

SECTION 5. MITIGATION STRATEGIES

Mitigation Strategy	
<p>Requirement: §201.6(c)(3): (The plan must include) a mitigation strategy that provides the jurisdiction’s blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools. This section shall include:</p> <ul style="list-style-type: none"> (i) A description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards. (ii) A section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure. All plans approved by FEMA after October 1, 2008, must also address the jurisdiction’s participation in the NFIP, and continued compliance with NFIP requirements, as appropriate. (iii) An action plan describing how the actions identified in paragraph (c)(3)(ii) of this section will be prioritized, implemented and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs. (iv) For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan. 	
Element	C1: Does the plan document each jurisdiction’s existing authorities, policies, programs and resources, and its ability to expand on and improve these existing policies and programs?
	C2: Does the Plan address each jurisdiction’s participation in the NFIP and continued compliance with NFIP requirements, as appropriate?
	C3: Does the Plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards?
	C4: Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure?
	C5: Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction?
	D2: Was the plan revised to reflect progress in local mitigation efforts? See Maintenance Section
	D3: Was the plan revised to reflect changes in priorities? See Maintenance Section

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C1. Existing Authorities, Policies, Programs and Resources

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

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

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

Key to table on next page

“X” - Yes

“MGR” – Town or City Manager

“A” - Administrator

“AA” – Administrative Assistant

“LUPC” – Maine Land Use Planning Commission

“ST” – Selectmen/Town Meeting form of government

“M” – Mayor

“C” - Council

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Authorities, Policies, Programs and Resources Available to Accomplish Hazard Mitigation							
Town	Town or City Manager	Staff involved in Local Planning	Public Works or Road Commissioner	EMA Director	Flood Hazard Ordinance	Shoreland Zoning Ordinance	Form of Government
Amherst			X	X		X	ST
Aurora			X	X		X	ST
Bar Harbor	MGR		X	X	X	X	C/T/MGR
Blue Hill			X	X	X	X	ST
Brooklin			X	X	X	X	ST
Brooksville			X	X	X	X	ST
Bucksport	MGR		X	X	X	X	C/M/MGR
Castine	MGR		X	X	X	X	ST/MGR
Cranberry Isles	AA		X	X	X	X	ST
Dedham	AA		X	X	X	X	ST
Deer Isle	AA		X	X	X	X	ST
Eastbrook			X	X	X	X	ST
Ellsworth	MGR	X	X	X	X	X	C/M/MGR
Franklin	A		X	X	X	X	ST/A
Frenchboro	A		X	X	X	X	ST/A
Gouldsboro	MGR		X	X	X	X	ST/MGR
Great Pond			X	X	X	X	ST
Hancock	AA		X	X	X	X	ST/AA
Lamoine	AA		X	X	X	X	ST/AA
Mariaville	AA		X	X	X	X	ST/AA
Mount Desert	MGR		X	X	X	X	ST/MGR
Orland			X	X	X	X	ST
Osborn			X	X	X	X	ST

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Authorities, Policies, Programs and Resources Available to Accomplish Hazard Mitigation							
Town	Town or City Manager	Staff involved in Local Planning	Public Works or Road Commissioner	EMA Director	Flood Hazard Ordinance	Shoreland Zoning Ordinance	Form of Government
Otis	AA		X	X	X	X	ST/AA
Penobscot			X	X	X	X	ST
Sedgwick			X	X	X	X	ST
Sorrento			X	X	X	X	ST
Southwest Harbor	MGR		X	X	X	X	ST/MGR
Stonington	MGR		X	X	X	X	ST/MGR
Sullivan	A		X	X	X	X	ST/A
Surry	AA		X	X	X	X	ST/AA
Swans Island	AA		X	X	X	X	ST/AA
Tremont	MGR		X	X	X	X	ST/MGR
Trenton	AA		X	X	X	X	ST/AA
Verona Island			X	X	X	X	ST
Waltham			X	X	X	X	ST
Winter Harbor	MGR		X	X	X	X	ST/MGR
Unorganized				X	LUPC	LUPC	LUPC

Source: Maine Municipal Association Directory

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C2. Participation in the NFIP National Flood Insurance Program

As shown in the table below, all but one of the municipalities in Hancock County are in the Flood Insurance Program (the Town of Aurora is not mapped), and as a condition of participation in the program, have enacted floodplain management ordinances that limit new development in floodplain areas.

All the townships in Hancock County’s portion of Maine’s Unorganized Territory are under the jurisdiction of Maine’s Land Use Planning Commission (LUPC). LUPC has agreed to administer and enforce the NFIP for all plantations and townships that are under its control and has modified its requirements to include floodplain management regulations. The table below summarizes the participation of Hancock County municipalities in the NFIP.

Key to Table

- FHBM: Flood Hazard Boundary Map
- FIRM: Flood Insurance Rate Map
- (M): No elevation determined; all zone A, C, X
- NSFHA: No special Flood Hazard Area; all zone C

Hancock County Communities Participating in the NFIP					
Town	Initial FHBM¹	Initial FIRM¹	Current Effective Map Date¹	Regular-Emergency Date¹	Adoption and Enforcement²
Amherst	1-24-75	7-20-16	7-20-16(m)	2-22-17	X
Aurora	-	-	-	-	-
Bar Harbor	8-23-74	5-2-91	7-20-16	5-2-91	X
Blue Hill	3-28-75	5-3-90	7-20-16	5-3-90	X
Brooklin	12-24-76	3-1-87	7-20-16	3-1-87	X
Brooksville	2-21-75	5-15-91	7-20-16	5-15-91	X
Bucksport	10-18-74	11-4-88	7-20-16	11-4-88	X
Castine	1-31-75	5-2-91	7-20-16	5-2-91	X
Cranberry Isles	1-31-75	6-17-91	7-20-16	6-17-91	X
Dedham	4-18-75	3-1-11	7-20-16(m)	3-1-11	X
Deer Isle	1-31-75	5-2-91	7-20-16	5-2-91	X
Eastbrook	4-18-75	3-1-87	7-20-16	3-1-87	X
Ellsworth	7-19-74	11-4-88	7-20-16	11-4-88	X
Franklin	2-28-75	7-16-91	7-20-16	7-16-91	X
Frenchboro	4-25-75	4-17-87	7-20-16	4-17-87	X
Gouldsboro	1-21-77	6-4-87	7-20-16	6-4-87	X
Great Pond	-	-	NSFHA	4-30-84	X
Hancock	4-18-75	6-3-91	7-20-16	6-3-91	X
Lamoine	2-21-75	5-2-91	7-20-16	5-2-91	X
Mariaville	3-14-75	10-1-05	7-20-16	10-1-05	X

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Hancock County Communities Participating in the NFIP					
Town	Initial FHBM¹	Initial FIRM¹	Current Effective Map Date¹	Regular-Emergency Date¹	Adoption and Enforcement²
Mount Desert	1-17-75	8-2-90	7-20-16	8-2-90	X
Orland	1-17-75	2-4-87	7-20-16	2-4-87	X
Osborn	-	7-20-16	NSFHA	10-20-89	X
Otis	4-18-75	4-1-09	7-20-16	4-1-09	X
Penobscot	1-24-75	7-16-91	7-20-16	7-16-91	X
Sedgwick	1-24-75	2-4-87	7-20-16	2-4-87	X
Sorrento	1-24-75	9-4-85	7-20-16	9-4-85	X
Southwest Harbor	1-17-75	6-3-91	7-20-16	6-3-91	X
Stonington	2-21-75	6-3-91	7-20-16	6-3-91	X
Sullivan	3-14-75	9-4-85	7-20-16	9-4-85	X
Surry	9-6-77	5-3-91	7-20-16	5-2-91	X
Swans Island	2-14-75	3-1-87	7-20-16	3-1-87	X
Tremont	1-31-75	8-2-90	7-20-16	8-2-90	X
Trenton	1-24-75	8-2-90	7-20-16	8-2-90	X
Verona Island	1-26-76	7-20-16	7-20-16	10-21-16	X
Waltham	1-3-75	7-2-87	7-20-16	7-2-87	X
Winter Harbor	1-17-75	5-15-91	7-20-16	5-15-91	X
Unorganized	-	-	NSFHA	4-30-84	X

¹ Source: FEMA Community Status Book Report as of 13 February, 2017

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

C3. Goals

The Hazard Mitigation Planning Team reviewed the goals contained in the 2012 Hazard Mitigation Plan and determined that these goals should continue to guide this Hazard Mitigation Plan - 2017 Update. The goals relate to the hazards profiled in this plan and include the following:

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

Severe Winter Storms: Reduce damage, injury and possible loss of life in Hancock County caused by severe winter storms erosion.

