute the County Family Preparedness Guides.	\$0	2 months	EMA
	2. Provide a generator at the Fire Dept	\$4,000	1 month	Fire Dept
Unity	1. Berry Rd: Repair western bridge abutments & wingwall.	\$26,000	4 weeks	Road Comm
	2. Crowell Rd/Hunter Rd: Upsize 36" x 60' culvert with 48" x 60' culvert, elevate 250' x 24' x 24" and stabilize shoulders add 24" x 50' relief culvert and build berm.	\$38,000	6 weeks	Road Comm
	3. Waning Rd site 1: Elevate 1,500' x 2' x 18' stabilize shoulders & repave, upsize (2) 24" x 50' to 36" x 50' culverts & upsize (1) 36" x 50' culvert w/4' x 50' box culvert	\$76,000	4 weeks	Road Comm
	4. Waning Rd site 2: Elevate 150' x 21' x 2' and upsize 36" x 60' to 48" x 60' culvert.	\$17,000	4 weeks	Road Comm
	5. Stage Coach Rd: Ditch 15,000, and upsize (1) 15" x 50' to 18" x 50' culvert and (1) 18" x 50' to 24" x 50' culvert.	\$48,000	4 weeks	Road Comm
	6. Kanokolus Rd: Elevate 2,000' x 21' x 2' and repave.	\$50,000	6 weeks	Road Comm
	7. East Mussey Rd: Elevate 150' x 21' x 2' , upsize existing 48" x 30' culvert with 5' x 5' x 50' box culvert.	\$32,000	5 weeks	Road Comm
	8. Quaker Hill Rd: Ditch 500'; install underdrain; add gravel base and repave 2590 linear feet	\$83,556	9 weeks	Road Comm
	9. Distribute the County Family Preparedness Guides	\$0	2 months	EMA
	10. Acquire barricades to block flooded roads	\$3,000	2 weeks	Road Comm
Waldo	1. Distribute the County Family Preparedness Guides	\$0	2 months	EMA
	2. Provide generators at the Fire Station & Town Office.	\$8,000	1 month	Selectmen
	3. Adopt floodplain ordinance and enter NFIP	\$100	1 year	Planning Brd
Winterport	1. Distribute the County Family Preparedness Guides	\$0	2 months	EMA
Waldo County	1. Distribute the County Family Preparedness Guides 2. Acquire a mobile generator to use around County	\$0 \$24,000	Ongoing 1 month	EMA EMA

### Typical Funding Resources

Community Development Block Grants  
Municipal Capital Improvement Projects  
FEMA Hazard Mitigation Program Grants  
Homeland Security Grants  
Municipal Property Taxes

DOT Transportation Capital Improvements  
FEMA Pre-Disaster Mitigation Grants  
FEMA FIRE Grants  
Land Use Impact Fees  
Private Donations & Grant Programs

## WALDO COUNTY HAZARD MITIGATION PLAN

The following chart lists the mitigation actions created in the 2004 version of the County Hazard Mitigation Plan. The actual completion date either shows the month and year completed; if the project was cancelled; or if the action was updated. The actions that were updated are primarily road work. The updated information lists out the actual roads to be worked on in what manner. These updates were incorporated into the 2010 version of the plan.

