

# Mitigation Strategy

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# Section 6 – Mitigation Strategy

Stafford Act 44 CFR §201.4(c)(3)(iii)<sup>1</sup>

## 6.1 Hazard Mitigation Goals [S9]

### 6.1.1 Introduction

The State of Maine Hazard Mitigation Plan includes a mitigation strategy that provides the State of Maine with a blueprint for reducing the losses identified in the risk assessment. The strategy includes goals, problem statements, and actions that are based on gaps identified from the risk and capabilities assessments and are consistent with other state and local plan and policy goals. The goals, problem statements, and actions contained in this section are aimed at achieving long-term hazard mitigation. The state and local capability assessments identify the capacity for state, county, and local governments to implement the mitigation goals.

These goals have been revised since the previous plan update to remain consistent with Maine’s ever-changing mitigation landscape. In summary, though the nature and frequency of many natural hazards have begun shifting due to global climate change, new vulnerabilities and the introduction of new mitigation capabilities have required a transition to mitigation goals that address all natural hazards, encourage greater cooperation among SHMP partners, an increase in visibility of the state mitigation program, an increase in FEMA Hazard Mitigation Assistance funding and to foster equitable and environmentally conscious practices.

### 6.1.2 Goals

- Mitigation Goal 1:** Protect lives, property, and the environment from all natural hazard risks and associated impacts of climate change now and in the future.
- Mitigation Goal 2:** Enhance state natural hazard mitigation capabilities through greater coordination among federal, state, county, and local partners.
- Mitigation Goal 3:** Improve hazard mitigation literacy and awareness among the public, business owners, academic institutions, and state, county, and local officials.
- Mitigation Goal 4:** Implement mitigation actions that preserve or restore the functions of natural systems and emphasize sustainable development.
- Mitigation Goal 5:** Build equity into all facets of the State Hazard Mitigation Program.

### 6.1.3 Addressing mitigation goals [S10.c.]

Each mitigation goal is based on several problem statements targeting capability gaps. Capability gaps are identified by comparing findings of the Risk Assessment against the lists of capabilities meant to address risk. Mitigation actions are designed to address the problem statements, thereby implementing the mitigation goals. In this way, implementation of mitigation actions equal progress towards mitigation goals through reduction of capability gaps. Below is a description of how the Mitigation Goals integrate the goals, problem statements, and actions of influential planning partners where they relate to mitigation.

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<sup>1</sup> Stafford Act 44 CFR §201.4: <https://www.law.cornell.edu/cfr/text/44/201.4>

### [Assessment of Goals \[S9.b.\]](#)

These goals are consistent with the hazards and vulnerabilities identified in Section 3 – Risk Assessment. These goals encompass high hazard potential dams and mitigating the vulnerabilities of dam failure identified in problem statements and mitigation actions that address the HHPD program, as described in detail below. Similarly, goals address the FMAG program through problem statements and specific mitigation actions to improve agency coordination and wildfire mitigation capabilities.

Each of the goals were assessed during individual meetings with planning partners (see Section 2 – Planning Process for a more complete description of this process). The goals in this plan update were changed from the previous update to reflect broader climate resilience and multi-agency coordination initiatives promoted by the planning partners. The Mitigation Goals integrate these shared concepts as described in greater detail below.

### [Goal Updates Since the Last Mitigation Strategy \[S12\]](#)

This new Mitigation Strategy reflects updates to mitigation goals, objectives, and actions that reflect shifts in priorities that encourage greater resilience and coordination across state agencies and other involved partners. For example, the previous plan update focused primarily on the individual physical impacts of hazards profiled in the plan. In this current version, MEMA requested greater input from a wider range of Mitigation Partners, leading to a greater emphasis on collaboration, plan integration, education on programs, the connections among natural hazards, effective implementation of funds and resources, natural solutions, and building equity into hazard mitigation. This process has led to more opportunities for plan integration, as described below. Refer to the “status” field of the list of mitigation actions for progress updates.

### [Integration with Maine Climate Council Goals](#)

The goals in this plan integrate many of the needs identified by the Maine Climate Council. Published in December 2020, “Maine Won’t Wait” establishes Maine Climate Council’s goals for implementing a four-year plan for climate action:

- Climate Goal 1:** Reduce Maine’s Greenhouse Gas Emissions
- Climate Goal 2:** Avoid the Impacts and Costs of Inaction
- Climate Goal 3:** Foster Economic Opportunity and Prosperity
- Climate Goal 4:** Advance Equity through Maine’s Climate Response

These Climate Goals relate directly with hazard mitigation and have been used to better inform the State Mitigation Goals. Conversely, MEMA’s participation has ensured that hazard mitigation concepts remained central to the mission of the Maine Climate Council and the development of these goals. For example, Climate Goal 1 is related directly to mitigating climate change as GHGs are the source of climate change and pertain to each Mitigation Goal. Climate Goal 2 relates to each Mitigation Goal because the intent of the mitigation program is to avoid impacts through sustained, long-term risk reduction of natural hazards and the amplification of impacts caused by climate change. Climate Goal 3 relates to the objective of Mitigation Goal 1 to encourage economic stability and growth through the reduction of natural hazard risks to the State of Maine. Finally, Climate Goal 4 has helped to inform the SHMP of equity objectives listed in Mitigation Goal 5.

MEMA’s Mitigation Program has also incorporated mitigation concepts into Maine Climate Council’s evaluation criteria for establishing goals and recommending Community Resilience Subcommittee strategy recommendations and tasks.

### [Integration with Goals in LHMPs \[S10.d.\]](#)

The previous SHMP provided mitigation goals focused on individual natural hazards. A broader stance has been taken in this SHMP update to incorporate all natural hazards and to emphasize improvements in hazard mitigation policy, practices, equity, and integration with other planning mechanisms. As of this plan update, all LHMPs for Maine jurisdictions continue to follow the traditional approach of providing goals for each natural hazard profiled in the plan. This SHMP incorporates these important, hazard-specific considerations with the inclusion of mitigation actions that directly address each profiled hazard. Further, the SHMP emphasizes objectives that would strengthen coordination between local, county, and state emergency managers.

Like previous plan updates, this Plan reflects the priorities and thinking that went into the preparation of 16 county plans and the University of Maine System plan, in large part because of MEMA's extensive involvement with the planning processes of these various jurisdictions. Inclusion of each goal, objective, and action from local plans would therefore be cumbersome and redundant. Copies of these plans are on file with MEMA and some are available online on county websites. MEMA has prepared a guide for use in the preparation of county plans to encourage a consistent format as well as similar actions where appropriate. The counties used this guidance during the preparation of their most recent updates.

## **6.2 State Mitigation Actions [S10]**

The actions set forth on the following pages (Table 6.1) are informed by the risk and capabilities assessment of this Plan and evaluated/updated by the Planning Team and Mitigation Partners. As a result, these actions reflect the role of MEMA in hazard mitigation with the new addition of actions by Mitigation Partners involved in resilience planning and implementation. Additional partners may have an interest in hazard mitigation plan integration within the statutory limits of their own programs and staff.

### **6.2.1 Evaluation and Prioritization of Actions [S10.b.]**

Each of the preceding goals, objectives and actions were analyzed, evaluated and prioritized by the Planning Team and Mitigation Partners to encourage actions that are cost-effective, environmentally sound, and are technically, politically, and financially feasible. The same prioritization strategy was used for all natural hazards including high hazard potential dams. Most importantly, actions were crafted to reduce vulnerabilities posed by hazards profiled in the Risk Assessment section of the Plan. In Table 6.1, these prioritizations are reported under the "Impact" and "Feasibility" columns. Prioritization follows these criteria:

#### [Mitigation Impact Criteria](#)

- Benefit of the action relative to its cost
- Environmental benefit and soundness
- Equitable distribution of benefits

#### [Mitigation Feasibility Criteria](#)

- Likelihood of acceptance by affected population
- Availability of funding/resources
- Technical feasibility
- Timeframe for implementation

Mitigation actions are rated for impact and feasibility as either HIGH or MODERATE based on whether these criteria are met. A HIGH rating means all criteria for impact or feasibility are met, while a MODERATE rating means the majority of criteria are met. Any actions that meet a LOW rating (when a minority of criteria are met) are excluded from the list as they would unlikely be a focus during the 5-year plan cycle. A high priority project would have HIGH for both impact and feasibility criteria. This prioritization system ensures that the mitigation actions address risks identified in the Plan and fulfill the mitigation strategy goals. New prioritizations may be calculated in the event of a natural disaster, as part of regular evaluation of Plan effectiveness, and/or at the end of the five-year plan update cycle. All mitigation actions are assessed using this prioritization, and actions carried over from the previous plan are re-evaluated using this approach.

In the case of high hazard potential dams, these prioritization criteria all apply, with the addition of the State Dam Safety Inspector's designation of hazard level to prioritize high hazard dams.

### **6.2.2 Current and Potential Sources of Federal, State, Local or Private funding for Mitigation [S11]**

The State of Maine and local jurisdictions use several funding sources to implement hazard mitigation activities. In Table 6.1, these are reported under the "Potential Resources" column. Most of the funding comes from federal, state, and municipal programs. Federal funds are typically managed by the state. Refer to Section 5 – Capabilities for a list of mitigation funding sources. The state is always interested in pursuing other sources of funds and encouraging municipalities, Maine residents and local businesses to invest in hazard mitigation measures as well. The majority of these funding sources are highly competitive and the amounts can differ greatly by program and from year to year. In general, mitigation funding has substantially increased since the last plan update. Some funding sources (Community Development Block Grants, Maine Highway Fund, Land Use Impact Fees) are only marginally related to hazard mitigation.

Under the "Potential Resources" column, HMA refers to all Hazard Mitigation Assistance programs including BRIC, BRIC DTA, FMA, HMGP, HMGP Post Fire, and LPDM. These programs are often reported together as a potential resource for actions that have not yet applied for funding because their eligibility requirements are similar. Though not part of the HMA programs, 406 Mitigation Program may be eligible if critical infrastructure is damaged during a disaster. Any reference to "Staff" in this column indicates that staff hours are a primary resource for implementing the action. Any reference to a funding program is not necessarily final, as many of these mitigation actions have yet to be included in funding applications/requests. Potential resources are not limited to the list of grant opportunities in Table 4.1 from Section 4 – State Capabilities.

### **6.2.3 Mitigation Action Prioritization and Status Updates [S12]**

Each mitigation action contains a status description updated in 2023. Status updates are provided in the white box under each mitigation action in Table 6.1. Many new mitigation actions have been included in the 2023 update to reflect the expanded scope of mitigation goals, an increase in new Mitigation Partners, and the updated analysis of risks, capabilities, and progress. Mitigation actions from the previous plan update were given a new status based on whether they were completed or carried over into the new plan with documented progress.