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

Severe Summer Storms: Reduce damage, injury and possible loss of life in Hancock County caused by severe summer storms.

C4. Comprehensive Range of Specific Actions and Projects

C5. Action plan

COUNTY-WIDE GOALS AND MITIGATION ACTIONS

The Hancock County Planning Team identified and analyzed a number of hazard mitigation measures that would benefit the County. As previously noted in the Planning Section, these measures were identified through workshops, during meetings with the elected and appointed public officials, through outreach to the towns and with the Commissioners who represent the Unorganized Territory.

Note:

- A new column, Timeframe, has been added in accordance with FEMA guidelines.
- The designation “2017-2022” in the timeframe column indicates that the action does not have a specific beginning and end date (such as a construction project), but is rather a recurring action that cannot be pinpointed to a specific date or dates. In it are actions that will depend on circumstances which cannot be predicted in advance, such as a flooding threat, rapid snowmelt, or thunderstorm activity. The recurring action can occur at any time during the 5-year period covered by this plan.
- Actions over which the County has no control or authority have been deleted.
- Actions which are very broad and apply over multiple jurisdictions have been deleted.
- Other actions have been modified to emphasize a County action.
- The responsibility column has been modified, where applicable, by limiting the responsibility to the County. Hancock County does not have control or authority over the responsible parties now shown as deletions.
- FEMA elements C4 and C5 are both addressed in the format of the County Actions table below and in the table of projects by municipality.
- **Funding.** The major sources of funding for the County actions are financial support for the operation of Hancock County EMA (County taxes, FEMA EMPG grants, Homeland Security funds, matching funds provided by time spent by local officials on hazard mitigation).

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Severe Winter and Summer Storms

Severe Winter Storm. In Hancock 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, winter snow and/or ice. Hancock County is very much subject to severe winter storm events. The coastal areas along the mainland and on the islands, which contain the vast majority of the county's population, are more likely to experience ice storms as opposed to the northern sections of the County which experience more snow. The entire County is very susceptible to blizzards.

There is potential for loss of life caused by delayed responses from emergency services, the improper use of emergency heat sources, freezing conditions, and from storm-related vehicle accidents. Other types of general damage to personal and real property may be caused by blizzard or hurricane force winds. The very presence of a prolonged blizzard could hamper transportation routes in the area, resulting in some elderly or access & functional needs population isolated in their homes and at risk of hypothermia, lack of medications or food. Additionally, there could be losses of income for local businesses.

Severe Summer Storm. In Hancock County, the most likely damages caused by a severe summer storm event are the loss of electrical power from downed trees and electrical power lines, and the blockage of roadways from tree debris. Severe summer storms are seen as major thunderstorms, tropical storms and hurricanes in Hancock County. Thunderstorms are far more numerous and much less severe in effect and duration. The primary effect is in producing short-term high winds, to include micro-bursts. Tropical storms are a lot less likely than thunderstorms, but more likely than a hurricane. The ingredients for a major tropical storm or hurricane include a pre-existing weather disturbance, warm tropical oceans, moisture, and relatively light winds aloft.

There may be loss of life caused by delayed responses from emergency services, carbon monoxide poisoning from the improper use of backup power generation, debris falling on an individual, or from storm surge. A loss of life occurred in August of 2009 for another reason. While spectators watched the storm surge as Hurricane Bill passed two-hundred miles offshore of Hancock County, some of the spectators were swept into the Atlantic Ocean. Other types of general damage to personal and real property may be caused by hurricane winds, particularly to coastal structures, fishing equipment, and watercraft. A hurricane forecasted to severely impact Hancock County could reduce tourism, resulting in losses of income for local and regional businesses.

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Goal/Mission Statement: Reduce loss of life, injury and property damage in Hancock County caused by severe winter and summer storms.

Mitigation Actions	Responsibility	Timeframe	Status
<p>A. 406 Funding. Maximize the use of 406 funds through the Public Assistance (PA) Program.</p> <p>Analysis: This is an important aspect of the PA program for several reasons. Because it is written into the PA scope of work and budget, the work can be completed more quickly than by going through the 404 grant program. Because the State pays a 15% share, and the community pays 10%, this lessens the local financial burden after a disaster for infrastructure protection and improvement.</p>	Hancock County EMA	2017-2022 As 406 funds become available	New
<p>B. Public Education. Work with the media on public service announcements on hazard mitigation topics, and include hazard mitigation information on the EMA website.</p>	Hancock County EMA	2017-2022 as needed	New
<p>C. Infrastructure Protection. Inform local officials of training exercises, technical assistance and potential funding opportunities aimed at infrastructure protection.</p> <p>Analysis: Since there is constant turnover of public officials, and funding resources continually ebb and flow, information exchange is critical to keeping current officials up to date.</p>	Hancock County EMA	2017-2022 as opportunities arise	New
<p>D. Generators. Assist interested municipalities in applying for fire or mitigation grant funds for generators at all critical facilities that are not in flood hazard areas.</p> <p>Analysis: As of a FEMA policy change in 2012, generators for critical facilities are eligible for mitigation funding. Generators can ensure the proper functioning of critical facilities during emergencies, thus making the whole community more resilient.</p>	Hancock County EMA	2017-2022	New

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Flooding

In Hancock County, the most likely damages caused by flooding are the destruction of 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. The result of a flash flooding could and did necessitate the evacuation and temporary closure of Blue Hill Memorial Hospital until cleaned and water supplies were tested. 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 life caused by delayed responses from emergency services 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.

Mitigation Actions	Responsibility	Timeframe	Status
<p>A Deer Isle Causeway. Work collaboratively with other agencies to explore upgrades to reduce flooding of the Deer Isle causeway connecting Deer Isle and Stonington.</p>	Hancock County EMA	2017-2022 As 406 funds become available	New
<p>B. 406 Funding. Maximize the use of 406 funds through the Public Assistance (PA) Program.</p> <p>Analysis: This is an important aspect of the PA program for several reasons. Because it is written into the PA scope of work and budget, the work can be completed more quickly than by going through the 404 grant program. Because the State pays a 15% share, and the community pays 10%, this lessens the local financial burden after a disaster for infrastructure protection and improvement.</p>	Hancock County EMA	2017-2022 As 406 funds become available	New
<p>C. Dam Exercises. Continue to participate in dam safety exercises.</p> <p>Analysis: Because High hazard potential dams can cause loss of life and property damage in the event of a failure, these exercises promote greater awareness of the risk and the need to keep the emergency plans current.</p>	Hancock County EMA	2017-2022 as exercises are scheduled	New

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Mitigation Actions	Responsibility	Timeframe	Status
<p>D. Infrastructure Protection. Inform local officials of training exercises, technical assistance and potential funding opportunities aimed at infrastructure protection.</p> <p>Analysis: Since there is constant turnover of public officials, and funding resources continually ebb and flow, information exchange is critical to keeping current officials up to date.</p>	Hancock County EMA	2017-2022 as opportunities arise	New
<p>E. NFIP Participation. Promote continued participation in the National Flood Insurance Program, as well as actions needed to ensure municipal compliance with flood insurance requirements, by providing specific information on the EMA website and at county meetings and training exercises related to hazard mitigation.</p>	Hancock County EMA	2017-2022 as exercises are scheduled	Addressed in EMA Directors' meetings
<p>F. Grant and Training Opportunities – Notify communities of grant opportunities, workshops for developing competitive applications and training on best practices.</p>	Hancock County EMA	2017-2022 as opportunities arise	New

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WILDFIRES

In Hancock County, the most likely damages caused by a wildfire are the loss of life and the destruction of personal and real property, especially homes. The loss of electricity is also possible, since many high voltage transmission lines pass through either wooded areas or wildland interface areas. Major wildfires could close commerce and infrastructure roadways, resulting in major losses to local businesses and individuals.

