

# *Hazard Mitigation Plan Update*

**Groton, MA**

Public Workshop #1 – March 24, 2026, 6:00 PM

Town Hall – First Floor Meeting Room



# *Agenda*

- What is Hazard Mitigation Planning?
- 2020 Plan Report Card
- Local Hazard Mitigation Committee
- Connection to Local & State Planning
- Developing the Hazard Mitigation Plan
- Community Survey



# *What is Hazard Mitigation Planning?*

**Hazard Mitigation:** Any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards.

**Natural Hazard:** Any event or physical condition that has the potential to cause fatalities, injuries, property damage, infrastructure damage, and agricultural loss, damage to the environment, interruption of business, or other types of harm and/or loss.

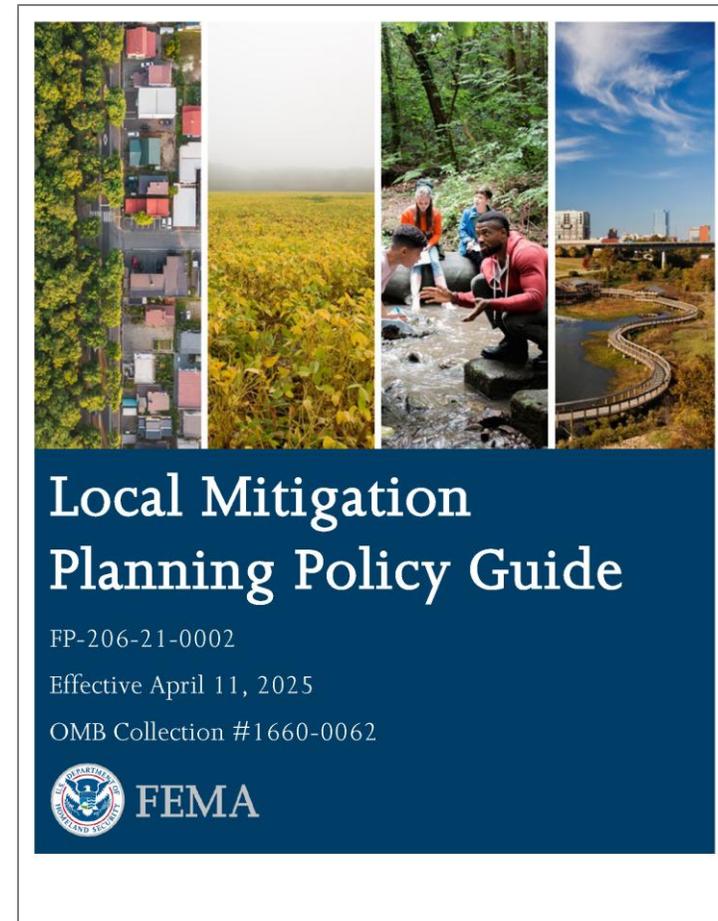
*Mitigation planning helps communities plan for hazard risk and facilitates actions to reduce or eliminate long-term risk from hazards.*



# *What is Hazard Mitigation Planning?*

## **Hazard Mitigation Plans (HMPs)**

- Established through the Disaster Mitigation Act of 2000
- Communities must have an approved HMP to qualify for certain disaster mitigation grants.
- Five-year update cycle.



# 2020 HMP Report Card

## 72 Actions

- Completed: 28
- Partially Completed: 27
- Incomplete: 16
- Status to be Confirmed: 1

*The Town has reviewed each partially completed and incomplete action and given initial thoughts on whether the action is still relevant and should be carried forward into the 2026 HMP Update. Some ongoing activities that the Town conducts may be better discussed as **capabilities** rather than carried forward as actions.*



# *2020 HMP Report Card - Highlights*

## **WATER SUPPLY AND INFRASTRUCTURE**

Build a resilient water treatment facility outside of the floodplain with green infrastructure stormwater controls. *Whitney Pond Wells Water Treatment Facility completed/operational in early 2024.*