Town	Description	Cost Estimate	OPR	Hazard (s)	Sched Cmpt Date	Actual Completion Date
Belfast	Educate the public on winter storm damage	\$500	BFD	Winter Storms	Dec-06	Jul-08
Belfast	Implement hurricane surge zone ordinance	\$500	Plan Brd	Flooding	Dec-08	Cancelled
Belfast	Equip firefighters with Wildfire PPE	\$4,000	BFD	Wildfires	May-07	Jul-08
Belmont	Homeowner education of home hazards	\$200	Selectmen	All Hazards	Jun-06	Jul-09
Belmont	Set up emergency contingency account	\$2,000	Selectmen	All Hazards	Jun-07	Jul-09
Belmont	Train firefighters in hazard detection	\$5,000	Fire Dept	All Hazards	Jun-07	Jul-09
Belmont	Create a FD SOP for ground fires	\$0	Fire Dept	Wildfires	Jun-07	Jul-09
Belmont	Identify Special Needs by 911 system	\$0	A/A	All Hazards	Jun-07	Jul-09
Belmont	Equip an Emergency Response Team	\$4,000	EMA	All Hazards	Jun-07	Jul-09
Belmont	Set up a network of emergency shelters	\$0	EMA	All Hazards	Jun-07	Jul-09
Belmont	Update ditches and culverts and R/W	\$10,000	Road Com	Flooding	Jun-09	Updated
Belmont	Re-inventory and assess critical facilities	\$0	A/A	All Hazards	Jun-07	Jul-09
Brooks	Upgrade ditches, culverts and drainage systems	\$50,000	Road Com	Flooding	Oct-09	Updated
Brooks	Develop a Barricade Plan	\$100	Road Com	Flooding	Jun-05	Cancelled
Brooks	Train firefighters in Wildland Fire Safety	\$500	Fire Dept	Wildfires	Jun-05	Cancelled
Brooks	Equip firefighters with Wildland PPE	\$4,970	Fire Dept	Wildfires	Jun-05	Cancelled
Brooks	Develop a Road Snow/Ice Removal Plan	\$0	Road Com	Winter Storms	Jun-07	Cancelled
Brooks	Educate the public on winter storm damage	\$0	EMA	Winter Storms	Jun-07	Jul-08
Brooks	Train and equip Road Debris Clearance Team	\$0	Road Com	All Hazards	Jun-08	Cancelled
Brooks	Encourage use of local shelters	\$50	EMA	All Hazards	Jun-08	Cancelled
Burnham	De-ice slippery roads from winter storm	\$10,000	Road Com	Winter Storms	Sep-08	Cancelled
Burnham	Identify Special Needs Populations	\$0	Selectmen	All Hazards	Sep-06	Cancelled
Frankfort	Upgrade ditches, culverts and drainage systems	\$50,000	Road Com	Flooding	Oct-06	3-Nov-05
Frankfort	Educate public on flooding dangers	\$100	CEO	Flooding	Jun-06	Jul-08
Freedom	Identify Special Needs Populations	\$0	OEM	All Hazards	Jun-05	Cancelled
Freedom	Train firefighters in Wildland Fire Safety	\$0	Fire Dept	Wildfires	Jun-05	Cancelled
Freedom	Educate the public of dangers of forest fires	\$100	OEM	Wildfires	Jun-05	Jul-08
Freedom	Educate home owners on wildfire protection	\$100	OEM	Wildfires	Sep-05	Jul-08
Freedom	Develop forest fire warning & evacuation plan	\$0	OEM	Wildfires	Sep-05	Cancelled
Freedom	Municipal snow and ice removal plan	\$5,000	Road Com	Winter Storms	Oct-06	Cancelled
Freedom	Upgrade ditches, culverts and drainage systems	\$100,000	Road Com	Flooding	Oct-07	Updated
Islesboro	Develop Forest fire Warning & Evacuation Plans	\$250	OEM	Wildfires	May-07	Cancelled
Islesboro	Educate the public of dangers of forest fires	\$250	Fire Dept	Wildfires	May-07	Jul-08
Islesboro	Educate home owners on wildfire protection	\$250	OEM	Wildfires	May-07	Jul-08
Islesboro	Municipal snow and ice removal plan	\$5,000	Road Com	Winter Storms	May-08	Cancelled
Islesboro	Creation of 3 Fire Ponds	\$25,000	Fire Dept	Wildfires	May-08	Cancelled
Jackson	Develop an Emergency Ops Plan	\$0	Selectmen	All Hazards	Jan-05	Apr-08
Jackson	Develop a MAA w/ATV & Snowmobile clubs	\$500	Selectmen	Winter Storms	Jan-05	Cancelled
Knox	Educate public on forest fire dangers	\$100	Fire Ward	Wildfires	Sep-06	Cancelled