Goal/Mission Statement: Reduce loss of life, injury and property damage in Hancock County caused by wildfires.

Mitigation Actions	Responsibility	Timeframe	Status
<p>A. Public Education. Notify local officials of fire prevention workshops offered by the Maine Forest Service (MFS). Include fire prevention information on the EMA website.</p> <p>Analysis: The MFS has a wide variety of resources that can be accessed by the communities and businesses. These range from website information to individual consultations on methods for reducing potential damages from wildfires.</p>	Hancock County EMA	2017-2022 as needed	New
<p>B. Mutual Aid. Evaluate the status of mutual aid agreements. Provide assistance to municipalities to update as necessary.</p> <p>Analysis: 90 percent of all fire fighters in Maine are volunteers. These volunteers must first leave their regular jobs to access the fire trucks and equipment <i>before</i> going to fight fires. Because few communities could support a fully staffed fire department, mutual aid is both a life-saver, and, cost effective. There is wholehearted support for mutual aid and therefore a great deal of cooperation and support among municipal fire departments. This has bolstered the fire-fighting capabilities of all communities. Hancock EMA is actively involved with municipal emergency response capabilities.</p>	Hancock County EMA	2017-2022 as needed with EMA Directors and fire departments	New

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Rating of Actions and Establishment of Priorities

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

1. Life and property
2. Per cent of population benefited
3. Probability of community acceptance
4. Probability of funding
5. Feasibility of implementation

On a scale of 1-3, each criterion was rated with one being the lowest rating and three being the highest to add up to a total score:

Rating of Severe Winter and Summer Storm Mitigation Actions						
	Life/ Property	% of Population Benefited	Probability Community Acceptance	Probability of Funding	Feasibility of Implementation	Total Score
A. 406 Funding	2	3	3	3	3	14
B. Public Education	1	1	3	3	3	11
C. Infrastructure Protection	3	3	3	1	1	11
D. Generators	3	2	3	3	3	14

Rating of Flooding Mitigation Actions						
	Life/ Property	% of Population Benefited	Probability Community Acceptance	Probability of Funding	Feasibility of Implementation	Total Score
A. Deer Isle Causeway	3	3	3	1	3	13
B. 406 Funding	3	3	3	3	3	15
C. Dam Exercises	3	2	3	3	3	14
D. Infrastructure Protection	3	2	3	1	3	12
E. NFIP Participation	2	2	3	3	3	13
F. Grant and Training	3	1	3	3	3	13

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Rating of Wildfire Mitigation Actions						
	Life/ Property	% of Population Benefited	Probability Community Acceptance	Probability of Funding	Feasibility of Implementation	Total Score
A. Public Education	3	2	3	3	3	14
B. Mutual Aid	3	2	3	3	2	13

Prioritized Mitigation Projects

Projects listed in priority order. Since the last update, generic actions were replaced with more specific, measurable projects. All the municipalities in Hancock County identified one or more mitigation projects consistent with the County-wide goals and actions, to mitigate hazards at the local level. The jurisdictions, as well as the specific actions they will pursue, are listed in priority order in the following table. The time frames shown are based upon the availability of materials and funding.

Criteria for prioritization- The list of local projects was developed separately by each municipality, utilizing review of its budgeting process, relevant boards, and ultimately its annual town meeting—a very public and open forum. Local officials did not use formal, written criteria for the identification of local projects. Local officials relied on common sense, local knowledge of the frequency and extent of local damages, local knowledge of which projects were of the highest priority, based on frequency and severity of damages, local knowledge of the weather, the geography and topography of the community, and the technical and financial abilities of their respective communities to address hazards and mitigate the impacts of hazards.

How the actions will be implemented- The following table identifies a timeframe for each project, and identifies one or more parties who will be responsible for implementation. If the towns apply for grant funds, a benefit/cost analysis will be undertaken.

Use of a cost-benefit analysis. Many of the jurisdictions included in this Plan are small towns run by volunteers. These towns have tight budget constraints. They do not have staff, resources or funding to prepare cost-benefit analyses for 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 scrutinized rather than simply being plugged into a formula. For purposes of grant applications, however, MEMA and the County EMA have made it clear to local officials that a formal cost benefit analysis must be prepared in the event they apply for mitigation funding.

Status of completed, deleted or deferred projects. The table below contains a status column that identifies the completed, deleted or deferred mitigation projects. For deferred projects, the “status” column lists the reason or reasons that no changes occurred.

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

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

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

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

Potential Funding Sources.

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

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

D2. Progress in Local Mitigation Efforts

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

D3. Revisions to Reflect Changes in Priorities

The table below reflects progress in local mitigation efforts. See discussion on how projects were prioritized, page 5-20.

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

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Town	Potential Projects	Cost Estimate	Timeframe	Responsible Agency	Status
Amherst	(1) Tanner Loop Rd: Ditch (2,500ft), upsize to (5) 18" x 30' HDPE & (5) 18" x 40' HDPE culverts, add 8" x 2,500' x 18' base gravel.	\$123,000	Long Term	Road Commissioner	Deferred; lack of funds
	(2) Smith Rd: Ditch (1,200ft), add 8" x 1,200' x 18' base gravel.	\$27,500	Medium Term	Board of Selectmen	Deferred; lack of funds
	(3) Jordan Farm Pond: Install dry hydrant.	\$1,500	Short Term	Board of Selectmen	Deferred; lack of funds
	(4) Henderson Subdivision: Dig fire pond and install dry hydrant.	\$4,500	Short Term	Board of Selectmen	Deferred; lack of funds
	(5) Smith Road @ Harrys Brook: Install dry hydrant.	\$1,500	Short Term	Board of Selectmen	Deferred; lack of funds
Aurora	(1) Great Pond Rd: Ditch (5,000ft), upsize (3) 15" x 40' culverts.	\$22,000	Short Term	Road Commissioner	Deferred; lack of funds
Bar Harbor	(1) White Spruce Road- Blasting, add new ditching (300ft), upsize 3, 18 inch culverts to 24 inch culverts. Materials: Rip rap, geo synthetics, gravel, 3, 24" x 30ft HDPE culverts.	\$150,000	Long Term	DPW	Deferred; lack of funds
	(2) Crooked Road @ Norway Drive (section 1): Upgrade (2) CMP arch culverts to 1, pre-cast box culvert. Materials: 1 pre-cast box culvert (size unknown), gravel, geo-synthetics, rip rap.	\$116,000	Long Term	DPW	Deferred; lack of funds
	(3) Crooked Road @ Norway Drive (section 2: Upsize 1, 18 inch culvert to a 24 inch HDPE culvert. Materials: 24" x 40 foot HDPE culvert, gravel, rip rap, geo-synthetics.	\$26,000	Medium Term	DPW	Deferred; lack of funds
	(4) Norway Drive: Upsize 1, 24" culvert to a 48" HDPE culvert, elevate road, repave. Materials: 1 24" x 30ft HDPE culvert, gravel, geo-synthetics, rip rap.	\$50,000	Medium Term	DPW	Deferred; lack of funds