## **SCHOOLS**

Develop or coordinate emergency response plans with public and private schools. *Town develops/coordinates plans as an ongoing best practice.*

## **OPEN SPACE AND FORESTED LAND**

Identify critical land around reserves and assess options for easements or land acquisition. *The Conservation Commission proactively looks for opportunities to acquire priority parcels and seeks CPA funds annually for acquisitions/easements.*



# 2020 HMP Report Card - Highlights

## **ELECTRIC GRID/ENERGY**

Incentivize energy efficiency and explore peak demand pricing. *GELD implemented time of use rates with peak pricing. The Town is also pursuing energy efficiency and conservation grant funding for the South and North Regional Middle School buildings and the Police Station.*

Expand GELD's renewable energy portfolio. Purchase eight-megawatt storage batteries for power. *Two batteries have been installed so far, with a third battery acquisition/installation in progress.*

Install electric charging stations and prepare regulations for electric vehicles. *The Town has installed 4 electric charging stations (Lawrence Academy also has two publicly accessible charging stations).*

## **ROADWAYS, BRIDGES, CULVERTS, & STORMWATER DRAINAGE**

Continue to install beaver deceivers as needed to mitigate flooding caused by beaver dams. *DPW has installed beaver deceivers and actively maintains them.*



# *Local Hazard Mitigation Committee*

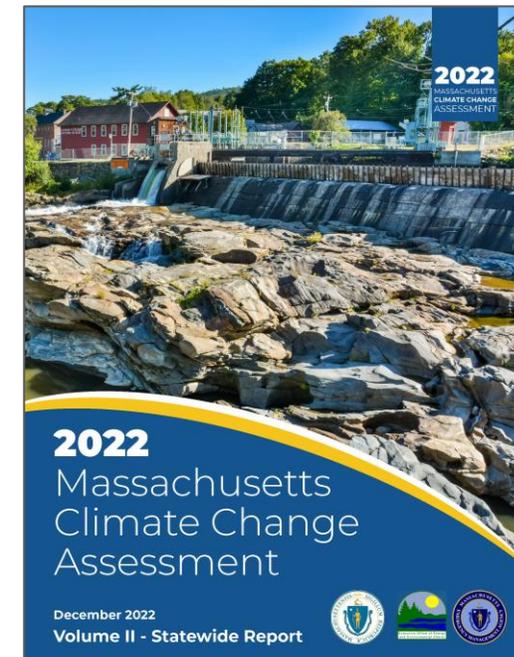
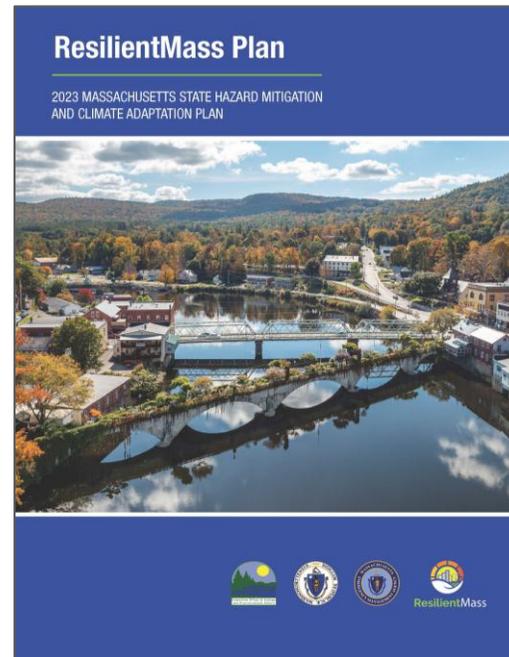
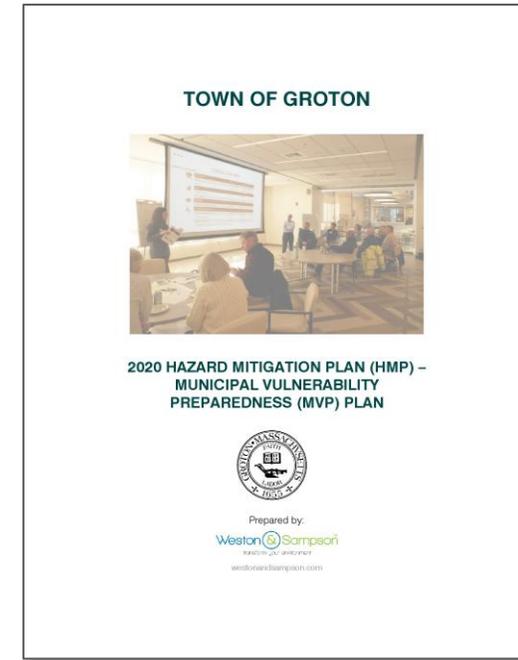
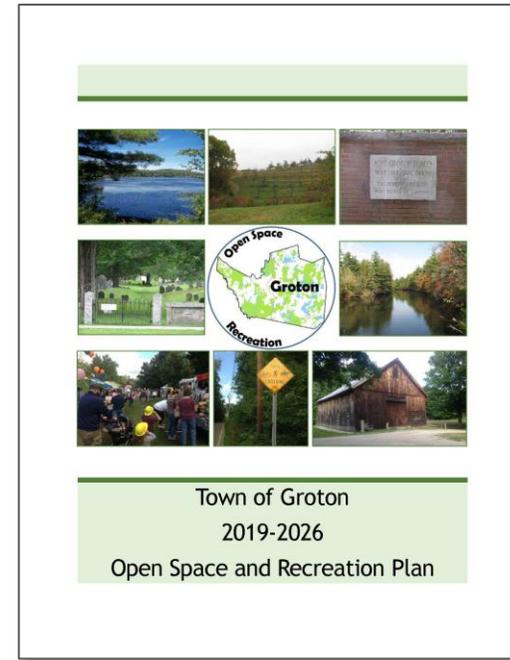
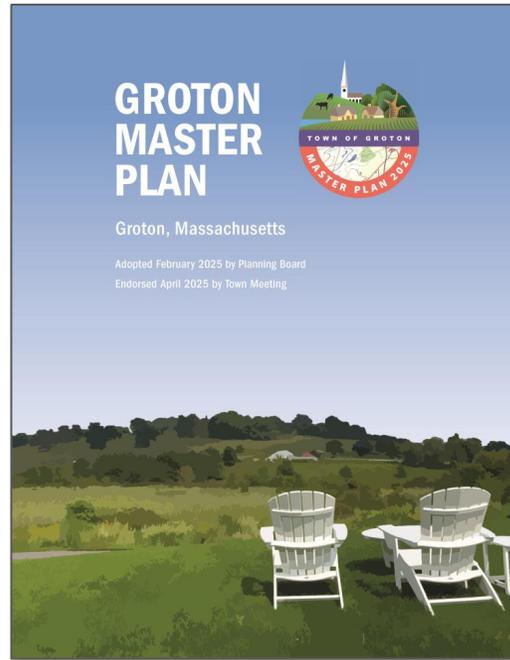
- **Art Cheeks** – Fire Chief
- **Brian Callahan** – Dept. of Public Works Director
- **Charlotte Steeves** – Conservation Administrator
- **Frank Mastrangelo** – Lawrence Academy, Security Director
- **Jon Patterson** – Groton Electric Light Department, Manager
- **Mark Haddad** – Town Manager
- **Michael Luth** – Police Chief
- **Mike O'Donnell** – Groton School, Asst. Head of Residential Life
- **Rachael Mead** – Deputy Police Chief & Emergency Management Director (Project Manager)
- **Rob Maloney** – Water Dept., Interim Water Superintendent
- **Takashi Tada** – Land Use Dept. Director & Town Planner
- **Terry Gardner** – Deputy Fire Chief & Deputy Emergency Management Director
- **Veronica O'Donnell** – Sustainability Commission