## WALDO COUNTY HAZARD MITIGATION PLAN

Town	Description	Cost Estimate	OPR	Hazard (s)	Sched Cmpt Date	Actual Completion Date
Liberty	Municipal snow and ice removal plan	\$200	Road Com	Winter Storms	Sep-05	Apr-09
Liberty	Provide a generator hookup for fire station	\$1,000	Fire Dept	Winter Storms	Sep-05	Jun-09
Liberty	Upgrade ditches, culverts and drainage systems	\$10,000	Road Com	Flooding	Aug-07	Updated
Lincolnville	Develop a comprehensive public ed program	\$200	EMD	All Hazards	Jun-05	Cancelled
Lincolnville	Update snow removal resources in to EOP	\$0	Road Com	Winter Storms	Jun-06	Cancelled
Lincolnville	Municipal snow and ice removal plan	\$0	Road Com	Winter Storms	Jun-06	Cancelled
Lincolnville	Locate and identify special needs population	\$0	EMD	All Hazards	Jun-06	Cancelled
Lincolnville	Develop a barricade plan for flooded roads	\$0	Road Com	Flooding	Jun-06	Cancelled
Lincolnville	Train firefighters in Wildland Fire Safety	\$0	Fire Dept	Wildfires	Sep-04	Cancelled
Lincolnville	Equip firefighters with wildfire PPE	\$0	Fire Dept	Wildfires	Sep-04	Cancelled
Monroe	Train firefighters in Wildland Fire Safety	\$0	Fire Dept	Wildfires	Sep-06	Jul-08
Monroe	Educate the public of dangers of forest fires	\$100	Fire Dept	Wildfires	Sep-06	Jul-08
Monroe	Educate public on winter storm safety	\$100	OEM	Winter Storms	Sep-06	Jul-08
Montville	Municipal snow and ice removal plan	\$500	Road Com	Winter Storms	Sep-06	Jun-09
Montville	Upgrade ditches, culverts and drainage systems	\$50,000	Road Com	Flooding	Sep-08	Updated
Montville	Educate public on forest fire dangers	\$100	Fire Dept	Wildfires	Sep-05	Jul-08
Montville	Educate homeowners on Wildfire Tactics	\$100	Fire Dept	Wildfires	Sep-05	Jul-08
Montville	Develop forest fire warning & evacuation plans	\$0	Fire Dept	Wildfires	Sep-06	Cancelled
Montville	Train firefighters in Wildland Fire Safety	\$500	Fire Dept	Wildfires	Sep-06	Cancelled
Montville	Equip Fire Dept with sufficient wildfire PPE	\$4,000	Fire Dept	Wildfires	Sep-06	Cancelled
Montville	Complete GIS study of wildfire interface	\$5,000	Fire Dept	Wildfires	Sep-08	Cancelled
Montville	Encourage bulk slash reduction thru BMP's	\$200	Selectmen	Wildfires	Sep-07	Cancelled
Morrill	Elevate road surfaces	\$120,000	Road Com	Flooding	Jun-09	Cancelled
Morrill	Identify special needs populations	\$0	OEM	All Hazards	May-05	Cancelled
Morrill	Educate homeowners on Wildfire tactics	\$0	Fire Dept	Wildfires	Jun-05	Jul-08
Morrill	Equip Fire Dept with sufficient wildfire PPE	\$2,600	Fire Dept	Wildfires	Jun-05	Cancelled
Morrill	Train firefighters in Wildland Fire Safety	\$200	Fire Dept	Wildfires	Jun-06	Cancelled
Northport	Educate the public on winter storm danger	\$200	Fire Dept	Winter Storms	Dec-06	Jul-08
Northport	Equip firefighters with wildfire PPE	\$2,000	Fire Dept	Wildfires	May-07	Keep
Palermo	Educate public on forest fire dangers	\$100	Fire Ward	Wildfires	Sep-06	Jul-08
Prospect	Upgrade ditches, culverts and drainage systems	\$30,000	Road Com	Flooding	Aug-07	Sep-08
Prospect	Train firefighters in Wildland Fire Safety	\$0	Fire Dept	Wildfires	Jun-06	Apr-08
Searsmont	Inventory Well Head Protection Areas	\$0	CEO	Flooding	Jun-04	Jul-08
Searsmont	Review and update Floodplain Ordinance	\$0	CEO	Flooding	Jun-04	Jul-08
Searsmont	Educate public on forest fire dangers	\$0	FD/EMD	Wildfires	Jun-04	Jul-08
Searsmont	Educate homeowners on Wildfire Tactics	\$0	FD/EMD	Wildfires	Jun-04	Jul-08
Searsmont	Encourage homeowners to alt heat/electric	\$0	Fire Dept	Winter Storms	Jun-04	Jul-08
Searsmont	Develop MAA w/local ATV/Snowmobile club	\$0	EMD	Winter Storms	Jun-04	Jul-08
Searsport	Educate the public on winter storm danger	\$200	Fire Dept	Winter Storms	Dec-06	Mar-06
Searsport	Upgrade ditches, culverts and drainage systems	\$100,000	Pub Works	Flooding	Dec-08	Apr-06
Searsport	Equip firefighters with Wildfire PPE	\$2,000	Fire Dept	Wildfires	May-07	Jun-06
Stockton	Educate residents on storms and flooding	\$100	OEM	Flooding	Jun-05	Jun-07
Stockton	Upgrade ditches, culverts and drainage systems	\$100,000	Hwy Dept	Flooding	Jun-07	Jun-05
Swanville	Construct Hazard Waste Building	\$20,000	Selectmen	HazMat	Jun-06	Jun-06
Swanville	Install 2 dry hydrants	\$2,500	Selectmen	Wildfires	Jun-05	Cancelled
Swanville	Upgrade ditches, culverts and drainage systems	\$1 million	Road Com	Flooding	Jun-05	Cancelled