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Town	Potential Projects	Cost Estimate	Timeframe	Responsible Agency	Status
(Bar Harbor)	(5) Cromwell Harbor Road: Demo and remove current bridge, upgrade to pre-cast, bottomless box culvert, install rip rap and fabric, repave. Materials: 1 pre-cast, bottomless box culvert, geo-synthetics, rip rap, gravel, pavement.	\$180,000	Long Term	DPW	Deferred; lack of funds
	(6) MDI Hospital (drainage issues): Blast ledge, Install 1,200ft of drainage pipe to coast (from Hospital, under Wayman Ave, to coast), repave. Materials: 1,200 feet of drain pipe, explosive, gravel, pavement.	\$250,000	Long Term	City Council, Hospital Admin, DPW	Deferred; lack of funds
	(7) Public Safety Building: Possible seismic retrofit.	\$500,000	Long Term	City Council, Contractors	Deferred; lack of funds
Blue Hill	(1) Stover Road: Ditch (5,000ft), add (2) 15" x 30ft and (1) 24" x 30ft HDPE culverts, rip rap (600ft x 3ft), fabric. Materials: (2) 15" x 30ft HDPE culverts, (1) 24" x 30ft HDPE culvert, rip rap, gravel, geotextile fabric.	\$250,000	Long Term	Road Commissioner	Deferred; lack of funds
	(2) Kingdom Road @ Woods Hill (section 1: Blast ledge, ditch (2,400ft), rip rap (800ft x 3ft), place geotextile (300ft x 20ft), install under-drains, add (4) 15" x 30ft and (1) 24" x 30ft HDPE culverts, and base and surface gravel. Materials: (4) 15" x 30ft culverts, (1) 24" x 30ft culvert, rip rap, gravel, geo-synthetics, under-drains, explosive.	\$150,000	Long Term	Road Commissioner	Deferred; lack of funds
	(3) Kingdom Road @ Fourth Pond Section 2): Elevate road (600ft x 20ft x 1ft), add geo-synthetics, ditch (1,600ft). Materials: Gravel, fill, geo-synthetics, rip rap	\$25,000	Medium Term	Road Commissioner	Deferred; lack of funds
	(4) Kingdom Road @ Cookmans Hill (section 3): Add (2) 15" x 30ft HDPE culverts, ditch (2,000ft), rip rap (500ft x 3ft), add gravel (1,000ft x 20ft). Materials: (2) 15" x 30ft HDPE culverts, rip rap, gravel, geo-synthetics.	\$35,000	Medium Term	Road Commissioner	Deferred; lack of funds

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Town	Potential Projects	Cost Estimate	Timeframe	Responsible Agency	Status
(Blue Hill)	5) Grindleville Road (lower end): Blast ledge, ditch (2,000ft), install geo-synthetics (1,000ft x 20ft), rip rap (500ft x 3ft), add gravel (1,000ft x 20ft x 1ft). Materials: Explosive, rip rap, gravel, geo-synthetics.	\$45,000	Medium Term	Road Commissioner	Deferred; lack of funds
Brooklin	(1) Dodges Wharf Road: Ditch (1,000ft), re-shape shoulder, rip rap, hay and seed. Materials: Rip rap, gravel, geo-synthetics, hay and seed.	\$30,000	Medium Term	Road Commissioner	Deferred; lack of funds
	(2) Naskeag Point (Stone Bridge): Upgrade to bottomless box culvert (5ft), re-shape shoulder, rip rap, repave. Materials: Concrete, bottomless box culvert, rip rap, gravel, geo-synthetics, pavement.	\$60,000	Medium Term	Road Commissioner	Deferred; lack of funds
	(3) Hales Hill Road: Blast where needed, upsize (2) 18" x 30ft culverts to (2) 24" x 30ft HDPE culverts, ditch (1,000ft), elevate road to accommodate culverts, install geo-synthetics, hay and seed. Materials: Explosives, (2) HDPE 24" x 30ft culverts, geo-synthetics, gravel, rip rap, hay and seed.	\$75,000	Medium Term	Road Commissioner	Deferred; lack of funds
Brooksville	(1) Herrick Road: Blast where needed, ditch (1,000ft). Materials: Explosive, gravel, rip rap, hay and seed.	\$30,000	Medium Term	Road Commissioner	Enlarged culvert with town funds.
	(2) Varnumville Road: Add (3) 48" x 40ft HDPE culverts, stabilize slope, elevate road to accommodate new culverts (400ft x 24ft x 20ft), repave. Materials: (3) 48" x 40ft HDPE culverts, gravel, rip rap, geo-synthetics, pavement, hay and seed.	\$70,000	Medium Term	Road Commissioner	Enlarged culvert with town funds.
	(3) Back Road @ Indian Barr Road: Ditch (5,000ft), line ditches, upsize (5) 18" x 25ft culverts, upsize (5) 18" x 40ft culverts. Materials: Rip rap, gravel, geo-synthetics, (5) 24" x 30ft HDPE culverts, (5) 24" x 50ft HDPE culverts, hay and seed.	\$65,000	Medium Term	Road Commissioner	Deferred; lack of funds

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Town	Potential Projects	Cost Estimate	Timeframe	Responsible Agency	Status
(Brooksville)	(4) Norumbaga Road: Ditch (5,000ft), line ditches, add (2) 18" x 40ft HDPE culverts, hay and seed. Materials: (2) 18" x 40ft HDPE culverts, rip rap, gravel, geo-synthetics, hay and seed.	\$40,000	Medium Term	Road Commissioner	Project finished with Town funds
	(5) Cornfield Hill Road: Ditch (300ft), upsize culvert (size unknown), rip rap and armor ditches. Materials: HDPE culvert (size unknown), rip rap, gravel, geo-synthetics, hay and seed.	\$40,000	Medium Term	Road Commissioner	Deferred; lack of funds
Bucksport	(1) Silver Lake Road: Add (1) 48" x 60ft HDPE relief culvert, elevate road (6 inches) to accommodate culvert, rip rap, repave. Materials: (1) 48" x 60ft HDPE culvert, gravel, rip rap, geo-synthetics, pavement, hay and seed.	\$30,000	Medium Term	Road Commissioner	Project has had an engineering study.
	(2) Town Site (40 homes): Install 950ft of 24" drainage pipe, install 8 catch basins. Materials: 950ft of drainage pipe, 8 catch basins, gravel, geo-synthetics, hay and seed.	\$110,000	Long Term	Town Manager/PW Dept.	Completed
	(3) Broadway: Upsize culvert to 36" x 60 ft, add 1 catch basin, rip rap, repave. Materials: (1) 36" x 60ft HDPE culvert, catch basin, rip rap, pavement, geo-synthetics, hay and seed.	\$30,000	Medium Term	Road Commissioner	Deferred; lack of funds
Castine	(1) Perkins Street: Repave (scope changed to include entire block).	\$500,000	Long Term	Road Commissioner	Completed; capital improvement
	(2) Water Street: Stabilize bank (100ft x 12ft x 3ft), rip rap.	\$60,000	Medium Term	Road Commissioner	Completed
	(3) Install emergency backup generator for water supply. 30k 3-phase with wiring.	\$65,000	Medium Term	Town Manager/EM director	Completed
	4) Main Street; Install new drainage, replace undersized culverts. Phase 2 of 20 year plan.	\$1,051,000	Long Term	Town Manager/EM director	Deferred; lack of funds.

HANCOCK COUNTY ME HAZARD MITIGATION PLAN – 2017 UPDATE

Town	Potential Projects	Cost Estimate	Timeframe	Responsible Agency	Status
Cranberry Isles	(1) Northwood Road: Blast where needed, upsize (3) 24" x 40ft culverts to (3) 36" x 40ft HDPE culverts. Materials: Explosives, (3) 36" x 40ft HDPE culverts, gravel, geo-synthetics, rip rap.	\$20,000	Short Term	Town Manager	Used town funds to do some blasting
	(2) Jimmy's Point Road: Blast where needed, ditch (200ft), add culverts if necessary. Materials: Explosive, culverts, geo-synthetics, gravel, hay and seed.	\$10,000	Short Term	Town Manager	Deferred; lack of funds
	(3) Heilker Road: Ditch (750ft)	\$4,000	Short Term	Town Manager	Deferred; lack of funds
	4) Manset Facility (Parking, storage, rental space): Improve drainage around facility, install 1500ft of underground, 24" pipe, install (4) catch basins. Materials: 1500 ft of 24" drainage pipe, (4) catch basins, pavement, gravel, geo-synthetics	\$50,000	Medium Term	Town Manager	Deferred; lack of funds
	5) Main Road (underground drainage project): Install 250ft of 18 inch drainage pipe, install catch basin, minor road work. Materials: 250ft of 18" drainage pipe, gravel, catch basin, hay and seed, geo-synthetics.	\$25,000	Medium Term	Town Manager	Deferred; lack of funds
	(6) Town Boat Ramp: Blast where necessary (along 500ft of road), add (1) 18" x 40ft HDPE culvert, rip rap. Materials: Explosive, (1) 18" x 40ft HDPE culvert, rip rap, geo-synthetics, gravel.	\$25,000	Medium Term	Town Manager	Deferred; lack of funds
	(7) Upgrade Town Sea Wall.	N/A	n.a.	Town Manager	Town budgeted for and upgraded the seawall.
Dedham	Inspect all culverts and drainage systems for upgrade; note: effective March 2011, town is in the NFIP.	\$1,000	Short Term	Road Commissioner	Deferred; lack of funds