## *Horsley Witten Group*

- *Kellie King – Environmental Planner (Project Manager)*
- *Craig Pereira – Sr. Environmental Planner, HMP Team Lead*



# Connection to Local & State Planning



# Groton Master Plan (2025)



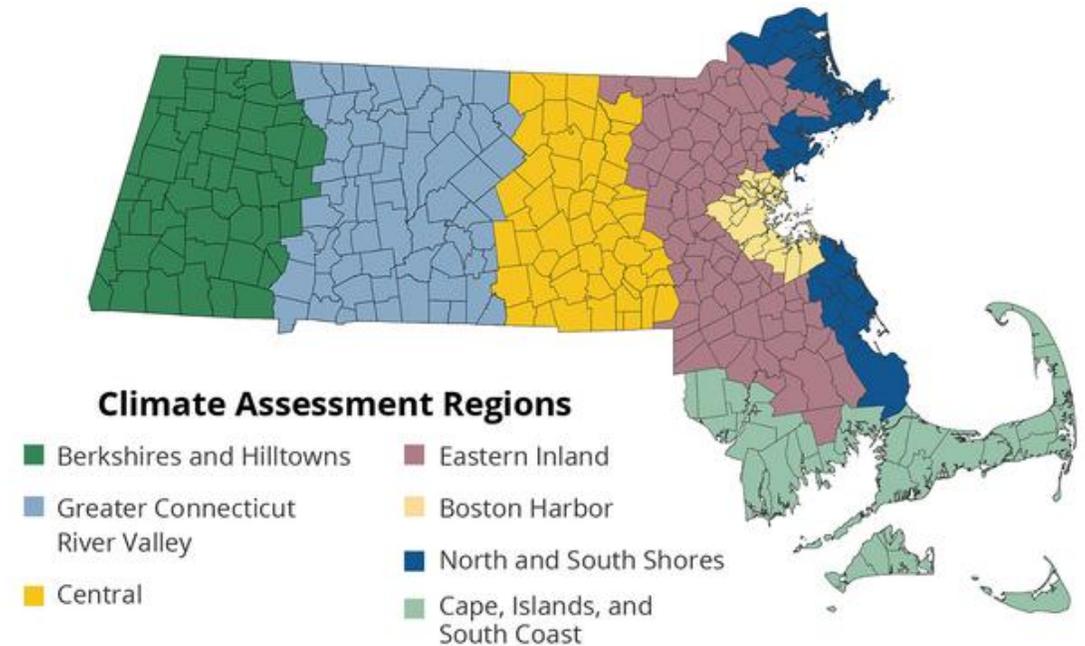
## Groton is a town that...

- Promotes sustainable and strategic land use policies that balance growth and change with preserving Groton's charming New England village character along with the expansive rural and natural areas.
- Protects and conserves Groton's natural resources, historic, and cultural sites for future generations.
- Maintains and expands accessible open spaces and recreational facilities that promote community well-being and outdoor enjoyment.
- Improves transportation infrastructure and promotes alternative modes of transportation, enhancing connectivity within Groton.
- Facilitates the development of diverse, affordable housing options that meet the needs of all residents.
- Cultivates a business-friendly environment that attracts new enterprises, supports existing businesses, and increases economic opportunities.
- Works to continually enhance municipal services and facilities to better serve all residents and provides support for our public schools.
- Works to be more resilient to climate change through shared responsibility by government, residents, and businesses.



# MA Climate Change Assessment (2022) & MA State Hazard Mitigation & Climate Change Adaptation Plan (2023)

- Reviews current science and assesses climate change impacts.
- Identifies highest urgency climate impacts by region and by sectors:
  - Human
  - Governance
  - Infrastructure
  - Natural Environment
  - Economy



Source: MA Executive Office of Energy and Environmental Affairs, <https://www.mass.gov/info-details/top-impacts-in-the-central-region>



# MA Climate Change Assessment (2022) & MA State Hazard Mitigation & Climate Change Adaptation Plan (2023)

## Human



**Reduction in Food Safety and Security** due to production and supply chain issues, as well as spoilage during power outages.