## WALDO COUNTY HAZARD MITIGATION PLAN

Town	Description	Cost Estimate	OPR	Hazard (s)	Sched Cmpt Date	Actual Completion Date
Thorndike	Identify special needs populations	\$0	ThOEM	All Hazards	Jun-05	Cancelled
Thorndike	Train firefighters in Wildland Fire Safety	\$0	TVFD	Wildfires	Jun-05	Dec-04
Thorndike	Develop forest fire warning & evacuation plans	\$0	ThOEM	Wildfires	Jun-05	Nov-05
Thorndike	Educate the public of dangers of forest fires	\$50	ThOEM	Wildfires	Sep-05	Mar-05
Thorndike	Educate homeowners on wildfire protection	\$50	ThOEM	Wildfires	Sep-05	Mar-05
Thorndike	Upgrade ditches, culverts and drainage systems	\$80,000	Selectmen	Flooding	Oct-07	Updated
Troy	Train firefighters in Wildland Fire Safety	\$0	Fire Dept	Wildfires	Sep-05	Aug-08
Troy	Train/equip a Road Debris Clearance Team	\$0	FD/Road	Winter Storms	Sep-06	Aug-08
Troy	Develop forest fire warning & evacuation plan	\$0	EMD	Wildfires	Sep-07	Aug-08
Unity	Encourage residents to use Emergency shelters	\$0	EMD	All Hazards	Jul-05	Cancelled
Unity	Barricade flooded roads	\$100	EMD	Flooding	Jul-05	Cancelled
Unity	Educate homeowners on forest fire danger	\$0	Fire Dept	Wildfires	Aug-05	Jul-08
Unity	Educate public around lake to clear trees	\$20	Fire Dept	Wildfires	Aug-05	Jul-08
Waldo	Identify special needs populations	\$0	Selectmen	All Hazards	Sep-07	Aug-08
Waldo	Provide generators at critical public facilities	\$5,000	Selectmen	Winter Storms	Sep-06	Keep
Waldo	Educate public on dangers of winter storms	\$200	Selectmen	Winter Storms	Sep-07	Jul-08
Waldo	List of persons ready and able to clear roads	\$2,000	Selectmen	Winter Storms	Sep-06	Mar-09
Waldo	Develop and implement barricade plan	\$200	Road Com	Flooding	Sep-04	Delete
Waldo	Upgrade ditches, culverts and drainage systems	\$100,000	Selectmen	Flooding	May-09	Cancelled
Waldo	Educate Homeowners on wildfire mitigation	\$0	Fire Dept	Wildfires	Sep-09	Keep
Waldo County	Educate the public on winter storm dangers	\$1,600	EMA	Winter Storms	Sep-05	Jul-07
Waldo County	Educate the public on wildfire dangers	\$1,600	EMA	Wildfires	Sep-05	Jul-07
Waldo County	Educate homeowners on wildfire tactics	\$1,600	EMA	Wildfires	Sep-05	Jul-07
Winterport	Educate public on winter storm danger	\$200	Fire Dept	Winter Storms	Dec-06	Jul-08
Winterport	Upgrade ditches, culverts and drainage systems	\$100,000	Fire Dept	Flooding	Dec-08	Updated
Winterport	Equip firefighters with Wildfire PPE	\$2,000	Fire Dept	Wildfires	May-07	Jun-08