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Town	Potential Projects	Cost Estimate	Timeframe	Responsible Agency	Status
Deer Isle	(1) Lowe Road: Ditch (5,000ft), upscale (4) 15" x 40ft culverts, hay and seed. Materials: (4) 15" x 40ft HDPE culverts, geo-synthetics, hay and seed, gravel, rip rap.	\$25,000	Short Term	Road Commissioner	Deferred; lack of funds
	(2) Dunham Point Road: Ditch (300ft), upgrade current culvert to 3ft bottomless box culvert, repave. Materials: Concrete bottomless box culvert (size unknown), gravel, geo-synthetics, hay and seed, pavement.	\$40,000	Medium Term	Road Commissioner	Deferred; lack of funds
	3) Sunshine Village (East Side Road): Ditch (500ft), upscale (1) 24" x 30ft culvert to (1) 36" x 30ft HDPE culvert, hay and seed. Materials: (1) 36" x 30ft HDPE culvert, geo-synthetics, gravel, hay and seed.	\$10,000	Short Term	Road Commissioner	Deferred; lack of funds
	(4) Sunshine Road: Ditch (500ft), upscale (1) 24" x 30ft culvert to (1) 36" x 30ft HDPE culvert. Materials: (1) 36" x 30ft HDPE culvert, gravel, rip rap, geo-synthetics, hay and seed.	\$10,000	Short Term	Road Commissioner	Deferred; lack of funds
	(5) Dow Road: New ditching (2,000ft)	\$15,000	Short Term	Road Commissioner	Deferred; lack of funds
	(6) Reach Road: Upsize (1) 36" x 40ft culvert, rip rap, repave. Materials: New culvert (size unknown), rip rap, pavement, gravel, geo-synthetics, hay and seed.	\$20,000	Short Term	Road Commissioner	Deferred; lack of funds
	(7) King Beach Hill Road: Add new 24" x 30ft HDPE culvert, rip rap, hay and seed. Materials: (1) 24" x 30ft HDPE culvert, rip rap, geo-synthetics, gravel, hay and seed.	\$15,000	Short Term	Road Commissioner	Deferred; lack of funds
Eastbrook	(1) Neck Hill Road (section 1: Ditching (?), rip rap (?), Add new culverts (size unknown), hay and seed. Materials: Rip rap, culverts, geo-synthetics, gravel, hay and seed.	\$60,000	Medium Term	Road Commissioner	Deferred; lack of funds

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Town	Potential Projects	Cost Estimate	Timeframe	Responsible Agency	Status
(Eastbrook)	(2) Neck Hill Road (section 2) Ditching (?), rip rap (?), Add new culverts (size unknown), hay and seed. Materials: Rip rap, culverts, geosynthetics, gravel, hay and seed.	\$60,000	Medium Term	Road Commissioner	Deferred; lack of funds
	(3) Sugar Hill Road: Ditching (?), rip rap (?), Add new culverts (size unknown), hay and seed. Materials: Rip rap, culverts, geosynthetics, gravel, hay and seed.	\$40,000	Medium Term	Road Commissioner	Deferred; lack of funds
	(4) Relocate emergency shelter to Municipal Building. Build shed for emergency generator and hard wire.	\$15,000	Short Term	Fire Chief	Deferred; lack of funds
Ellsworth	(1) Beechland Rd: upsize 4' elliptical pipe to 3' x 10' x 60' box & repave.	\$65,000	n.a.	Public Works	Completed in 2010
	(2) Shore Rd: elevate 300' x 24' x 2' & repave	\$22,000	Short Term	Public Works	Deferred; lack of funds
	(3) Hansons Landing: upsize existing 36" x 40' CMP to 48" x 60" x 40' box culvert.	\$48,000	Medium Term	Public Works	Deferred; lack of funds
	(4) Spindle Rd: upsize existing twin culverts to 36" x 50' HDPE culvert.	\$48,000	Medium Term	Public Works	Deferred; lack of funds
	(5) Nicolin Rd. aka Green Lake Rd: ditch and line 300' and add 24" x 40' HDPE culvert	\$5,000	Short Term	Public Works	Deferred; lack of funds
Franklin	(1) South Bay Road: Blast where necessary, ditch (5,000ft), elevate road (12,000ft x 2ft x 25ftx), add (10) 24" x 40ft HDPE culverts, armor shoulders. Materials: Explosive, gravel, (10) 24" x 40ft HDPE culverts, rip rap, geo-synthetics, hay and seed.	\$270,000	Long Term	Road Commissioner	Some work done with town funds

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Town	Potential Projects	Cost Estimate	Timeframe	Responsible Agency	Status
(Franklin)	(2) Macomber Road: Elevate road (10,000ft x 2ft x 20ft), add (15) 24" x 40ft HDPE culverts, hay and seed. - Materials: Gravel, (15) 24" x 40ft HDPE culverts, geo-synthetics, rip rap, hay and seed	\$240,000	Long Term	Road Commissioner	Deferred; lack of funds
Frenchboro	(1) Place concrete slabs 20' x 12' x 12" on town boat ramp to stabilize driving surface at town landing.	\$18,000	Short Term	Road Commissioner	Deferred; lack of funds
Gouldsboro	(1) Guzzel Road Bridge: <i>(Option 1)</i> Remove wooden beams and decking. Remove concrete block abutments, replace with poured concrete abutments. Replace wooden structure with steel. <i>(Option 2)</i> Replace bridge with concrete bottomless box culvert (size unknown). Materials: <i>(Option 1)</i> Concrete, gravel, steel beams and decking, rip rap, geo-synthetics, hay and seed, etc. <i>(Option 2)</i> Concrete bottomless box culvert, gravel, rip rap, geo-synthetics, hay and seed.	\$100,000	Long Term	Town Manager, Select board, Road Commissioner	Deferred; lack of funds
	(2) Paul Bunyan Road: Elevate road bed (2,600ft x 1ft x 22ft), add (1) 24" x 40ft HDPE culvert. Materials: Gravel, (1) 24" x 40ft HDPE culvert, rip rap, geo=synthetics, hay and seed.	\$60,000	Medium Term	Road Commissioner	Deferred; lack of funds
	(3) Peninsula Road: Upsize culvert from 30" x (?), to 48" x 60ft HDPE culvert, elevate road (dimensions unknown), install geo-synthetics, rip rap (6 truck-loads), install guardrails, hay and seed. Materials: (1) 48" x 60ft HDPE culvert, gravel, geo-synthetics, guardrail, rip rap, hay and seed.	\$150,000	Long Term	Road Commissioner	Deferred; lack of funds
	(4) Myrick Road: Upsize from (1) 36" culvert to (1) 48" x 40ft culvert, install wing walls, rip rap, install (2) 15" x 40ft driveway culverts, hay and seed. Materials: (1) 48" x 40ft culvert, (2) 15" x 40ft HDPE driveway culverts, concrete wing walls, gravel, geo-synthetics, hay and seed.	\$80,000	Medium Term	Road Commissioner	Deferred; lack of funds