Most actions from the last plan update relate to continued efforts that have changed to better serve Maine's mitigation program. The reasons for these changes are typically because policy has changed, requiring new strategies for program training or implementation, or there are new resources to help advance risk assessment-based mitigation actions. Other actions with a clear completion date prior to this plan update are listed at the bottom of the mitigation actions list as "completed." Still others were removed because they are not considered to be mitigation actions.

All mitigation actions, including new actions, underwent a new prioritization process to reflect newly identified risks, capabilities, progress in the last five years, and any changes in Mitigation Partner objectives or policies. As a result, all prioritizations are new for the plan update based on new rankings for each action’s impact and feasibility.

#### **6.2.4 Project Category/Gap**

Mitigation actions consist of many different project types that address gaps in mitigation capabilities. In Table 6.1 these are addressed in the column “Category/Gap”. These project categories include Knowledge Gaps that require training or education, Infrastructure projects that directly address vulnerabilities to state assets, Policy Gaps that implement strategies to integrate and improve Maine’s mitigation program, Partnership Gaps that establish cross-agency mitigation support, closing Funding Gaps to improve the success rate of mitigation grant applications, closing Energy Gaps to improve grid resilience in Maine, closing Staffing Gaps to ensure there is adequate technical assistance, Outreach to improve visibility and understanding of Maine’s mitigation program, and closing Equity Gaps to ensure that mitigation efforts serve all Mainers as needed.

#### **Infrastructure Projects**

Several state assets were identified as vulnerable to natural hazards in the Risk Assessment. Maine is currently in the process of project scoping to address these issues and improve state asset resilience. For this reason, state infrastructure mitigation actions are fewer in number than planning or policy actions, and most of the infrastructure projects are provided by MaineDOT’s most vulnerable infrastructure. The Governor’s Office of Policy Innovation and the Future intends to build from the Risk Assessment, survey assets in greater detail, and identify infrastructure/physical projects that would then seek mitigation funding within the next few years.

#### **6.2.5 Responsible Entities and Source**

Partners responsible for managing and implementing each mitigation action are reported in the “Responsible Entities” column of Table 6.1. Meetings and other resources where these projects were identified are listed under the “Source” column – refer to Section 2 – Planning Process for more information on the plan meeting schedule and roster of the Planning Team and Mitigation Partners.

#### **6.2.6 Hazards Addressed**

Every Mitigation Action is created to provide a sustained reduction of long-term risk to the natural hazards reported in the “Hazards Addressed” column. Refer to Section 3 – Risk Assessment for more information on these natural hazards.

### 6.2.7 List of Mitigation Actions [S10]

Table 6.1: List of state-level mitigation goals, problem statements, and mitigation actions. For each action, there is a 2023 status update in the following white row in italics.

ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
<b>Goal 1: Protect lives, property, and the environment from all natural hazard risks and associated impacts of climate change now and in the future</b>									
<b>1.1. Regional, tribal, and local hazard mitigation planning capabilities are limited, posing challenges for completing approvable LHMPs.</b>									
1.1.1.	Prioritize further evaluation of risk for state assets identified within hazard-prone areas from the SHMP Risk Assessment.	SHMP 2019	Knowledge	All-hazards	MEMA	Staff, HMA, EMPG	2023-2025	MODERATE	HIGH
<i>Carryover SHMP utilizing new GIS resources</i>									
1.1.2.	Provide training and technical/GIS assistance to County EMAs and others whose responsibility is to monitor, evaluate, and update local plans.	SHMP 2019	Training	All-hazards	MEMA	Staff, HMA, EMPG	2023-2025, 2028	HIGH	HIGH
<i>Carryover SHMP; MEMA has established new process for updating LHMPs in compliance with new FEMA guidelines for all 16 counties.</i>									
1.1.3.	Build and strengthen partnerships with the five tribal nations of Maine to better serve their hazard mitigation planning efforts.	PT 5-2021	Partnership	All-hazards	MEMA, TN	Staff, HMA, EMPG	2023-2028	HIGH	HIGH
<i>Coordination has begun with some tribal nations interested in developing a tribal annex to pre-existing county plans. MEMA is prepared to provide assistance to tribal nations (if requested) who are interested in applying for Plan Update grants.</i>									
1.1.4.	Create a state and local mitigation actions database, coordinated with SHMP/LHMP updates, with determination of eligibility for mitigation funding.	PT 7-2021	Knowledge	All-hazards	MEMA	Staff, HMA, EMPG	2023-2024	HIGH	HIGH
<i>Key demonstration of SHMP-LHMP integration using standard practices. Database was assembled in 2022; requires updates as local plans are approved; looking into streamlining update process</i>									
1.1.5.	Provide regional, tribal, and communities technical assistance on FEMA HMA grant sub applications for funding LHMPs.	Expert review	Knowledge	All-hazards	MEMA	Staff, HMA, EMPG	2023-2028	HIGH	HIGH
<i>Technical Assistance has begun and momentum for increased FEMA HMA sub applications for LHMP has occurred.</i>									
<b>1.2. Sub applicants of the FEMA Hazard Mitigation Assistance grant program often find the application, review, and reporting process difficult to timely complete.</b>									
1.2.1.	Provide technical assistance to state agencies, federally-recognized tribes, county, and municipal partners interested in applying for Hazard Mitigation Assistance grants.	PT 4-2022	Training	All-hazards	MEMA	Staff, HMA, EMPG	2023-2028	HIGH	HIGH
<i>Carryover SHMP updated to comply with new SHMP and LHMP guidelines</i>									
1.2.2.	Assist county and municipal partners with FEMA local hazard mitigation plan update applications and potential eligible projects.	SHMP 2019	Partnership	All-hazards	MEMA	Staff, HMA, EMPG	2023-2028	HIGH	HIGH
<i>Carryover SHMP to manage new mitigation projects</i>									

ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
1.2.3.	Restructure state review panel's scoring rubric to support the Justice40 Initiative, social vulnerability index and equity.	PT 5-2023	Policy	All-hazards	MEMA	Staff, HMA	2023-2028	MODERATE	MODERATE
<i>Restructuring will occur when FEMA signals need for programs to comply with Justice40</i>									
1.2.4.	Provide natural hazard mitigation training including preparing applications, benefit cost analysis, and individual FEMA grant criterias.	PT 5-2023	Training	All-hazards	MEMA	Staff, HMA	2023-2028	HIGH	HIGH
<i>This is an ongoing service of SHMO, adapting to new programmatic changes</i>									
1.2.5.	Manage FEMA hazard mitigation assistance funding from sub applicant initial inquiry to sub application submission to grant closeout.	Expert review	Capability	All-hazards	MEMA	Staff, HMA	2023-2028	HIGH	HIGH
<i>This is an ongoing service of SHMO, adapting to new programmatic changes</i>									
1.2.6.	Prioritize assistance for jurisdictions located in high natural hazard areas and in conjunction with Justice40 disadvantaged status, EDRCs, areas with an SVI of .60 or greater, and other relevant measures of vulnerability.	Expert review	Policy	All-hazards	MEMA	Staff, HMA	2023-2028	HIGH	HIGH
<i>New action based on equity and Justice40 FEMA guidance</i>									
<b>1.3.</b>	<b>NFIP policy trends indicate that Maine residents in flood risk areas are likely underinsured, with an insurance deficit also anticipated for other natural hazards.</b>								
1.3.1.	Encourage all communities to participate in NFIP and encourage FEMA to produce digital FIRMs for parts of Maine lacking digital flood risk resources.	PT 5-2023	Capability	Flood	DACF, MEMA	Staff, HMA	2023, 2026	HIGH	MODERATE
<i>Fy23, planning for outreach letter to all non-participating communities and continue once every three years</i>									
1.3.2.	Monitor and assist communities with maintaining compliance with the NFIP, which allows federally backed flood insurance to be sold in their communities.	SHMP 2019	Capability	Flood	FMP, MEMA, County EMA	Staff	2023-2028	HIGH	HIGH
<i>Community assistance contacts/visits are scheduled, some of these are chosen based on SVI, some are requested by the municipality</i>									
1.3.3.	Sponsor NFIP training workshops for local officials to help them properly administer and enforce local floodplain management regulations, completed annually.	SHMP 2019	Training	Flood	FMP	Staff, HMA	2023-2028	HIGH	HIGH
<i>Carryover SHMP; Completed annually for new interested communities</i>									
1.3.4.	Provide new public outreach and educational resources on the benefits of flood insurance and general hazard insurance.	PT 5-2023	Training	All-hazards	FMP, BI	Staff, HMA	2023-2024	HIGH	MODERATE
<i>This is an ongoing service of FMP, though coordination is new with Bureau of Insurance</i>									



ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
1.3.5.	Prioritize Repetitive Loss and Severe Repetitive Loss mitigation actions where applicable.	SHMP 2019	Policy	Flood	FMP, MEMA	Staff, HMA	2023-2028	HIGH	HIGH
<i>Carryover SHMP; 2009 MEMA developed guidance including recommended strategies; this guidance continues to be in effect as planned.</i>									
1.3.6.	Monitor NFIP's exploration of installment/payment plans for flood insurance and promote the opportunity if it becomes available to focus on equitable flood insurance coverage in disadvantaged and impoverished Maine communities.	Expert Review	Equity	Flood	NFIP, MEMA, FMP	NFIP policy holders	2025	HIGH	HIGH
<i>New action based on news that NFIP may update their insurance program.</i>									
1.3.7.	Collaborate with Maine Bureau of Insurance on proactive messaging regarding insurance implications in disasters.	Expert review	Outreach	All-hazards	MEMA	Staff, HMA, IA	2023-2028	HIGH	HIGH
<i>New action expanding on work done for recovery by IA Program</i>									
1.3.8.	Provide technical assistance to NFIP holders on the FEMA Flood Mitigation Assistance Grant.	Expert review	Knowledge	All-hazards	MEMA	Staff, HMA	2023-2028	HIGH	HIGH
<i>Continued work to Towns and Communities, Maine is interested in bolstering interest in FMA</i>									
1.3.9.	Provide education and training to non NFIP policy holders on benefits of NFIP/ FEMA HMA FMA grant.	Expert review	Training	All-hazards	MEMA	Staff, HMA	2023-2028	HIGH	HIGH
<i>New action to educate and training non NFIP holders of benefits.</i>									
1.3.10	Provide training to insurance providers, partnered with the State's Bureau of Insurance, State's NFIP Coordinator, and FEMA.	Expert review	Training	All-hazards	MEMA	Staff, HMA	2023-2028	HIGH	HIGH
<i>New action to educate and training providers on current NFIP opportunities.</i>									
<b>1.4.</b>	<b>There is uncertainty about how climate change will influence the location, extent, and occurrence of natural hazards, and how development impacts community vulnerability to these hazards.</b>								
1.4.1.	All-hazards: Educate and inform the public and other state and local stakeholders of newly identified natural hazard and climate change vulnerabilities, capabilities, and mitigation strategies for an ever-changing landscape of risk.	SHMP 2019, Expert review	Training	All-hazards	MEMA	Staff, EMPG, HMA, IA	2023-2028	HIGH	HIGH
<i>Carryover SHMP, educate and inform on new risks, new hazards</i>									
1.4.2.	All-hazards: Install back-up power, microgrid systems, and/or battery storage at critical facilities as appropriate and as resources become available.	ESP 8-2022	Energy	All-hazards	MEMA, GEO	HMA, EMPG, CRP, GRP, DOE (UIM)	2023-2026	HIGH	HIGH
<i>Carryover SHMP but updated with input from GEO</i>									

ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
1.4.3.	All-hazards: Prioritize mitigation actions that fulfill equity objectives for serving community members facing poverty, lack of housing, language and communication issues, mobility issues, lack social networks, or other challenges compounding vulnerability in Maine.	IA 3-2023	Equity	All-hazards	MEMA, County EMA	Staff, HMA, IA, IHP, EMPG, USDA-RD, NBRC, HRLP, CDBG, CDBG-DR	2023-2028	HIGH	MODERATE
<i>New action established based on feedback from MCC Equity Subcommittee</i>									
1.4.4.	Weather hazards: Obtain critical severe weather information to understand the location, intensity, and probability of occurrence of weather hazards by implementing the SKYWARN trained volunteer weather spotter program.	NOAA Interview 5-2022	Training	Weather hazards	NOAA	SKYWARN program	2023-2028	MODERATE	HIGH
<i>This is an ongoing service of NOAA adapted to new hazards and monitoring approaches</i>									
1.4.5.	Flooding: Support efforts to improve floodplain mapping and FEMA's Risk Map Program.	SHMP 2019	Policy	Flood	FMP, USGS	NFIP	2023-2025	HIGH	MODERATE
<i>Carryover SHMP, exploratory mapping is occurring in new sections of the state with preliminary maps anticipated in 2025</i>									
1.4.6.	Flooding: Support improvements to the state's early warning capabilities, such as river gauges and NOAA alerting systems, giving priority to areas with the most serious hazard issues. Provide technical assistance for FEMA HMA grant programs and trainings on NFIP.	SHMP 2019	Capability	Flood	MEMA, USGS, NOAA	HMA, CRP, FPMS	2023-2028	HIGH	HIGH
<i>Carryover SHMP; support funding for new gages</i>									
1.4.7.	Flooding: As time and resources permit, use LiDAR data, DSS-WISE, and Hazus to support dam failure and flood risk mapping efforts for the Dam Safety Program and for communities without DFIRMs, and support MEGIS with LiDAR acquisition.	SHMP 2019	Knowledge	Flood	USGS, FMP, DSP, MEMA	NFIP, FPMS,	2023-2025	HIGH	MODERATE
<i>Carryover SHMP; York and Cumberland counties have preliminary FIRMs expected to become effective in 2024</i>									
1.4.8.	Flooding: Invest in upgraded culverts and road systems to better mitigate flood damages to local roads, bridges, culverts, and ditches managed by local governments.	SHMP 2019	Infrastructure	Flood	FMP	HMA, AOP, MSCU, DOT (MHF), DOT (BPP)	2023-2028	MODERATE	MODERATE
<i>Carryover SHMP but utilizing new resources and new culvert projects</i>									

ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
1.4.9.	Severe fall/winter weather: Encourage use of consistent severe fall/winter weather mitigation planning in SHMP and LHMPs. Provide technical assistance for FEMA HMA grant programs and trainings.	SHMP 2019	Knowledge	Severe fall/winter weather	MEMA	Staff, HMA	2023-2025, 2028	MODERATE	MODERATE
<i>Carryover SHMP, climate change has driven new winter weather risks including elevated ice storm and flooding risks</i>									
1.4.10.	Severe summer weather: Encourage use of consistent severe summer weather mitigation planning in SHMP and LHMPs. Provide technical assistance for FEMA HMA grant programs and trainings.	SHMP 2019	Knowledge	Severe summer weather	MEMA	Staff, HMA	2023-2025, 2028	MODERATE	MODERATE
<i>Carryover SHMP, climate change has driven new summer weather risks including extreme heat</i>									
1.4.11.	Severe summer weather: Develop state and county Extreme Temperature Response Plans, an Extreme Temperature Community Resilience Guidebook, and an extreme temperature communication campaign.	CDC Interview 7-2022	Policy	Severe summer weather	CDC	State funds, CDC	2023-2025	HIGH	HIGH
<i>CDC Contracted with Partnerships For Health (PFH) to provide evaluation services to help us assess these projects. PFH currently has four (4) extreme temperature-related evaluations planned</i>									
1.4.12.	Tropical cyclone: Establish inland flooding evacuation study and protocol for inland tropical cyclone scenarios. Provide technical assistance for FEMA HMA grant programs and trainings.	HES 2020	Knowledge	Tropical Cyclone	MEMA	Staff, FEMA, PROTECT	2023-2028	HIGH	HIGH
<i>MEMA was selected for potential FEMA Contract Support for Evacuation Planning to update the evacuation Incident Annex</i>									
1.4.13.	Drought: Advise the Governor, as needed, on actions the Governor may take to mitigate the impacts of drought.	DTF AAR 2021	Policy	Drought	MEMA, USGS	Staff, EMPG	2023-2028	HIGH	HIGH
<i>Updated during 2020-2023 drought; ongoing task as part of Drought Task Force responsibilities</i>									
1.4.14.	Wind hazards: Support efforts to bury power lines in the City of Portland and other urban locations with weak energy grid resilience.	Cumberland County LHMP 2021	Infrastructure	Wind hazards	MEMA, CMP, County, Municipal	Staff, HMA, CRP, GRP	2023-2026	HIGH	HIGH
<i>New action provided by County LHMP covering the greatest population in the state</i>									
1.4.15.	Finalize County EMA Extreme Temperature Plans.	CDC Interview 1-2023	Policy	Severe Summer Weather	CDC, County, MEMA	Staff, EMPG	2023-2028	MODERATE	MODERATE
<i>New action presented by Maine CDC. Sagadahoc County has finalized an extreme heat plan, and Piscataquis and Aroostook Counties are in development.</i>									

ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
1.4.16.	Maine Coast Heritage Trust to complete resilience assessment of coastal communities to determine mitigation projects including living shorelines, aquaculture, coastal storm and flood resilience.	Expert Review	Infrastructure	Coastal hazards	MCHT, GOPIF	CRP, GRP	2023-2028	HIGH	HIGH
<i>New action provided by Maine Coast Heritage Trust; GOPIF grant awarded</i>									
1.4.17.	Complete Popham Beach and Beyond project, revitalization of state park complex and surrounding community in Phippsburg	Expert Review	Infrastructure	Coastal hazards	GOPIF, Municipal	CRP	2023-2028	HIGH	HIGH
<i>New action provided by GOPIF; \$70M fund awarded</i>									
<b>1.5. Sea level rise and other climate change impacts have increased coastal hazard impacts to unprecedented levels.</b>									
1.5.1.	Sea Level Rise: Track changes in sea level, evaluate future projections, provide recommendations to FEMA regarding flood map updates, and seek funding to support these efforts.	SHMP 2019	Policy	Flood	MGS, GMRI, NOAA	Staff, CRP, CCGP	2023-2028	MODERATE	HIGH
<i>Carryover SHMP; MGS continues to monitor sea level rise; information including maps and presentations continues to be provided to towns and public. The re-introduction of the Maine Interagency Climate Adaptation Workgroup has better coordinated monitoring resources as they pertain to sea level rise.</i>									
1.5.2.	Sea Level Rise: Provide information to municipalities, utilities, and the public on sea level rise projections, implications, and mitigation opportunities.	SHMP 2019	Knowledge	Flood	MGS, GMRI, NOAA, MEMA	Staff, CCGP, HMA, DOT (MIAF), CZM, CRP	2023-2028	MODERATE	HIGH
<i>Carryover SHMP responding to new projections implemented in new state policy</i>									
1.5.3.	Erosion: Update geological boundaries of the coastal sand dune system, beach profiles, and unstable coastal bluffs in GIS and release the update via web products. Provide DEP with digital data.	MGS Interview 5-2022	Knowledge	Erosion	MGS	Staff, NNGDPP	2023-2028	HIGH	HIGH
<i>Carryover SHMP; updates completed when staff time and resources are available</i>									
1.5.4.	Erosion: Maine Beach Monitoring Project: Continue to monitor the change in beach profiles and dune edge along the southern and mid-coast regions, calculate beach erosion rates and map erosion hazard areas for short- and long-term processes and sea level rise.	MGS Interview 5-2022	Knowledge	Erosion	MGS	Staff, NNGDPP	2023-2028	MODERATE	HIGH
<i>Carryover SHMP; updates completed when staff time and resources are available. Beach erosion documented, but updates are unfunded.</i>									
1.5.5.	Erosion: Support the Maine Beach Monitoring Project: calculate beach erosion rates and map erosion hazard areas for short- and long-term processes and sea level rise.	MGS Interview 5-2022	Knowledge	Erosion	MGS	Staff, NNGDPP	2023-2028	MODERATE	HIGH
<i>Carryover SHMP; Beach monitoring funds have lapsed, seeking funding</i>									

ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
1.5.6.	Mass wasting: Map inland landslide risk areas to infer location, extent, and recurrence of risk.	MGS Interview 5-2022	Knowledge	Mass wasting	MGS	Staff, NNGDPP	2023-2028	MODERATE	HIGH
<i>The landslides database has been established and is typically updated on an annual basis, with data covering most of the state. Susceptibility models are a new undertaking</i>									
1.5.7.	Earthquake: Conduct instrumental monitoring of earthquake occurrences and collection of intensity reports to infer event location, extent, and recurrence. Communicate with regional seismologists.	MGS Interview 5-2022	Knowledge	Earthquake	MGS, MEMA	Staff, NNGDPP	2023-2028	MODERATE	MODERATE
<i>Carryover SHMP; MGS monitors seismic activity throughout the state.</i>									
1.5.8.	Sea level rise: Implement National Park Service Guidelines on Flood Adaptation for Rehabilitating Historic Buildings	Expert review	Infrastructure	Flood, erosion	MHPC, MEMA	Staff, HMA, CRP, EMPG	2021-2028	HIGH	HIGH
<i>New action based on MHPC Weathering Maine report and the following guidelines: <a href="https://www.nps.gov/orgs/1739/upload/flood-adaptation-guidelines-2021.pdf">https://www.nps.gov/orgs/1739/upload/flood-adaptation-guidelines-2021.pdf</a></i>									
1.5.9.	Sea level rise: Implement MHPC's property owner's guide for mitigating coastal flood risk for historic landmarks in the City of Portland, including Bayside and Ferry Village case studies	Expert review	Infrastructure	Flood, erosion	MHPC, MEMA	Staff, HMA, CRP, EMPG	2021-2028	HIGH	HIGH
<i>New action based on MHPC Weathering Maine report and the following guidelines: <a href="https://www.maine.gov/mhpc/sites/maine.gov/mhpc/files/inline-files/GPLPropertyOwnersGuideFINAL_WEB9.8.pdf">https://www.maine.gov/mhpc/sites/maine.gov/mhpc/files/inline-files/GPLPropertyOwnersGuideFINAL_WEB9.8.pdf</a></i>									
<b>1.6.</b>	<b>Public water supplier problem statements: Sea level rise will likely increase contamination of coastal freshwater aquifers with seawater, increases in nuisance flooding increases public health risks from water supply contamination, and recent prolonged episodes of drought put public water suppliers at risk of water shortages.</b>								
1.6.1.	Sea level rise: Provide technical assistance with modeling and upgrade wells to detect and respond to saltwater intrusion if appropriate.	DWP Interview 9-2022	Infrastructure	Flood	PWS, DWP	Staff, HMA	2023-2028	HIGH	HIGH
<i>New action, begun preliminary conversations between MEMA and CDC Drinking Water Program</i>									
1.6.2.	Build flood barriers to protect public water infrastructure and apply green infrastructure, such as rainfall collection and retention ponds.	DWP Interview 9-2022	Infrastructure	Flood	PWS, DWP	HMA, CRP, CCPG, NOAA (RTPFPBR), NOAA (THRCR), NRCS (WFP), FPMS, CWIFP, NRCSWRP	2023-2028	HIGH	HIGH
<i>New action, begun preliminary conversations between MEMA and CDC Drinking Water Program</i>									

ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
1.6.3.	Drought: Determine feasibility and benefits of public water supply interconnections to mitigate drought impacts on water utilities. Provide technical assistance for FEMA HMA grant programs and trainings.	DWP Interview 9-2022	Infrastructure	Drought	DWP	HMA, CRP, FDRP,	2023-2025	HIGH	MODERATE
<i>New action, begun preliminary conversations between MEMA and CDC Drinking Water Program</i>									
1.6.4.	Drought: update drought contingency plans, monitor surface water conditions with a climate change lens, practice innovative water conservation and demand management, implement modern watershed management, and exercise innovative water shortage and outage scenarios with local government and mutual aid partners.	DWP Interview 9-2022	Training	Drought	PWS, DWP	Staff, EMPG, HMA,	2023-2025	HIGH	MODERATE
<i>New action, begun preliminary conversations between MEMA and CDC Drinking Water Program</i>									
<b>1.7.</b>	<b>The future threat of Tier 2 hazards and their sensitivity to climate change concerns Maine communities and state agencies who will have difficulty managing future hazards.</b>								
1.7.1.	Forest Pests: monitor for amplification of forest pests' issues and utilize appropriate mitigation resources.	MFS Interview 5-2022	Knowledge	Forest pests	MFS, MEMA	Staff, EMPG	2023-2028	MODERATE	MODERATE
<i>New action; new hazard included in latest SHMP</i>									
1.7.2.	Forest Pests: Due to the increase of climate change, drought, wildfire and air pollution, forest pests have increased leading to mitigation for state assets and the economy in Maine. Continue to provide technical assistance for the interconnection of natural hazards.	Expert Review	Knowledge	Forest pests	MEMA	Staff, HMA, EMPG	2023-2028	HIGH	HIGH
<i>New Action: There has been an increase in State Agencies, Towns and Communities expressing the detrimental effect on Maine's forests and flora which is the number one economic producer in Maine and there is not preparation to stop this hazard only mitigation actions.</i>									
1.7.3.	Harmful Algal Blooms: Explore funding resources that support long-term monitoring of HAB risk trends for future multi-agency mitigation planning to the greatest extent possible under current statute obligations and staff and resource limitations.	DEP-DMR Interviews 7-2022	Knowledge	HABs	DEP, DMR, MEMA	Staff, HMA, EMPG	2023-2028	MODERATE	MODERATE
<i>New action; new hazard included in latest SHMP</i>									
1.7.4.	Harmful Algal Blooms: Establish joint-agency advisory plans for freshwater HAB safety under the guidance of Maine CDC and in partnership with local conservation organizations and municipalities.	DEP-DMR Interviews 7-2022	Policy	HABs	DEP, CDC	Staff	2025	MODERATE	MODERATE
<i>New action; new hazard included in latest SHMP</i>									

ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
1.7.5.	Harmful Algal Blooms: Explore funding resources to support method development for mitigating new HAB challenges.	DEP-DMR Interviews 7-2022	Policy	HABs	DMR	Staff	2024-2025	MODERATE	MODERATE
<i>New action; new hazard included in latest SHMP</i>									
1.7.6.	Harmful Algal Blooms: Due to the increase of climate change, drought, floods, wildfire and air pollution, algal blooms have increased, leading to mitigation projects to ensure reservoirs, water treatment, tourism, and Maine's fishing communities and revenue are not affected. Continue to provide technical assistance for the interconnection of natural hazards.	Expert Review	Knowledge	HABs	MEMA	Staff, HMA, CCPG, MSCU, SHIP, NOAA (C-BHR), NOAA (RFPBRG), NOAA (RTPFPBR), AOP, NFPP,	2023-2028	HIGH	MODERATE
<i>New Action: There has been an increase in State Agencies, Towns and Communities expressing the detrimental effect on water bodies and there is no preparation to stop this hazard only mitigation actions.</i>									
1.7.7.	Air Quality: Due to the increase of climate change, drought, floods, wildfire and air pollution, air quality has increased leading to mitigation projects to ensure environmental effects on flora and fauna is not degraded and wet and dry deposition to Maine's waterbodies does not promote algal blooms, fish die off, etc. to Maine's fishing economy. An increase in public health issues, a community lifeline, will negatively affect Maine's assets and economy. Air Quality: monitor for amplification of air quality issues and identify appropriate mitigation resources. Provide technical assistance for FEMA HMA grant programs and trainings.	Expert Review	Knowledge	Air quality	DEP, MEMA	HMA, EMPG, Staff	2023-2028	HIGH	MODERATE
<i>New Action: There has been an increase in State Agencies, Towns and Communities expressing the detrimental effects of air pollution (criteria air pollutants) on public health, water bodies, structures and there is not preparation to stop this hazard only mitigation actions.</i>									
1.7.8.	Monitor Tier 2 hazards and evaluate the need for new mitigation assistance efforts for these and other hazards sensitive to climate change. Provide technical assistance for FEMA HMA grant programs and trainings.	MFS Interview 5-2022	Knowledge	Tier 2 hazards	DEP, DMR, MFS, MEMA	Staff, HMA, EMPG	2023-2024	HIGH	HIGH
<i>New action; new hazard included in latest SHMP</i>									
<b>1.8.</b>	<b>Maine's dam infrastructure is aging and the Dam Safety Program is currently understaffed, facing significant challenges with implementing dam risk reduction. [HHPD3]</b>								

ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
1.8.1.	Utilize National Dam Safety Program funds to the greatest extent possible by hiring a Dam Safety Engineer.	HHPD 3-2023	Staffing	Dam hazards	DSP	NDSP	2023	HIGH	HIGH
<i>Maine has been without a Dam Safety Engineer since 2021 and relies on a contractor</i>									
1.8.2.	Establish criteria for prioritizing HHPD-eligible mitigation projects.	Expert Review	Policy	Dam hazards	DSP	Staff	2024	MODERATE	MODERATE
<i>New action; required to implement HHPD program in Maine</i>									
1.8.3.	Continue working collaboratively with other regulatory state agencies to share resources and improve GIS capabilities for updating the dam database and supporting dam safety compliance.	HHPD 3-2023	Partnership	Dam hazards	DEP, DSP	Staff	2023	HIGH	MODERATE
<i>New action; MEMA works with MEGIS and DEP to update a digital dams database for safety and environmental assessments</i>									
1.8.4.	Encourage greater interest in the Dam Safety Program from professional engineers and the University of Maine School of Engineering to enhance recruiting efforts.	HHPD 3-2023	Outreach	Dam hazards	DSP	Staff, academic internship	2023-2024	MODERATE	HIGH
<i>New action to build interest in dam safety with university students</i>									
1.8.5.	Work with dam owners to digitize EAPs: dam failure risk maps, standardize calculations for populations and properties at risk, and incorporate these and other emergency action plan products into LHMPs, the SHMP, emergency operations plans, and a dam incident annex.	Expert Review	Policy	Dam hazards	Dam owners, DSP	Staff	2024	HIGH	MODERATE
<i>New action; EAP products generally provided in paper format</i>									
1.8.6.	Rehabilitate or remove high hazard potential dams where appropriate.	Expert Review	Infrastructure	Dam hazards	Dam owners	NFPP, NOAA (C-BHR), NOAA (RFPBRG), NOAA (RTPFPBR), AOP	2023-2028	HIGH	HIGH
<i>New action; dam removals have increased in Maine over the last decade but with the primary goal of improving access for diadromous fish migration.</i>									
1.8.7.	Calculate populations at risk (PAR) and identify exposed property for Maine's high hazard dams.	HHPD 3-2023	Knowledge	Dam hazards	DSP, MEMA	Staff	2023-2024	MODERATE	HIGH
<i>New action, calculate PAR and impacted structures for dam EAPs if information is absent</i>									
1.9.	<b>The Forest Protection Division is under-resourced for large wildfire events with limited capacity for hazard mitigation, and Maine's administrative plan for the FMAG and HMGP Post Fire requires updates. [FMAG2]</b>								



ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
1.9.1.	Reduce vulnerability of jurisdictions by training communities on wildfire planning and assistance programs such as Community Wildfire Defense Grants, FMAG, HMGP Post Fire, Maine Firewise, and the Northeast-Midwest Wildfire Risk Assessment Portal.	FMAG 4-2023	Training	Wildfire, Forest pests	DACF, MEMA	Staff, CWDG, HMA	2024-2028	HIGH	HIGH
<i>New action; MEMA coordinating with DACF to appropriately direct interest in each program</i>									
1.9.2.	Strengthen collaborative ties between MEMA and Maine Forest Service to support expanding wildfire mitigation in the state, focusing on Community Wildfire Protection Plan updates and the Maine Firewise Education Program.	FMAG 5-2022	Partnership	Wildfire	MEMA, DACF	Staff, HMA, CWDG	2023-2028	HIGH	HIGH
<i>Carryover SHMP, new CWDG program overlaps with HMA and there is a need for CWPP updates</i>									
1.9.3.	Monitor wildfire occurrences and collection of intensity reports for future risk assessments.	FMAG 4-2023	Knowledge	Wildfire	DACF	Staff	2023-2028	MODERATE	HIGH
<i>Carryover SHMP, recent drought elevated the total number of wildfires in Maine, and adjacent areas in Canada are experiencing severe wildfires</i>									
1.9.4.	As county plans are updated, implement strategies consistent with the latest Maine Forest Action Plan.	FMAG 4-2023	Policy	Wildfire	MEMA, DACF	Staff, HMA, EMPG	2025-2028	HIGH	MODERATE
<i>New action; MEMA assessing best practices to integrate LHMPs with Forest Action Plan and implementing through MEMA's technical assistance role</i>									
1.9.5.	Strengthen wildfire risk verification and prioritization by combining real wildfire response data, wildfire risk model data, and vulnerability metrics such as SVI and Justice40 in the Northeast-Midwest Wildfire Risk Explorer.	FMAG 2-2023	Knowledge	Wildfire	SFA, DACF, MEMA	Staff, HMA	2024	HIGH	MODERATE
<i>New action; the Wildfire Risk Assessment Portal is published and deployed for use by emergency managers and state-local planners, but has limited use because it only includes model data and not real wildfire report data and social vulnerability metrics that would greatly increase usability.</i>									
1.9.6.	Incorporate wildfire breaks and fuel reduction in municipal land use planning/development policy, such as through local government ordinances, zoning, or subdivision law.	Expert Review	Infrastructure	Wildfire	Municipal	Staff, SFA, FMAG	2024-2028	HIGH	MODERATE
<i>New action based on lack of natural hazard mitigation concepts in local land use/planning</i>									
1.9.7.	Provide training and education to eligible sub applicants on FEMA HMA funding for wildfire mitigation.	Expert Review	Knowledge	Wildfire, Forest pests	MEMA	Staff, HMA	2023-2028	HIGH	HIGH
<i>New action: In concurrent with updating the HMGP Post Fire, and increased wildfire warnings, education on wildfire mitigation will continue.</i>									
<b>1.10.</b>	<b>Numerous state assets are identified as vulnerable to flooding, coastal storms, erosion, wind damage, and other natural hazards identified in this plan, requiring complex, expensive, and long-term solutions</b>								

ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
1.10.1.	Complete scoping of Stonington Causeway hazard mitigation project to elevate roadway and improve flow under the structure to mitigate ongoing flood and coastal hazard risks amplified by sea level rise	MDOT project list	Infrastructure	Coastal hazards	MDOT	Staff, HMA, MDOT funds	2023-2025	HIGH	HIGH
<i>New action from MaineDOT priority project list: <a href="http://www.maine.gov/mdot/projects">www.maine.gov/mdot/projects</a></i>									
1.10.2.	Complete scoping of Machias dike bridge mitigation project to mitigate ongoing flood and coastal hazard risks	MDOT project list	Infrastructure	Coastal hazards	MDOT	Staff, HMA, MDOT funds	2023-2025	HIGH	HIGH
<i>New action from MaineDOT priority project list: <a href="http://www.maine.gov/mdot/projects">www.maine.gov/mdot/projects</a></i>									
1.10.3.	Complete Madawaska/Edmundston international bridge replacement to prevent risk of flood damage to aging infrastructure.	MDOT project list	Infrastructure	Flood, erosion	MDOT, HIP, INFRA	Staff, HMA, MDOT funds	2023-2025	HIGH	HIGH
<i>New action from MaineDOT priority project list: <a href="http://www.maine.gov/mdot/projects">www.maine.gov/mdot/projects</a></i>									
1.10.4.	Complete Woolwich station 46 bridge mitigation replacement due sea level rise, erosion, and flooding of aging infrastructure.	MDOT project list	Infrastructure	Coastal hazards	MDOT	Staff, HMA, MDOT	2023-2024	HIGH	HIGH
<i>New action from MaineDOT priority project list: <a href="http://www.maine.gov/mdot/projects">www.maine.gov/mdot/projects</a></i>									
1.10.5.	Complete Sanford downtown revitalization project	MDOT project list	Infrastructure	All-hazards	MDOT	Staff, MDOT funds	2023-2025	HIGH	HIGH
<i>New action from MaineDOT priority project list: <a href="http://www.maine.gov/mdot/projects">www.maine.gov/mdot/projects</a></i>									
1.10.6.	Complete Waterville-Winslow Ticonic Bridge mitigation project	MDOT project list	Infrastructure	Flood, erosion	MDOT	Staff, HMA, MDOT funds	2023-2024	HIGH	HIGH
<i>New action from MaineDOT priority project list: <a href="http://www.maine.gov/mdot/projects">www.maine.gov/mdot/projects</a></i>									
1.10.7.	Complete Frank J. Wood bridge replacement project to prevent risk of flood damage to aging infrastructure	MDOT project list	Infrastructure	Coastal hazards	MDOT	Staff, HMA, MDOT funds	2025-2026	HIGH	HIGH
<i>New action from MaineDOT priority project list: <a href="http://www.maine.gov/mdot/projects">www.maine.gov/mdot/projects</a></i>									
1.10.8.	Assess sea level rise flood risk of Lincolnville Beach ferry terminal	MDOT Interview 10-2022	Infrastructure	Coastal hazards	MDOT	Staff, HMA, MDOT funds	2023-2028	MODERATE	HIGH
<i>New action from MaineDOT</i>									
1.10.9.	Assess flood risk of Swan Island ferry terminal	IF&W Interview 10-2021	Infrastructure	Flood, erosion	MDOT	Staff, HMA, MDOT funds	2023-2028	MODERATE	MODERATE
<i>New action from IF&amp;W</i>									

ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
1.10.10.	Provide technical assistance to Presumpscot River Corridor Vulnerability Assessment	Expert review	Infrastructure	Mass wasting, erosion	MGS, GPCOG, MDOT	Staff, HMA	2023-2028	HIGH	HIGH
<i>New action from MaineDOT</i>									
1.10.11.	Merge Gray and Yarmouth water districts to meet water demand under dry/drought conditions and growing population	Expert review	Infrastructure	Drought	DWP, water districts	BRIC	2023-2028	HIGH	HIGH
<i>New action from public water suppliers</i>									
1.10.12.	Merge Wiscasset water district with adjacent districts to meet water demand under dry/drought conditions and growing population	Expert review	Infrastructure	Drought	DWP, water districts	BRIC	2023-2028	HIGH	HIGH
<i>New action from public water suppliers</i>									
<b>Goal 2: Enhance state natural hazard mitigation capabilities through greater coordination among federal, state, county, and local partners.</b>									
<b>2.1. Maine SHMP products are underutilized for informing other planning efforts that would benefit from the natural hazard risk/capability assessments and mitigation strategy. State agencies are proactive in plan integration.</b>									
2.1.1.	Align hazard mitigation concepts across the SHMP, State Climate Plan, and Maine Climate Council initiatives, reports, and planning guidance.	MWW 5-2022	Integration	Climate hazards	MCC, MEMA, GOPIF	Staff, HMA	2024-2026	HIGH	HIGH
<i>MCC to kick off again in 2024. Concepts: state infrastructure adaptation fund. Best aligned with Safeguarding Tomorrow</i>									
2.1.2.	Collaborate with the Floodplain Management Program to improve the Substantial Damage Plan. The current SDP provides the bare minimum of requirements and requires stronger cooperation with partner agencies and full integration with the State Hazard Mitigation Plan.	PT 4-2023	Integration	Flood	FMP	Staff, HMA, NFIP	2024	HIGH	HIGH
<i>New integrated SDP to be implemented in 2024. 2023 SDP fulfills base requirements of Floodplain Management Program, but requires stronger cooperation with MEMA and other state agencies to be more effective.</i>									
2.1.3.	Support integration between municipal comprehensive plans and LHMPs with formal distribution of planning packets including mitigation planning resources, fact sheets, and strategies for integration in other planning mechanisms.	PT 4-2023	Policy	All-hazards	MEMA	Staff, EMPG, HMA	2023-2028	HIGH	HIGH
<i>New action; implement HMP products in MPAP packets</i>									
2.1.4.	Establish and facilitate collaborations among regional planning organizations in support of multi-jurisdictional plans.	PT 4-2023	Partnership	All-hazards	MEMA	Staff, CRP, HMA, EMPG	2023-2024	HIGH	MODERATE
<i>New action; substantial need for regional planning assistance for County EMAs. Exploring potential in coastal counties.</i>									

ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
2.1.5.	Promote wider involvement of partners in the SHMP update through the Silver Jackets program.	SJ 5-2023	Partnership	Flood, erosion	USACE, DACF, DEP, NOAA, MEMA	Staff, FPMS, EMPG, HMA	2022-2023	MODERATE	MODERATE
<i>New action based on feedback from Maine SJ team members</i>									
2.1.6.	Provide awareness of importance of the SHMP and LHMPs for eligibility of FEMA HMA grants.	SHMP 2019	Integration	All-hazards	MEMA	Staff, HMA, EMPG	2023, 2025-2028	HIGH	HIGH
<i>Carryover SHMP; trainings and outreach continue to be important for growing interest in the mitigation program</i>									
2.1.7.	Integrate SHMP Risk Assessment findings into the next State Commodity Flow Study to determine potential cascading risk between natural hazards and HAZMAT concerns.	PT 4-2023	Integration	All-hazards	MEMA	Staff, HMA, EMPG	2023-2024	HIGH	HIGH
<i>New action; previous Commodity Flow Study did not provide digital geospatial data for overlay analysis with SHMP Risk Assessment. New study will produce digital data for analysis.</i>									
2.1.8.	Integrate SHMP Risk Assessment findings into the next THIRA/SPR through use of MEMA's Capabilities and Risk Assessment Tool (CaRAT).	Expert Review	Integration	All-hazards	MEMA	Staff, HMA, EMPG	2023-2024	MODERATE	HIGH
<i>New action; new information on natural hazard risks will help inform local emergency managers of capability gaps.</i>									
2.1.9.	Support DEP Priorities and Commitments for taking action on climate change, protecting human and environmental health, and advancing sustainable development.	DEP Strategic Planning 2023	Integration	All-hazards	MEMA	Staff, HMA, EMPG	2023-2028	HIGH	HIGH
<i>New action; new information on natural hazard risks will help inform best practices for implementing the strategic plan.</i>									
<b>2.2.</b>	<b>Though current technical assistance and administration needs are met, a growing interest in the HMA program has led to an unprecedented number of grant applications with potential future capacity issues.</b>								
2.2.1.	Implement a Mitigation Fellowship Program through various funding sources and partnerships to assist local government with hazard mitigation needs.	PT 5-2023	Staffing	All-hazards	VM, NBRC, MEMA	NBRC, HMA	2023-2028	HIGH	HIGH
<i>New action; applying for NBRC funding to support fellows</i>									
2.2.2.	Create internship opportunities leveraging university fellowships/scholarships to support state and local planning efforts.	PT 5-2023	Staffing	All-hazards	MC, TCI, MEMA	University, WRRRI	2023-2028	HIGH	HIGH
<i>New action; ongoing opportunity, MEMA has hosted three interns in the last two years</i>									
<b>2.3.</b>	<b>State mitigation/resilience grant programs have limited cross-agency coordination, posing challenges for applicants wishing to pursue the most eligible and least competitive funding sources. Communication between federal grant and planning officials and state officials is currently insufficient.</b>								

ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
2.3.1.	Utilize the 406 public assistance program and the 404 FEMA hazard mitigation assistance program to the maximum extent possible to implement mitigation actions.	SHMP 2019	Funding	All-hazards	MEMA	Staff, PA, HMA, EMPG	Disaster Declaration event	HIGH	HIGH
<i>Carryover SHMP utilizing new programs and new tools for accurately documenting damage</i>									
2.3.2.	Partner with Maine Forest Service to better utilize wildfire mitigation funds from the Community Wildfire Defense Grant Program for At-Risk Communities.	FMAG 4-2023	Funding	Wildfire, Forest pests	DACF, MEMA	Staff, CWDG, HMA	2023-2028	MODERATE	HIGH
<i>New action based on Maine receiving new funds for CWDG</i>									
2.3.3.	Partner with GOPIF to integrate climate hazards and resilience concepts into LHMPs to better utilize the Community Resilience Partnership in support of LHMP mitigation actions that align with GOPIF's list of Community Actions.	MWW WG 5-2022	Funding	All-hazards	GOPIF, MEMA	CRP, EMPG, HMA	2022-2024	HIGH	HIGH
<i>New action based on MCC working group</i>									
2.3.4.	Coordinate programs with other organizations responsible for funds listed in the Capabilities Assessment to better implement mitigation actions across the state.	PT 5-2023	Funding	All-hazards	All partners	Staff	2023-2024	MODERATE	MODERATE
<i>New action established through Mitigation Team interviews</i>									
2.3.5.	Collaborate with GEO to identify, prioritize, and implement resilient energy solutions for critical public facilities under the Grid Resilience Grant Program.	ESP 8-2022	Energy	All-hazards	GEO	GRP	2022-2023	MODERATE	MODERATE
<i>New action based on collaboration between GEO and MEMA to identify priority critical facilities for GRP</i>									
2.3.6.	Collaborate with MaineDOT to encourage use of best mitigation practices during planning and completion of priority MaineDOT projects, where appropriate.	MDOT Interview 10-2022	Infrastructure	All-hazards	MDOT	Staff, HMA, MHF,	2024	MODERATE	HIGH
<i>New action from collaboration with MaineDOT on transportation vulnerability assessment</i>									
2.3.7.	Implement the new Farmer Drought Relief Program to support Maine farmers in identifying and accessing new water sources to overcome the adverse effects of drought conditions.	DTF 3-2023	Funding	Drought	DACF	FDRP	2023-2028	HIGH	HIGH
<i>Program first received funding in 2023</i>									
<b>2.4.</b>	<b>Plan integration is limited by a lack of collaborative map and data production and sharing.</b>								

ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
2.4.1.	Meet with mitigation experts to review and combine GIS/data capabilities and resources to support mitigation planning and grant applications.	SHMP 2019, Expert review	Partnership	All-hazards	All partners	All	2023-2024	HIGH	HIGH
<i>Carryover SHMP, new useful data are constantly being provided for use in planning</i>									
2.4.2.	Improve information sharing and facilitate meaningful engagement by all sectors potentially impacted by flood and drought for the River Flow Advisory Commission and Drought Task Force.	DTF AAR 2021	Policy	Flood, Drought	RFAC/DTF Members	Staff, EMPG	2024	MODERATE	HIGH
<i>New action; need identified through 2021 after action report</i>									
2.4.3.	Collect hazard, vulnerability, and potential/actual loss data to estimate losses, future risk, and mitigation benefit-cost estimates for state- and municipally-owned and operated assets.	SHMP 2019, Expert Review	Knowledge	All-hazards	MEMA, County EMAs	Staff, EMPG	2023-2024	MODERATE	HIGH
<i>Carryover SHMP, new tools and resources are available at state and local level</i>									
2.4.4.	Collaborate with Maine GeoLibrary to track changes in development in hazard-prone areas: disseminate E911 data, digitize and update/maintain municipal parcels data, and identify potential funding sources to support GIS efforts.	GeoLib 1-2023	Knowledge	All-hazards	GeoLib	Staff, EMPG	2023-2024	MODERATE	MODERATE
<i>New action; began out of necessity to track development in hazard-prone areas using GIS</i>									
2.4.5.	Support development of ME-CFRM coastal dynamic inundation model and utilize map products to identify changes in vulnerability from combined impacts of sea level rise, storm surge, and inland flooding for storms of differing magnitude.	ME-CFRM 3-2022	Knowledge	Coastal hazards	MDOT	ME-CFRM	2022-2025	MODERATE	MODERATE
<i>New action expanding from old action for collecting LiDAR data; new NOAA coastal LiDAR flights proceeding through 2023 and processing into 2024 2024</i>									
2.4.6.	Establish and maintain ESRI Group between MEMA and NOAA to share georeferenced natural disaster imagery and data relevant to monitoring the location, extent, and impacts of all natural hazards that occur in Maine.	GeoLib 3-2023	Partnership	All-hazards	MEMA, NOAA, MEGIS	Staff, ESRI, EMPG	2023	HIGH	HIGH
<i>New action based on local NOAA weather office interest in data from MEMA digital Initial Damage Assessments and assistance with sharing ESRI content from MEGIS.</i>									
2.4.7.	Share risk analysis data with NOAA to establish a Brief Vulnerability Overview Tool (BVOT).	NOAA Interview 5-2023	Knowledge	All-hazards	MEMA, NOAA, MEGIS	Staff, ESRI, EMPG	2023-2024	MODERATE	HIGH
<i>New action; NWS Gray given opportunity to develop BVOT for western Maine and New Hampshire</i>									

ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
2.4.8.	Coordinate with county and municipal governments to retrieve better information of rates and locations of development changes in hazard prone areas, such as from municipal address registration and residential construction and septic permit records.	Expert Review	Knowledge	All-hazards	MEMA, County EMA, Municipal	Staff, EMPG, HMA	2023-2024	HIGH	HIGH
<i>New action; all oversight on construction/development is managed at municipal levels, making it very difficult to determine development trends across all of Maine and potential infringement on hazard-prone areas.</i>									
2.4.9.	Utilize Maine Cooperative Snow Survey to analyze trends and determine potential indicators of snow drought and multi-year drought.	MGS Interview 5-2022	Knowledge	Drought, Flood	MEMA, MGS	Staff, EMPG	2021-2028	MODERATE	MODERATE
<i>New action based on drought trends and low relative snowpack from 2020-2023</i>									
2.4.10.	Promote and provide education to State Agencies on eligibility of FEMA HMA grants and the importance of integration of plans for funding.	Expert Review	Knowledge	All-hazards	MEMA	Staff, HMA, EMPG	2023-2024	HIGH	HIGH
<i>New action: Continue education on FEMA HMA grant program to State Agencies for mitigation actions.</i>									
<b>2.5. Maine needs stronger standards for evaluating the effectiveness of mitigation projects to keep pace with greater investment in hazard mitigation assistance.</b>									
2.5.1.	Continued revisions the FEMA disaster 404 program and HMGP Post Fire, hazard mitigation Administrative Plan to include current presidential guidance, current FEMA guidance, and subrecipient responsibilities.	PT 5-2023	Policy	All-hazards	MEMA	HMA, EMPG	2023-2024	HIGH	HIGH
<i>Revision will be based on new SHMP risk assessment and FEMA guidance. State Administrative Plan is updated with each new disaster or significant weather event.</i>									
2.5.2.	Prioritize mitigation projects that serve state and federal requirements for the equitable distribution of resources.	PT 5-2023	Equity	All-hazards	MEMA	Staff, HMA	2023	HIGH	MODERATE
<i>New action; new prioritization will be based on federal guidance</i>									
2.5.3.	Assist with MaineDOT's vulnerability assessment of transportation assets and procure a statewide asset management platform.	State Transit Plan 2023	Infrastructure	All-hazards	MDOT	Staff	2023-3024	HIGH	HIGH
<i>New action; MEMA has shared the SHMP risk assessment with MaineDOT</i>									
<b>2.6. The HHPD program is unused in Maine. [HHPD3]</b>									
2.6.1.	Utilize HHPD funds to the greatest extent possible by notifying eligible dam owners of the funding opportunity and training them in the application process.	HHPD 3-2023	Knowledge	Dam hazards	DSP	HHPD	2024-2028	HIGH	MODERATE
<i>New action; Maine recently identified some dams that are eligible in the state</i>									

ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
2.6.2.	Identify other opportunities for non-federal high hazard potential dam risk reduction investments consistent with SHMP goals for natural hazard risk reduction.	Expert Review	Funding	Dam hazards	DSP	Staff, HMA	2023-2028	HIGH	HIGH
<i>New action; identifying potential funding sources relevant to dam risk reduction through natural solutions or infrastructure improvement</i>									
2.6.3.	Provide FEMA HMA grant program education for dams needing mitigation for future natural hazards.	Expert Review	Knowledge	Dam hazards	MEMA	Staff, HMA	2023-2028	HIGH	HIGH
<i>New action: provide education on mitigation for dams that have historic evidence of natural hazard issues</i>									
<b>Goal 3: Improve hazard mitigation literacy and awareness among the public, business owners, academic institutions, and state, county, and local officials.</b>									
<b>3.1. Though there have been gradual improvements in mitigation literacy, frequent turnover in local government, creation of new programs, and other challenges reduce awareness of and interest in the hazard mitigation program.</b>									
3.1.1.	Provide hazard mitigation assistance trainings on a recurring basis and in the event of natural disasters.	SHMP 2019	Training	All-hazards	MEMA	Staff, HMA,	2023-2028	HIGH	HIGH
<i>Carryover SHMP, new programs and new staff require training</i>									
3.1.2.	Use MEMA’s website to post the State’s Hazard Mitigation Plan as well as articles and other hazard mitigation educational materials, awarded grants, notice of funding opportunities, and to post notice of meetings, workshops and training exercises.	SHMP 2019	Outreach	All-hazards	MEMA	Staff, website	2023-2028	HIGH	HIGH
<i>Carryover SHMP; MEMA has used its website to post the State Mitigation Plan, training, exercises, and workshops.</i>									
3.1.3.	Leverage existing social media platforms to distribute information to the public.	SHMP 2019	Outreach	All-hazards	MEMA	Staff	2023-2028	HIGH	HIGH
<i>Carryover SHMP, utilize the service to promote HMA</i>									
3.1.4.	Continue the annual Maine Preparedness Conference. Continue to revise, update, and make available materials aimed at educating local officials and the public about hazard mitigation.	SHMP 2019	Outreach	All-hazards	MEMA	Staff, EMPG	2024	HIGH	MODERATE
<i>Carryover SHMP; MEMA has held the Maine Partners in Preparedness Conference annually since 2009. Other outreach efforts are ongoing.</i>									
3.1.5.	Facilitate mitigation workshops for state agencies, federally recognized tribes, counties, municipal partners, and interested stakeholders in an effort to mitigate all natural hazards	SHMP 2019	Training	All-hazards	MEMA	Staff, HMA, EMPG	2023-2028	MODERATE	MODERATE
<i>Carryover SHMP; workshops continue to be held on a recurring basis. During COVID-19, the majority of workshops were held virtually.</i>									
3.1.6.	Develop and conduct workshops for communities on natural hazard mitigation centering on the use of nature-based solutions, emphasizing assistance for communities interested in applying for BRIC funding.	Expert Review	Training	All-hazards	TNC, MEMA	Staff, HMA	2024-2027	HIGH	HIGH
<i>New action based on proposal by TNC</i>									



ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
3.1.7.	Provide HHPD program trainings to county and local emergency managers to increase awareness and interest. [HHPD4]	HHPD 3-2023	Training	Dam hazards	DSP	Staff, HHPD, EMPG	2024-2025	MODERATE	HIGH
<i>New action; HHPD is virtually unknown to Maine county EMAs</i>									
<b>3.2. Previous SHMP Risk assessment products lack accessibility and are underutilized as an educational tool.</b>									
3.2.1.	Develop online and GIS risk assessment resources to facilitate greater intake of SHMP resources.	GeoLib 7-2022	Knowledge	All-hazards	MEMA	Staff, HMA	2023	HIGH	HIGH
<i>New action; online resources developed for SHMP and referenced in the Plan; eventual intent to create a fully digital SHMP by next plan update 2028.</i>									
3.2.2.	Implement digital surveys that support monitoring, evaluating, and updating mitigation plans.	GeoLib 12-2022	Knowledge	All-hazards	MEMA	Staff, HMA	2022-2028	HIGH	MODERATE
<i>New action; transferring methods used to support digitization of PA program damage assessments (Survey123 and Microsoft Power Automate)</i>									
3.2.3.	Implement natural hazard dashboard to determine local risks, EDRCs, and SVI.	Expert Review	Knowledge	All-hazards	MEMA	Staff, HMA	2023-2024	HIGH	HIGH
<i>New action; online resources have been developed but require review by users to determine effectiveness.</i>									
<b>3.3. Future changes in risk will require new, effective mitigation actions informed by a diversity of subject matter experts.</b>									
3.3.1.	Present on the state hazard mitigation program in university courses focused on resilience planning and emergency management such as UMaine Augusta's Trauma-Informed Emergency Management Program.	Umaine Interview 12-2021	Outreach	All-hazards	MEMA	Staff, EMPG, HMA	2023-2024	MODERATE	MODERATE
<i>New action; connecting with researchers to build future planning collaborations</i>									
3.3.2.	Engage subject matter experts and incorporate new natural hazards research literature into state and local risk assessments to improve our understanding of risk and craft new effective actions to mitigate risk.	Umaine-USGS Interview 4-2023	Knowledge	All-hazards	USGS, NOAA, MEMA	Staff, EMPG, WRRRI, HMA	2023-2028	HIGH	HIGH
<i>New action based on new SHMP risk assessment process</i>									
3.3.3.	Explore academic-government projects such as the Novel Shallow Well Design to mitigate drought risks in Maine and improve development practices in areas with poor access to potable water.	Umaine-USGS Interview 4-2023	Partnership	Drought	USGS, NOAA	Staff, WRRRI, EMPG, FDRP	2023-2028	HIGH	MODERATE
<i>New action; communicating with potential partners and exploring feasibility of mitigation assistance</i>									
3.3.4.	Attend and present at FEMA workshops the natural hazards in Maine.	Expert Review	Outreach	All-hazards	MEMA	Staff, HMA, EMPG	2023-2028	MODERATE	MODERATE
<i>New action; present on the unique natural hazard issues in Maine</i>									
<b>3.4. More engagement is needed with local businesses for whole community mitigation planning.</b>									

ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
3.4.1.	Coordinate with SBA to help businesses and homeowners transition from disaster recovery (low-interest disaster loans) to hazard mitigation.	Expert Review	Partnership	All-hazards	SBA, MEMA	Staff, SBA, IA	2024	HIGH	HIGH
<i>New action; SBA is beginning to offer a new disaster assistance program that can be deployed by a much lower damage threshold, with the potential to encourage business investment in hazard mitigation rather than just purely recovery from major damage. However, more collaboration is necessary to align programs with MEMA.</i>									
3.4.2.	Seek opportunities to improve rural small business recovery and mitigation through SBA's implementation of the new Disaster Assistance for Rural Communities Act.	Expert Review	Equity	All-hazards	SBA, MEMA	Staff, SBA, IA	2025-2028	HIGH	MODERATE
<i>New action; Rural communities often face more severe impacts from natural disasters due to limited access to resources and infrastructure, which limits a community's ability to recover and avert long-lasting economic hardship. This act authorizes the SBA to remove burdensome requirements for declaring disasters in rural communities.</i>									
<b>Goal 4: Implement mitigation actions that preserve or restore the functions of natural systems and emphasize sustainable development.</b>									
<b>4.1. Land use planning and development practices do not necessarily incorporate the comprehensive range of natural hazard impacts present in Maine.</b>									
4.1.1.	Update the Maine Uniform Building and Energy Code with the most recent (2021) International Code Council family of codes.	MUBEC 5-2023	Policy	All-hazards	OSFM	Staff, BRIC	2023	HIGH	HIGH
<i>New action; MUBEC will be updated to 2021 codes by fall 2023.</i>									
4.1.2.	Utilize the Third-Party Inspector Program to the greatest extent possible.	MUBEC 5-2023	Infrastructure	All-hazards	OSFM	Staff	2023-2028	HIGH	HIGH
<i>New action; this program is currently underutilized, but provides crucial support for building permitting/inspections in rural areas with limited capacity for building code enforcement.</i>									
4.1.3.	Incorporate official state sea-level rise projections into regulations.	MWW 10-2022	Policy	Flood, Climate hazards	DEP	Staff	2022	HIGH	HIGH
<i>New action; In 2022 Sea level rise projections for 2050 and 2100 were been incorporated into several Maine statutes (LD 1970, P.L. 590), and regulatory agencies are studying how best to implement those changes along with any other changes for a comprehensive approach. 2019 legislation (LD 1679, P.L. 476) established that SLR projections be updated every four years.</i>									
4.1.4.	Develop and implement updated land-use regulations, laws, and practices to enhance community resilience to flooding and other climate impacts.	MWW 5-2023	Policy	Flood, Climate hazards	DEP	Staff, NFIP, CCGP	2024	HIGH	MODERATE
<i>New action; in 2022 Sea level rise projections for 2050 and 2100 have been incorporated into several Maine statutes (LD 1970, P.L. 590), and regulatory agencies are studying how best to implement those changes along with any other changes for a comprehensive approach. In 2021, DEP, DACF, MEMA, DMR, IFW, DOT, and the Maine OAG assembled a preliminary list of laws and rules administered by each agency where regulated activities could be impacted by sea level rise, storm surges or flooding. DEP identified changes to statutes and rules for solid waste facilities, sites that have a substantial effect on the environment, for protected natural resources, stormwater management, for certain critical infrastructure, and for contractor training. DEP has begun to convene partners, to begin developing revisions, and to adopt changes to several rules concurrently and ongoing.</i>									

ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
4.1.5.	Develop recommendations for the use of hurricane storm surge inundation maps and hurricane evacuation zones in model ordinance guidance and provide public education to promote storm surge awareness.	HES 2020	Policy	Tropical Cyclone	MEMA	Staff, FEMA, FPMS	2024-2026	HIGH	MODERATE
<i>MEMA completed the Hurricane Incident Annex in 2018. The HES was completed for Maine in 2020 including participation with 10 coastal counties and resulting in 140 designated evacuation zones. MEMA was selected for potential FEMA Contract Support for Evacuation Planning to update the evacuation Incident Annex. MGS has worked with individual communities on modeling the impacts of storm surges.</i>									
4.1.6.	Develop recommendations for the use of EAP dam failure inundation maps and evacuation zones in model ordinance guidance and provide public education to promote dam failure risk awareness. [HHPD4]	HHPD 6-2023	Policy	Dams	MEMA	Staff, NDSP, EMPG	2024-2026	HIGH	MODERATE
<i>New action utilizing strategy to digitize dam resources</i>									
4.1.7.	In developing areas of the state, monitor the extent to which upstream development may or may not be contributing to the potential for increased downstream flooding, erosion, and other hazards. Implement findings in future development regulations and mitigation planning efforts to avoid adverse impacts.	SHMP 2019	Knowledge	Flood, Erosion	DACF	Staff, MSCU	2023-2028	HIGH	MODERATE
<i>Carryover SHMP; DEP has just hired an intern to help with some GIS work to begin analyzing development trends in Maine.</i>									
4.1.8.	Use best-available hazard, vulnerability, and asset spatial overlay data to inform all-hazards model ordinance guidance, including guidance for hazards not covered by current ordinance language, such as building codes, bluff erosion, and mass wasting.	SJ 5-2023	Integration	All-hazards	Municipal, MEMA, MEGIS, DACF, DEP	Staff, website	2023-2028	HIGH	MODERATE
<i>New action; MEMA has completed the Maine Risk Map but there is currently no implementation of all-hazards model ordinance</i>									
4.1.9.	Implement NFIP, Mandatory Shoreland Zoning, Maine Forest Practices Act, MUBEC, Growth Management, Coastal Zone Management, and other state land use, development, and construction requirements.	SHMP 2019; Expert review	Policy	All-hazards	DACF, DEP, FM, DMR	Staff, HMA, NFIP	2023-2028	HIGH	HIGH
<i>Carryover SHMP with expanded regulation</i>									
<b>4.2.</b>	<b>Traditional mitigation actions tend to rely on built infrastructure with less prioritization for natural solutions.</b>								

ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
4.2.1.	Provide trainings and guidance on natural based solutions in accordance with the FEMA Building Resilience Infrastructure and Communities and Flood Mitigation Assistance grant programs.	SHMP 2019	Policy	All-hazards	MEMA	HMA	2023-2028	HIGH	HIGH
<i>Carryover SHMP; DEP is currently working on developing guidance and trainings for nature-based solutions and are also exploring rule revisions to help facilitate more streamlined, and perhaps incentivized, permitting for living shorelines.</i>									
4.2.2.	Encourage living shorelines as an effective, natural mitigation action against flooding, erosion, and mass wasting and seek new sources of funding for this valuable program.	Living Shorelines Program	Policy	flood, erosion, mass wasting	MGS	Staff, CRP, HMA	2023-2028	HIGH	HIGH
<i>A decision support tool was developed for Casco Bay and several projects have been implemented, but the program lacks sufficient funding</i>									
4.2.3.	Utilize MDOT hydraulic capacity guidance for sizing and placement of municipal culverts and implement through the Municipal Stream Crossing Upgrade Program.	Expert Review	Infrastructure	flood, erosion	MDOT, municipal	MSCU, FMPS, CCGP	2023-2028	HIGH	HIGH
<i>New action, MDOT guidelines were published prior to this plan update and MSCU has provided funding to some of these projects, but many more municipal culvert projects require assistance and are eligible.</i>									
<b>4.3.</b>	<b>Hazard mitigation planning lacks integration with management practices for vulnerable natural systems, cultural historic sites, and other assets valuable to Maine's tourism and resource-based economies.</b>								
4.3.1.	Identify and implement opportunities to integrate the SHMP into other state agency plans where appropriate.	PT 5-2023	Integration	All-hazards	MEMA and all partners	Staff, EMPG, HMA, CRP	2023-2028	HIGH	HIGH
<i>New action based on input from mitigation partners. DEP is incorporating natural hazards into environmental regulations, guidance, and funding programs in reference to the SHMP.</i>									
4.3.2.	Explore strategies for implementing Natural and Beneficial Functions to the floodplain and preserving historic buildings.	SHMP 2019	Partnership	Flood	DACF, MEMA, MHPC	Staff, NFIP, CCGP, HPF	2023-2028	HIGH	HIGH
<i>Carryover SHMP, incorporating Weathering Maine report into future local and state planning</i>									
4.3.3.	Coordinate with Maine Historic Preservation Commission to incorporate mitigation concepts into local and state planning for historic locations, set prioritization for preserving vulnerable archaeological sites, and integrate findings from Weathering Maine into future risk assessments.	MHPC Interview 12-2022	Partnership	All-hazards	MHPC, MEMA	Staff, HPF, HMA, EMPG	2023-2024	MODERATE	MODERATE
<i>New action based on communication with Maine Historic Preservation Commission</i>									
4.3.4.	Coordinate with the Department of Environmental Protection to incorporate considerations for environmental impacts in mitigation planning.	DEP Interview 12-2022	Partnership	All-hazards	DEP, MEMA	Staff, HMA	2023-2028	MODERATE	HIGH

ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
<i>New action but efforts have been ongoing since last plan update</i>									
4.3.5.	Participate in working groups, committees, workshops, conferences, as well as facilitate communication between state agencies, counties, tribes, and municipal partners.	Expert Review	Outreach	All-hazards	MEMA, all partners	Staff, HMA	2023-2028	MODERATE	HIGH
<i>New action but efforts have been ongoing since last plan update</i>									
<b>Goal 5: Integrate equity into all facets of the state hazard mitigation program.</b>									
<b>5.1. Maine lacks implementation of a common equity protocol.</b>									
5.1.1.	Implement final recommendations from the Maine Climate Council Equity Subcommittee and establish common equity protocols with partners for use in future SHMP and LHMP updates.	MWW 1-2023	Policy	All-hazards	MCC Partners	Staff, CRP	2023-2028	HIGH	HIGH
<i>New action; final recommendations provided at the start of 2023</i>									
5.1.2.	Evaluate whether mitigation actions and capabilities are implemented with equitable distribution of benefits and update strategies accordingly.	MWW 5-2023	Equity	All-hazards	MEMA, GOPIF	Staff, HMA	2023-2028	HIGH	HIGH
<i>New action; MEMA is establishing process for evaluation</i>									
5.1.3.	Include FEMA definition of impoverished communities, SVI, and Justice40 during the State Review Panel ranking for FEMA HMA grants.	Expert Review	Equity	All-hazards	MEMA	Staff, HMA	2023-2028	HIGH	HIGH
<i>New action: Maine has become proactive in equity alongside of FEMA and the importance of grant awards.</i>									
<b>5.2. Many knowledge gaps remain regarding the diversity of Maine’s hazard mitigation equity landscape.</b>									
5.2.1.	Provide comprehensive assessments and planning/grant guidance for socially vulnerable and disadvantaged communities at highest risk of natural disasters identified by vulnerability indicators such as Justice40, EDRCs, FEMA RAP, SVI, and CEJST, with further prioritization of repetitive loss and intense development pressures.	MWW 6-2022	Equity	All-hazards	MEMA, GOPIF	Staff, EMPG, HMA, CRP	2023-2028	HIGH	HIGH
<i>New action; MEMA implements GIS tools: CDC SVI and CEJST</i>									
5.2.2.	Develop best practices for inferring vulnerability from spatial demographic data in Maine.	Expert Review	Equity	All-hazards	MEMA, GOPIF	Staff	2023-2028	MODERATE	HIGH
<i>New action; MEMA reviewing various demographic analyses to identify common trends in vulnerability</i>									
5.2.3.	Develop and maintain dashboard to distinguish hazard risks, SVI, and impoverished communities for potential mitigation projects.	Expert review	Equity	All-hazards	MEMA	Staff	2023-2028	HIGH	HIGH
<i>New action: This tool will aid in promoting FEMA HMA grants to equitable areas.</i>									

ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
5.2.4.	Provide education on the FEMA HMA BRIC grant and opportunities for SVI .6 or greater.	Expert review	Equity	All-hazards	MEMA	Staff, HMA	2023-2028	HIGH	HIGH
<i>New action: FEMA HMA BRIC grant assists Towns with a SVI of .6 or greater with grant development.</i>									
<b>5.3. Many community action agencies are focused on immediate housing/vulnerability challenges and lack capacity to plan for long-term equitable hazard mitigation.</b>									
5.3.1.	Strengthen partnerships with MaineHousing, MaineCAP, Maine Municipal Association, and other organizations that have developed equitable practices to work directly with socially vulnerable and disadvantaged communities.	IA Interview 3-2023	Equity	All-hazards	MEMA	Staff, EMPG	2023-2028	HIGH	HIGH
<i>New action; MEMA is growing a pre-existing partnership with these organizations that previously were focused on response and recovery as opposed to mitigation</i>									
5.3.2.	Expand Maine's Individual Assistance program and build stronger connections between recovery and mitigation to encourage risk reduction practices by private residents.	IA Interview 3-2023	Capability	All-hazards	MEMA	Staff, EMPG, HMA	2023-2028	HIGH	HIGH
<i>New action; new staff hired for Individual Assistance program and partner outreach has begun</i>									
5.3.3.	Develop and Implement Preparedness Education strategies to target Vulnerable Communities on a state level to increase resilience in partnership with State Social Service Agencies such as DHHS, Office of Aging and Disability and Office of Family Independence.	IA Interview 6-2023	Training	All-hazards	MEMA	Staff, EMPG	2023-2028	HIGH	HIGH
<i>New action expanding on work done for recovery by IA Program</i>									
5.3.4.	Provide FEMA HMA grant program opportunities to engage the funding options to community action agencies.	Expert review	Knowledge	All-hazards	MEMA	Staff, HMA	2023-2028	HIGH	HIGH
<i>New action: Provide individual FEMA HMA training and education to CA groups.</i>									
5.3.5.	Improve housing availability for disadvantaged and underserved communities.	Maine Housing Interview 4-2023	Infrastructure	All-hazards	Maine Housing	CDBG, CDBG-DR, CDBG-MIT, USDA-RD	2023-2028	HIGH	MODERATE
<i>New action: Maine Housing notes that there is not enough housing for disadvantaged communities in Maine.</i>									
<b>Actions completed since 2019 Plan Update. Ongoing or expanded actions are listed above and compose the majority of 2019 actions.</b>									
1.2.C.	State Plan. Maintain and update a State Hazard Mitigation Plan, including the State Administrative Plan.	SHMP 2019	Knowledge	Flood	MEMA	Staff	2018	MODERATE	HIGH
<i>Completed</i>									

ID number	Goals, Objectives, and Actions	Source	Category/gap	Hazards Addressed	Responsible Entities	Potential resources*	Timeline	Impact	Feasibility
1.4.A.	Additional Staff. Hire additional staff to improve the agency’s hazard mitigation capabilities.	SHMP 2019	Staffing	All-hazards	MEMA	Staff, Federal, State funds	2018-2023	HIGH	HIGH
<i>Completed</i>									
1.4.B.	Prioritization. Develop agency priorities so that MEMA staff resources can be directed to the most important tasks and the areas of the state with the greatest need, within the limits of maintaining a manageable workload.	SHMP 2019	Staffing	All-hazards	MEMA	Staff, Federal, State funds	2018-2023	HIGH	HIGH
<i>Completed</i>									
1.5.C.	Potential Losses. Collect hazard, vulnerability, and potential/actual loss data to estimate losses for state-owned and operated buildings, infrastructure and critical facilities associated with all plausible hazard events.	SHMP 2019	Knowledge	All-hazards	MEMA	Staff	2022	HIGH	HIGH
<i>State assessment completed; see actions above for other infrastructure</i>									
3.2.A.	Risk Map. Coordinate and Support FEMA’s Risk Map Program and provide support to communities undergoing updated flood hazard mapping.	SHMP 2019	Knowledge	Flood	FEMA, DACF	Staff, Federal funds	2018-2023	HIGH	HIGH
<i>Completed for Southern Penobscot, Oxford, Kennebec, Knox, Androscoggin, Cumberland, York counties, ongoing for several others</i>									
4.1.C.	Complete the Hurricane Incident Annex	SHMP 2019	Knowledge	Flood	MEMA	Staff	2018	MODERATE	HIGH
<i>Completed</i>									
6.1.A.	Monitoring. Continue to monitor drought conditions on an as-needed basis.	SHMP 2019	Knowledge	Flood	MEMA	Staff	2018	MODERATE	HIGH
<i>Not Mitigation - Removed</i>									
3.1.A.	Workshops on Geo-Synthetics. Continue to sponsor workshops through the Local Roads Center on the use of geo-synthetics to better mitigate flood damages to local roads, bridges, culverts and ditches.	SHMP 2019	Knowledge	Flood	MEMA	Staff	2018	MODERATE	HIGH
<i>Completed</i>									

\* Under the “Potential Resources” column, HMA refers to all Hazard Mitigation Assistance programs including BRIC, BRIC DTA, FMA, HMGP, HMGP Post Fire, and LPDM. These programs are often reported together as a potential resource for actions that have not yet applied for funding because their eligibility requirements are similar. Though not part of the HMA programs, 406 Mitigation Program may be eligible if critical infrastructure is damaged during a disaster. Any reference to “Staff” in this column indicates that staff hours are a primary resource for implementing the action.