### Use of a cost-benefit analysis

MEMA will utilize the current version of the cost benefit analysis (BCA) prepared by MEMA when they apply for hazard mitigation funding.

Many of the jurisdictions included in this Plan are small towns run by volunteers. They do not have staff, resources or funding to prepare cost-benefit analyses for all the projects included in this Plan. However, in virtually all cases involving expenditure of local funds for implementation, there will be a very rigorous, line-by-line analysis of cost effectiveness during the budget review process and subsequent 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. Nevertheless, MEMA and the County EMA have made it clear to local officials that a cost benefit analysis will have to be prepared in the event they apply for mitigation funding.

# WALDO COUNTY HAZARD MITIGATION PLAN

## SECTION 6. PLAN MAINTENANCE PROCESS

§201.6(c)(4) 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, such as comprehensive or capital improvement plans, or zoning and building codes.

This section includes the following three subsections as follows:

Monitoring, Evaluating, and Updating the Plan

Incorporation into Existing Planning Mechanisms

Continued Public Involvement

# WALDO COUNTY HAZARD MITIGATION PLAN

## MONITORING, EVALUATING, AND UPDATING THE PLAN

<b>Requirement §201.6(c)(4)(i):</b>	<b>The plan maintenance process shall include a section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.</b>
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Waldo County has developed a method to ensure that periodic review and update of the Hazard Mitigation Plan occurs. The Waldo County Emergency Management Agency (EMA) has formed a Hazard Mitigation Plan Evaluation Team that consists of members from the County EMA office and the EMA directors from member towns. The County EMA Office is responsible for contacting team members and organizing the series of meetings every five years. The meetings will begin one year out from the due date of the plan and proceed on a quarterly basis, or more often if needed. The Team members will be responsible for monitoring and evaluating the progress of the mitigation actions in the plan. The next planning cycle will be:

Updated Demographics:	Jul-Sep 2015
Updated Risk Assessment:	Oct-Dec 2015
Updated Hazard Profiling/Mapping	Jan-April 2016
Revised Mitigation Goals/Actions	April – June 2016
Submit draft plan to MEMA/FEMA	July 2016
Approval Signatures	August 2016

The Team will review each mitigation goal, objective and action to determine their relevance to changing situations and land developments in the County, as well as changes in State or Federal policy, and to ensure that they are addressing current and expected conditions. The Team will also review the risk assessment portion of the plan to determine if this information should be updated or modified. The parties responsible for the various municipal implementation actions will report on the status of their projects and will include which implementation processes worked well, any difficulties encountered, how coordination efforts were proceeding, and which actions should be revised.

Once the review and changes are made, the Waldo County EMA Office will submit the draft revised plan to the State Hazard Mitigation Officer. If no changes are necessary, the State Hazard Mitigation Officer will be given a justification for this determination.

# WALDO COUNTY HAZARD MITIGATION PLAN

## INCORPORATION INTO EXISTING PLANNING MECHANISMS

<b>Requirement §201.6(c)(4) (ii):</b>	<b>The plan shall include 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.</b>
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Within Maine, most government authority is with State statutes and rules or with municipal "Home Rule" ordinances. Twenty-five (25) of the 26 municipalities have less than 4,000 people and are not required to enforce the State building codes, according to State law. Recently, the State Legislature adopted by statute, the International Building Codes. Local government no longer has local building codes.