HANCOCK COUNTY ME HAZARD MITIGATION PLAN – 2017 UPDATE

Town	Potential Projects	Cost Estimate	Timeframe	Responsible Agency	Status
Great Pond	Educate homeowners on wildfire protection and coordinate with Hancock County Firefighters' Association during extreme fire danger periods regarding issuance of burn permits.	\$500	Short Term When MFS issues extreme fire danger warnings	Selectmen	Deferred; lack of funds
Hancock	(1) Point Road: Ditch (1,000ft), add (1) 4ft concrete bottomless box culvert, elevate road (2ft x 21ft x 250ft), rip rap, repave. Materials: (1) 4ft concrete bottomless box culvert, gravel, rip rap, geo-synthetics, pavement, hay and seed.	\$75,000	Medium Term	Road Commissioner	Deferred; lack of funds
	(2) West Shore Road: Add (4) 18" x 30ft HDPE culverts, elevate road (2ft x 12ft x 1,200ft), rip rap. Materials: (4) 18" x 30ft HDPE culverts, gravel, rip rap, geo-synthetics, hay and seed.	\$50,000	Medium Term	Road Commissioner	Town has added some culverts and rip rap with Town funds.
	(3) Carter Beach Road (Bank stabilization): Stabilize bank (3ft x 18ft x 1,200ft), add (3) 15" x 40ft HDPE culverts. Materials: (3) 15" x 40ft HDPE culverts, rip rap, gravel, geo-synthetics, hay and seed.	\$200,000	Long Term	Road Commissioner	Deferred; lack of funds
	(4) Wyman Road: Ditch (200ft), upsize (2) 15" plastic culverts to (2) 18" x 50ft CMP culverts, install geo-synthetics, hay and seed. Materials: (2) 18" x 50ft CMP culverts, rip rap, geo-synthetics, gravel, hay and seed.	\$10,000	Short Term	Road Commissioner	Deferred; lack of funds
Lamoine	(1) Mill Road: (Paving) (Need more detailed assessment of current conditions)	\$70,300	Medium Term	Town Administrator/ Road Commissioner	Deferred; lack of funds
	(2) Shore Road: (Paving) (Need more detailed assessment of current conditions)	\$75,240	Medium Term	Town Administrator/ Road Commissioner	Deferred; lack of funds

HANCOCK COUNTY ME HAZARD MITIGATION PLAN – 2017 UPDATE

Town	Potential Projects	Cost Estimate	Timeframe	Responsible Agency	Status
(Lamoine)	(3) Asa's Lane: Ditch (300ft), add (1) 32" x 40ft culvert. Materials: (1) 32" x 40ft culvert, gravel	\$10,000	Short Term	Town Administrator/ Road Commissioner	Deferred; lack of funds
	(4) Marboro Beach Road: Ditch (5,000ft), add (2) 32" x 40ft culverts. Materials: (2) 32" x 40ft culverts, gravel, geo-synthetics, hay and seed.	\$25,000	Medium Term	Town Administrator/ Road Commissioner	Identified in 2006. Repositioned culverts with Town funds
	(5) Needles Eye Road: (Drainage improvement) - upsized culvert; armored and repaved road over culvert.	\$7,289	Short Term	Town Administrator/ Road Commissioner	2009 - Completed HMGP Project DR-1755-01
Mariaville	(1) River Road (section 1 at Frost Brook): Replace twin metal culverts (6ft each) w/ (1) 15ft precast bottomless box culvert, elevate road (3ft x 15ft x 100ft), rip rap, hay and seed. Materials: (1) 15ft precast bottomless box culvert, rip rap, gravel, geo-synthetics, hay and seed.	\$75,000	Medium Term	Road Commissioner	Deferred; lack of funds
	(2) River Road (Bank Stabilization along Union River): Re-shape slope, install geo-synthetics, rip rap, hay and seed. Materials: Gravel, dirt, geo-synthetics, rip rap, hay and seed.	\$80,000	Medium Term	Road Commissioner	River Rd. subject to erosion by Union River. Overflow culverts on stream installed on other area of River Rd.
	(3) Dourity Farm Road (Bridge at Tawbery Brook): Replace bridge with concrete box culvert (size unknown).	\$80,000	Medium Term	Road Commissioner	Deferred; lack of funds
Mount Desert	(1) Maple Lane (Storm water Management) H&H study, upsized culverts, added catch basins, excavated 3,500 ft, repaved, rip rapped. Materials: Culverts, gravel, rip rap, geo-synthetics, pavement, catch basins, hay and seed, fill.	\$250,000	Long Term	Town Administrator/ Road Commissioner	Completed

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Town	Potential Projects	Cost Estimate	Timeframe	Responsible Agency	Status
(Mount Desert)	(2) Sergeant Drive: Re-armor slope, replace coping stones, armor shoulder. Materials: Rip rap, geo-synthetics, coping stones, gravel.	\$200,000	Long Term	Town Administrator/ Road Commissioner	Being done on an on-going, as-needed basis
	(3) Ox Hill (Seal Harbor): Install closed storm water management system, blast where necessary, install 1,000ft of 24" drainage pipe, rip rap, repave. Materials: Explosive, 1,000ft of 24" drainage pipe, rip rap, pavement, gravel, geo-synthetics.	\$1,000,000	Long Term	Town Administrator/ Road Commissioner	Determined to be unnecessary as a big project; will be addressed as needed
Orland	(1) Granite Hill Road: Elevate road (18" x 20ft x 4,000ft), add (2) 15" x 40ft culverts, hay and seed. Materials: Gravel, (2) 15" x 40ft culverts, geo-synthetics, rip rap, hay and seed.	\$70,000	Medium Term	Town Administrator/ Road Commissioner	Some elevation done.
	(2) Bald Mountain Road. Elevate road (2ft x 20ft x 1,250ft), add (2) 24" x 40ft culverts, repave, rip rap, hay and seed. Materials: Gravel, (2) 24" x 40ft HDPE culverts, geo-synthetics, rip rap, pavement, hay and seed.	\$70,000	Medium Term	Town Administrator/ Road Commissioner	Deferred; lack of funds
	(3) Happy Town Road: Upsize (2) 36" x 40ft CMPs to (2) 48" x 60ft HDPE culverts, install erosion control, install geosynthetics, repave, rip rap, hay and seed. Materials: (2) 48" x 60ft HDPE culverts, geo-synthetics, gravel, pavement, rip rap, hay and seed.	\$65,000	Medium Term	Town Administrator/ Road Commissioner	Deferred; lack of funds
	(4) Cedar Swamp: Upsize (2) 36" x 40ft CMP culverts to (2) 48" x 50ft HDPE culverts, repave, rip rap. Materials: (2) 48" x 50ft HDPE culverts, gravel, rip rap, pavement, geo-synthetics, hay and seed	\$40,000	Medium Term	Town Administrator/ Road Commissioner	Deferred; lack of funds
	(5) Lower Falls Road: Add (1) 24" x 40ft relief culvert, repave, riprap. Materials: (1) 24" x 40ft HDPE culvert, pavement, rip rap, geo-synthetics, hay and seed.	\$15,000	Short Term	Town Administrator/ Road Commissioner	Deferred; lack of funds

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Town	Potential Projects	Cost Estimate	Timeframe	Responsible Agency	Status
(Orland)	(6) Gilpin Road: Add (6) 24" x 40ft HDPE culverts, elevate road (1ft x 12ft x 1mile), repave, rip rap, hay and seed. Materials: (6) 24" x 40ft HDPE culverts, gravel, pavement, rip rap, geo-synthetics, hay and seed.	\$120,000	Long Term	Town Administrator/ Road Commissioner	Deferred; lack of funds
Osborn	Educate homeowners on wildfire protection and coordinate with Hancock County Firefighters' Associate during extreme fire danger periods regarding issuance of burn permits.	\$500	Short Term When MFS issues extreme fire danger warnings	Fire Warden	Deferred; lack of funds
Otis	(1) Gary Moore Road: Ditch (600ft), upgrade (1) 6ft x 30ft plastic culvert w/concrete, bottomless box culvert, rip rap, repave, hay and seed. Materials: Concrete bottomless box culvert (size unknown), rip rap, gravel, geo-synthetics, pavement, hay and seed.	\$90,000	Medium Term	Select board/Road Commissioner	Deferred; lack of funds
	(2) Piles Road: Ditch (1,000ft), upsize (1) 15" x 30ft culvert to (1) 18" x 40ft HDPE culvert, rip rap, repave, hay and seed. Materials: (1) 18" x 40ft HDPE culvert, pavement, rip rap, geo-synthetics, hay and seed	\$60,000	Medium Term	Select board/ Road Commissioner	Deferred; lack of funds
	(3) Reach out to non-profit, road associations to identify mitigation priorities.	\$0	Short Term	Select board/ Road Commissioner	Deferred; lack of available staff
Penobscot	(1) Dogtown Rd: install underdrains and geotextile fabric 500' x 24'; add 12" base gravel and repave.	\$28,000	Medium Term	Road Commissioner	Deferred; lack of funds
Sedgwick	Old County Rd: add (2) 32" x 40' culverts, rip rap and repave	\$10,000	Short Term	Road Commissioner	Deferred; lack of funds
Sorrento	(1) Fuller Road: Ditch (1,000ft), blast where needed, upsize (1) 18" x 30ft culvert to (1) 24" x 40ft culvert, rip rap, hay and seed. Materials: (1) 24" x 40ft HDPE culvert, rip rap, geo-synthetics, gravel, hay and seed.	\$30,000	Medium Term	Road Commissioner	Deferred; lack of funds