**Health and Cognitive Effects from Extreme Heat**, including premature death and learning loss.

## Infrastructure



**Damage to Electric Transmission and Utility Distribution Infrastructure** associated with heat stress and extreme storms.

**Loss of Urban Tree Cover** due to heat, drought, and increased pests.

## Natural Environment



**Freshwater Ecosystem Degradation** due to warming waters, drought, and increased runoff.

**Forest Health Degradation** from warming temperatures, changing precipitation, extreme storms, and increasing pest occurrence.

## Governance



**Increase in Costs of Responding to Climate Migration**, including planning for abrupt increases in local populations.

**Increase in Demand for State and Municipal Government Services**, including emergency response, food assistance, and state-sponsored health care.

## Economy



**Reduced Ability to Work**, particularly for outdoor workers during extreme heat, as well as commute delays due to damaged road infrastructure.

**Decrease in Agricultural Productivity** as crop yields are impacted by precipitation patterns, extreme weather, pests, and other climate factors.

# *Developing the HMP*



1. Assess Risks
2. Establish Goals
3. Identify Mitigation Actions
4. Confirm Procedures to Update & Maintain Plan

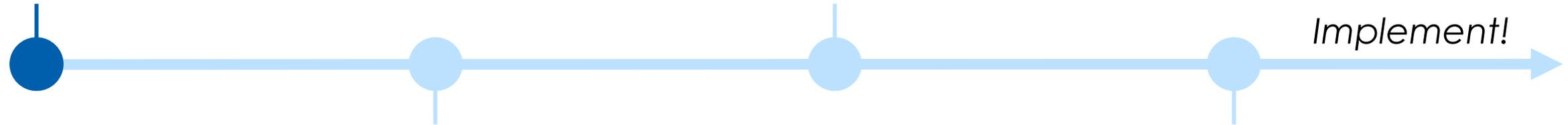
# Project Schedule

## Dec 2025 – Spring 2026

- Kickoff
- Assess hazard risks and vulnerabilities
- Public meeting and survey

## Summer – Fall 2026

- Public meeting
- Confirm mitigation actions
- Confirm plan update and maintenance procedures



## Spring – Summer 2026

- Develop goals
- Identify mitigation actions

## Fall – Winter 2026

- Plan review and approval

# *Assess Risks:* *Natural Hazards Affecting Groton*

## **Flood Related**

- Riverine & Flash Flooding
- Heavy Rain & Stormwater (Inland/Urban) Flooding
- Dam Failure
- Beaver Activity



## **Wind Related**

- High Winds
- Hurricanes & Tropical Storms
- Thunderstorms, Microbursts & Lightning
- Tornadoes
- Hail



## **Winter Related**

- Blizzards, Heavy Snow, Winter Weather & Nor'easters
- Ice Storms
- Extreme Cold



# *Assess Risks:* *Natural Hazards Affecting Groton*

## **Geologic Related**

- Earthquakes
- Landslides



## **All Other Hazards**

- Brush Fire & Wildfire
- Extreme Heat
- Drought
- Changes in Groundwater
- Invasive Species



## **Climate Change**

How does climate change affect the frequency, severity, and extent of natural hazards?



# Assess Risks:

## Determine Relative Risk & Impacts

Natural Hazard	Frequency				Severity				Hazard Index
Riverine & Flash Flooding	✓	✓	✓	✓	✓	✓			Higher Concern
Heavy Rain & Stormwater (Inland/Urban) Flooding	✓	✓	✓	✓	✓	✓			Higher Concern
Dam Failure	✓				✓	✓	✓	✓	Medium Concern
Beaver Activity	✓	✓	✓	✓	✓	✓	✓		Higher Concern
High Winds	✓	✓	✓	✓	✓	✓			Higher Concern
Hurricanes & Tropical Storms	✓	✓	✓	✓	✓	✓	✓		Higher Concern
Thunderstorms, Microbursts & Lightning	✓	✓	✓	✓	✓	✓	✓		Higher Concern
Tornadoes	✓				✓	✓			Lower Concern
Hail	✓	✓	✓	✓	✓				Medium Concern