The Waldo County Hazard Mitigation Planning Team did not select any ordinance-related mitigation actions for this plan, because land use/control ordinances are not necessary or popular. The mitigation actions chosen were primarily educational or road improvements which do not require incorporation into ordinances or comprehensive plans.

Three towns did enact floodplain ordinances and became members of the NFIP since the 2004 version of the plan. These three towns were Belmont, Knox and Montville. A desire to apply for Hazard Mitigation Grants was instrumental in encouraging these three towns to join the NFIP. The last three towns that are not enrolled in the NFIP will be encouraged to join.

The majority of the mitigation actions that were identified and all those that were selected by the individual towns are either structural, such as road and drainage system upgrades, or public awareness programs. These may be incorporated into existing capitol road improvements plans and potentially funded by annual budgets. In most cases, the only way the expensive road improvements will be accomplished will be through Hazard Mitigation Grants and through Public Assistance following a Presidentially-declared disaster.

The County EMA office will assist by reviewing the FEMA Pre-Disaster Mitigation and Hazard Mitigation Grant packages completed by the County's municipalities, against the 2010 version of this Plan.

The Selectmen or Emergency Management Director within each municipality that is responsible for the implementation and completion of each mitigation action 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 and local Emergency Management program will be utilized to their greatest extent to complete the community's mitigation actions.

The primary municipal incorporation of Hazard Mitigation Plan information will be in relation to the communities' annual road maintenance and capitol improvements budgets. Municipalities may budget to upgrade roadways found to be vulnerable to flooding or budget matching funds for potential federal grants.

Aspects of the Waldo County Hazard Mitigation Plan has been incorporated into the Waldo County Emergency Operations Plan, especially the hazard and vulnerability assessments.

# WALDO COUNTY HAZARD MITIGATION PLAN

## CONTINUED PUBLIC INVOLVEMENT

<b>Requirement §201.6(c)(4) (iii):</b>	<b>The plan maintenance process shall include a discussion on how the community will continue public participation in the plan maintenance process.</b>
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Waldo County is dedicated to involving the public directly in the continual reshaping and updating of the County Hazard Mitigation Plan. The County Planning Team has tried many ways to encourage public involvement including social media and will continue to do so.

The Hazard Mitigation Planning Team members are responsible for the review and update of the plan.

Copies of the plan will be provided to the municipal Emergency Management Directors and kept on hand at all municipal town offices in the County. The existence and location of these copies will be publicized by posting flyers in all the town offices. Contained in the plan is the address and phone number of the Waldo County EMA Office, which is responsible for keeping track of public comments on the plan.

The 2004 version of the County Hazard Mitigation Plan has been linked to the County EMA website at: <http://www.uninets.net/~dsrowley/emamitigation.html> for the last 5 years. The 2011 draft version has also been located at this website and the public is encouraged to review and comment on the draft plan. (See appendix for website page.)

Public meetings are also held throughout the Mitigation Plan Evaluation Team process. These public meetings provide the public a forum for which they can express concerns, opinions, or ideas about the plan. The County EMA Office publicizes through e-mails, websites, posters, brochures and newspaper articles and hosts these meetings.

Waldo County Emergency Management Agency  
45A Congress Street, Belfast, Maine 04415  
Office Phone: (207) 338-3870  
E-Mail: [emadirector@waldocountyme.gov](mailto:emadirector@waldocountyme.gov)

# WALDO COUNTY HAZARD MITIGATION PLAN

## PLAN APPENDIX

The appendix includes the following subsections:

Website Page for the County Hazard Mitigation Plan

Rosters of Mitigation Planning Meetings

# County Hazard Mitigation Project

[2004 Waldo County Hazard Mitigation Plan](#)

Please feel free to review and provide comment on the Draft 2010 Waldo County Hazard Mitigation Plan linked below.

[2010 Waldo County Hazard Mitigation Plan Draft](#)

RETURN TO THE [Waldo County EMA Home Page](#)