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Town	Potential Projects	Cost Estimate	Timeframe	Responsible Agency	Status
(Sorrento)	(2) Nautilus Road: Ditch (600ft), armor ditches, add (3) 18" x 40ft HDPE culverts, rip rap, hay and seed. Materials: Rip rap, (3) 18" x 40ft HDPE culverts, gravel, geo-synthetics, hay and seed.	\$30,000	Medium Term	Road Commissioner	Deferred; lack of funds
	(3) Treasure Island Road: Ditch (1,000ft), armor ditches, add (1) 18" x 40ft HDPE culvert. Materials: Rip rap, (1) 18" x 40ft HDPE culvert, gravel, geo-synthetics, rip rap, hay and seed.	\$30,000	Medium Term	Road Commissioner	Deferred; lack of funds
	(4) Ocean Avenue (Bank stabilization): Rip rap bank (3ft x 18ft x 1,500ft). Materials: Rip rap.	\$30,000	Medium Term	Road Commissioner	Deferred; lack of funds
	(5) Isaac's Beach: Upsize (1) 36" x 40ft culvert to (1) 48" x 40ft HDPE culvert, ditch (1,500ft). Materials: (1) 48" x 40ft HDPE culvert, gravel, rip rap, geo-synthetics, hay and seed.	\$30,000	Medium Term	Road Commissioner	Deferred; lack of funds
	(6) West Shore Road @ Nautilus Road (Swallow Hallow): Upgrade (1) 36" x 40ft CMP to (1) 4ft x 40ft, smooth bore, cement culvert, rip rap, repave. Materials: (1) 4ft x 40ft, smooth bore, cement culvert, rip rap, gravel, geo-synthetics, pavement, hay and seed.	\$60,000	Medium Term	Road Commissioner	Deferred; lack of funds
Southwest Harbor	(1) Seal Cove Road: Elevate road (2ft x 20ft x 1,200ft), stabilize slope, add (1) 10ft x 40ft box culvert, repave. Materials: Gravel, rip rap, (1) 10ft x 40ft box culvert, geo-synthetics, pavement, hay and seed.	\$75,000	Medium Term	Town Administrator/ Road Commissioner	Deferred; lack of funds
	(2) Alder Lane: Elevate road (2ft x 20ft x 1,200ft), ditch (2,500ft), upsize (2) 15" x 40ft culverts to (2) 18" x 40ft HDPE culverts, repave. Materials: Gravel, rip rap, geo-synthetics, (2) 18" x 40ft HDPE culverts, pavement, hay and seed.	\$80,000	Medium Term	Town Administrator/ Road Commissioner	Deferred; lack of funds
	(3) Shore Road: Elevate road (3ft x 20ft x 4,000ft), add (8) 15" x 40ft HDPE culverts, repave. Materials: Gravel, (8) 15" x 40ft HDPE culverts, rip rap, geo-synthetics, pavement, hay and seed.	\$175,000	Long Term	Town Administrator/ Road Commissioner	Deferred; lack of funds

HANCOCK COUNTY ME HAZARD MITIGATION PLAN – 2017 UPDATE

Town	Potential Projects	Cost Estimate	Timeframe	Responsible Agency	Status
Southwest Harbor	(4) Seal Cove Road (Bridge): Demo bridge, stabilize bank, upgrade to concrete, bottomless box culvert (size unknown). Materials: Concrete bottomless box culvert (size unknown), rip rap, geo-synthetics, gravel, pavement, hay and seed.	\$150,000	Long Term	Town Administrator/ Road Commissioner	Deferred; lack of funds
	(5) Fernald Point Road: Blast where needed, ditch (700ft), armor ditches and install check-dams, upsize (3) 18" x 30ft culverts to (3) 24" x 30ft HDPE culverts, upsize (1) 24" x 30ft culverts to (1) 36" x 30ft HDPE culvert. Materials: Explosive, rip rap, (3) 24" x 30ft HDPE culverts, (1) 36" x 30ft HDPE culvert, gravel, geo-synthetics, hay and seed.	\$85,000	Medium Term	Town Administrator/ Road Commissioner	Deferred; lack of funds
	6) Wesly Avenue: Ditch (300ft), blast ledge where needed, upsize culverts (unknown number) from 12" to 18", repave. Materials: Explosive, (300 feet) of 18" HDPE pipe, gravel, rip rap, geo-synthetics, hay and seed.	\$135,000	Long Term	Town Administrator/ Road Commissioner	Deferred; lack of funds
	(7) Chris' Pond (Retention Pond) @ Main Street: Install flow control valve, upsize (1) 18" x 60ft culvert on Main Street to (1) 24" x 60ft HDPE culvert.	\$85,000	Medium Term	Town Administrator/ Road Commissioner	Deferred; lack of funds
	(8) Village Green Way: Upgrade stone catch basins to increase drainage capacity.	\$75,000	Medium Term	Town Administrator/ Road Commissioner	Deferred; lack of funds
	(9) East Ridge Road: Ditch (600ft), add (4) driveway culverts, armor ditches. Materials: (4) driveway culverts, rip rap, hay and seed, geo-synthetics.	\$20,000	Short Term	Town Administrator/ Road Commissioner	Deferred; lack of funds
Stonington	(1) Fire Station: Assess feasibility of acquiring and demolishing fire station and returning the site to open space.	\$400,000	Long Term	Town Manager	New
	(2) Wells: Locate additional wells to supplement the municipal water supply.	To be Determined	Long Term	Town Manager	New

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(Stonington)	(3) Oceanville Road: Elevate approximately 850 feet of roadway to reduce flooding and isolation of homes.	To be Determined	Long Term	Town Manager	New
	(4) Moose Island Causeway: Elevate causeway (2ft x 12ft x 600ft), armor shoulders (600ft), repave, rip rap. Materials: Gravel, pavement, rip rap.	\$250,000	Long Term	Town Administrator/ Road Commissioner/DEP	Completed 2012
	(5) Bayview Avenue Seawall: Upgrade 900 feet of seawall (3ft x 7ft x 40ft). Materials: Concrete, Geo-synthetics, hay and seed.	\$400,000	Medium Term	Town Manager	40 feet completed in 2010; 860 feet deferred for lack of funds
	(6) Municipal fish pier: Flood-proof buildings on fish pier.	\$400,000	Medium Term	Town Manager	New
	(6) Hatch Cove Road: Elevate road (dimensions unknown), ditch (100ft), add (3) 18" x 30ft cross-culverts, rip rap, add (3) 15" driveway culverts. Materials: Gravel, (3) 18" x 30ft HDPE culverts, (3) 15" HDPE driveway culverts, rip rap, geo-synthetics, hay and seed (explosive?).	\$75,000	Medium Term	Road Commissioner	Deferred; lack of funds
	(7) Acquire and demolish repetitively flooded property	To be determined	Long Term	Town Manager	Deferred; lack of funds
Sullivan	(1) Asheville Road: Ditch (100ft), upsize (1) 18" x 30ft culvert to (1) 36" x 40ft HDPE culvert, rip rap, hay and seed. Materials: (1) 36" x 40ft HDPE culvert, rip rap, geo-synthetics, gravel, hay and seed.	\$40,000	Medium Term	Road Commissioner	Deferred; lack of funds
	(2) Punkinville Road: Widen ditches (200ft), upgrade (1) 6ft stone culvert to concrete bottomless box culvert. Materials: Concrete bottomless box culvert, gravel, geo-synthetics, hay and seed.	\$60,000	Medium Term	Road Commissioner	Deferred; lack of funds