# Assess Risks:

## Determine Relative Risk & Impacts

Natural Hazard	Frequency				Severity				Hazard Index
Blizzards, Heavy Snow, Winter Weather & Nor'easters	✓	✓	✓	✓	✓	✓			Higher Concern
Ice Storms	✓	✓	✓		✓	✓			Medium Concern
Extreme Cold	✓	✓	✓	✓	✓				Medium Concern
Earthquakes	✓				✓				Lower Concern
Landslides	✓				✓				Lower Concern
Brush Fire & Wildfire	✓	✓	✓	✓	✓	✓			Higher Concern
Extreme Heat	✓	✓	✓	✓	✓				Medium Concern
Drought	✓	✓	✓	✓	✓	✓	✓		Higher Concern
Changes in Groundwater	✓	✓	✓	✓	✓				Medium Concern
Invasive Species	✓	✓	✓	✓	✓	✓	✓		Higher Concern

# *Assess Risks:* *Identify Vulnerabilities of Assets*

## **Social Assets**

- Vulnerable Populations
- Cultural Locations

## **Economic Assets**

- Businesses/Large Employers
- Historic assets

## **Natural Resources**

- Wetlands
- Conservation/Recreation Sites

## **Essential Buildings & Critical Facilities**

- Municipal Buildings
- Hazardous Facilities
- Roadways/Bridges



# *Developing the HMP: Future Steps*



1. Assess Risks
- 2. Establish Goals**
- 3. Identify Mitigation Actions**
- 4. Confirm Procedures to Update & Maintain Plan**

# *Establish Goals:*

## *Revisit 2020 HMP Goals & Update As Appropriate*

To protect public health, property, infrastructure, the environment, and cultural resources through a hazard mitigation and climate adaptation program that involves increased coordination, planning, education, and capital improvements.

### **Topic-specific goals on:**

- Shelters
- Coordination
- Education
- Notification
- Infrastructure
- Vulnerable Populations
- Natural Environment
- Development
- Finance



# *Identify Mitigation Actions*

## **Developed based on:**

- Review of existing plans, studies, and reports
- The Town's identified risks and vulnerabilities
- Public input
- Municipal coordination

## **Mitigation actions will include:**

- Brief description of the intended action
- Responsible entity/entities for implementation
- Proposed time frame for completion
- Potential funding mechanism



# Identify Mitigation Actions

## Prioritizing actions based on FEMA's STAPLEE Method:

Social

- Is the action socially acceptable?

Technical

- Is the action technically feasible and provide an appropriate level of protection?

Aministrative

- Does the Town have the capacity to complete the action?

Political

- Will the community support or oppose the action?

Legal

- Does the Town have the legal authority to complete the action?

Economic

- Is the action cost-effective?

Environmental

- How will the action affect the natural environment?



# *Setting the Stage:* *Implementing, Updating and Maintaining the Plan*

## **Developing the HMP includes:**

- Assessing the Town's existing capabilities
- Confirming and/or establishing procedures for periodic review of the HMP and updates as appropriate

## **The HMP should be:**

- Updated after a natural disaster and/or every five years
- Incorporated into other municipal documents



# *Public Input*



# *Community Survey*

Tell us more about how natural hazards have affected you and what your hazard mitigation concerns and priorities are!

Access via link or QR code:

[https://www.surveymonkey.com/r/  
GrotonHMPSurvey](https://www.surveymonkey.com/r/GrotonHMPSurvey)



# *Thank You!*

## **Rachael Mead**

Town of Groton

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## **Kellie King**

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Project Manager / Environmental Planner

[kking@horsleywitten.com](mailto:kking@horsleywitten.com)



Community survey: <https://www.surveymonkey.com/r/GrotonHMPSurvey>

Project website: <https://www.grotonma.gov/hazard-mitigation-plan/>