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(Sullivan)	(3) Thorn Road: Upsize (1) 12ft CMP to (1) concrete bottomless box culvert, stabilize bank, repave. Materials: (1) 12ft concrete bottomless box culvert, gravel, geo-synthetics, pavement, hay and seed.	\$600,000	Long Term	Road Commissioner	Deferred; lack of funds
	(4) Wharf Road @ Taunton Road: Upgrade (5) stone culverts with (5) new HDPE culverts.	\$125,000	Long Term	Road Commissioner	Deferred; lack of funds
Surry	(1) Cross Road @ Morgan's Bay: Add (2) 36" x 40ft relief culverts, add 1 cross culvert (size unknown), repave. Materials: (2) 36" x 40ft relief culverts.	\$10,000	Short Term	Select board	Deferred; lack of funds
	2) Gold Stream Road: Widen road (4ft x 100ft), stabilize slope, add (2) 36" x 40ft HDPE culverts, lengthen existing culvert (size unknown). Materials: Gravel, pavement, rip rap, (2) 36" x 40ft HDPE culverts, culvert sleeve/extension.	\$15,000	Short Term	Select board	Deferred; lack of funds
	(3) Carrying Place Beach. Excavate existing base (2,000ft), reset with granite blocks, rip rap, resurface, repave. Materials: Rip rap, gravel, pavement, granite blocks (quantity and size unknown).	\$200,000	Long Term	Select board	Deferred; lack of funds town owned property that has had \$30K of PA work in April 2007
	(4) Cross Road: Stabilize bank, rip rap, armor shoulders, add (1) 24" x 40ft HDPE culvert, repave. Materials: Rip rap, gravel, geo-synthetics, (1) 24" x 40ft HDPE culvert, hay and seed.	\$50,000	Medium Term	Select board	Deferred; lack of funds
	(5)Thatcher's Hill Drainage Project: Ditch (1,350ft), blast where necessary, pave shoulder, add (3) 18" x 40ft cross-culverts, upsize (1) 24" x 40ft culvert to (1) 36" x 40ft culvert, repave.	\$152,846	Long Term	Select board	2007 - Completed HMGP Project DR-1591-03
Swans Island	(1) Rowe Road (Bank stabilization): Re-shape slope, stabilize bank (300ft), add erosion control. Materials: Town owned granite blocks, rip rap, gravel, geo-synthetics, hay and seed.	\$150,000	Long Term	Select board	Deferred; lack of funds town owned quarry could supply for in-kind match

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(Swans Island)	(2) Stanley Point Road: Blast where needed, ditch (500ft), upsize (?) 12" x 20ft culverts to (?) 24" x 30ft HDPE culverts, elevate road (dimensions unknown), rip rap, repave, hay and seed. Materials: Explosive, (?) 24" x 30ft HDPE culverts, gravel, rip rap, pavement, geo-synthetics, hay and seed.	\$140,000	Long Term	Select board	Deferred; lack of funds
	(3) Minturn Town Road: Elevate road (dimensions unknown), upsize (1) 24" x 30ft culvert to (1) 36" x 40ft HDPE culvert, rip rap, repave, hay and seed. Materials: Gravel, (1) 36" x 40ft HDPE culvert, rip rap, pavement, geo-synthetics, hay and seed.	\$40,000	Medium Term	Short Term	Deferred; lack of funds
Tremont	(1) Cape Road (Section 1: Relocate road (18ft x 1,000ft), repave.	\$200,000	Long Term	Town Manager	Completed
	(2) Cape Road (Section 2) Bank Stabilization: Remove dead trees (unknown number), re-stabilize bank (dimensions unknown), install granite blocks (size and number unknown), rip rap. Materials: Gravel, granite blocks, rip rap, geo-synthetics, hay and seed.	\$70,000	Medium Term	Town Manager	Deferred; lack of funds
	(3) Rich Town Road: Ditch (1000ft), upsize culverts (size and number unknown), rip rap, hay and seed. Materials: HDPE culverts (size and number unknown), rip rap, gravel, geo-synthetics, hay and seed.	\$30,000	Medium Term	Town Manager	Deferred; lack of funds
	(4) Mitchell Cove Road: Ditch (1,000ft), upsize culverts (size and number unknown), rip rap, hay and seed. Materials: HDPE culverts (size and number unknown), rip rap, geo-synthetics, hay and seed.	\$30,000	Medium Term	Town Manager	Deferred; lack of funds
	(5) Turner Road: Re-grade and repave road (18ft x 1,800ft) for better drainage.	\$68,000	Medium Term	Town Manager	Completed with town funds
Trenton	(1) Goose Cove Road: Ditch (500ft), rip rap.	\$20,000	Short Term	Road Commissioner	Deferred; lack of funds

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(Trenton)	(2) School Road: Ditch (1,000ft), re-align and lengthen culverts (size and number unknown), armor ditches. Materials: Gravel, rip rap, geo-synthetics, culvert extensions, hay and seed.	\$50,000	Medium Term	Road Commissioner	Deferred; lack of funds
Unorganized Territory	Upgrade drainage of roads and culverts as necessary within County's portion of the UT to protect against washouts from flooding.	\$103,000	Long Term	County Manager	Deferred; lack of funds
Verona Island	(1) West Side Drive: Rebuild intersection to improve dangerous sight line with Route 1.	\$25,000	Medium Term	Board of Selectmen	Deferred; lack of funds
	(2) Upgrade road drainages with better ditching and upsized culverts.	\$50,000	Long Term	Board of Selectmen	New
Waltham	(1) Junior Ralph Road: Reshape and rip rap slope (12ft x 2,000ft), ditch (2,000ft), line ditches, upsize (4) 24" x 40ft culverts to (4) 36" x 40ft HDPE culverts, hay and seed. Materials: Gravel, rip rap, geo-synthetics, (4) 36" x 40ft HDPE culverts, hay and seed.	\$50,000	Medium Term	Road Commissioner	Did ditching with Town funds/ PA funds with no 406.
	(2) Cemetery Road: Ditch (3,000ft), add (3) 18" x 40ft HDPE culverts, rip rap, hay and seed. Materials: (3) 18" x 40ft HDPE culverts, rip rap, gravel, geo-synthetics, hay and seed.	\$65,000	Medium Term	Road Commissioner	Deferred; lack of funds
Winter Harbor	(1) Main Street (Section 1): Upsize box culvert (size unknown) to 12ft box culvert, repave.	\$42,000	Medium Term	Town Manager	Completed project identified in 2006
	(2) Main Street (Section 2): Widen entrance to 12ft box culvert, armor entrance with granite blocks.	\$30,000	Medium Term	Town Manager	Deferred; lack of funds
	(3) Main Street (Section 3): Install berm (3ft x 400ft), stabilize with native plants.	\$10,000	Short Term	Town Manager	Deferred; lack of funds

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(Winter Harbor)	4) Main Street (Section 4): Widen ditches (300ft), armor ditches, install under drains with fabric (75ft), crushed rock. Materials: Rip rap, crushed stone, under drain (amount unknown), gravel, geo-synthetics, hay and seed.	\$20,000	Short Term	Town Manager	Deferred; lack of funds
	(5) Main Street (Section 5): Add (1) 18" x 30ft HDPE culvert, elevate road (2ft x 20ft x 250ft), add 250ft of 18" drainage pipe. Materials: (1) 18" x 30ft HDPE culvert, gravel, rip rap, geo-synthetics, 250ft of 18" drainage pipe, crushed stone.	\$35,000	Medium Term	Town Manager	Deferred; lack of funds
	(6) Summer Harbor Road: Ditch (2,000ft), rip rap (100 cubic yards), Upsize (1) 24" plastic culvert to (1) 4ft concrete bottomless box culvert, repave, hay and seed. Materials: Rip rap, (1) 4ft concrete bottomless box culvert, gravel, geo-synthetics, hay and seed, pavement.	\$70,000	Medium Term	Town Manager	Deferred; lack of funds