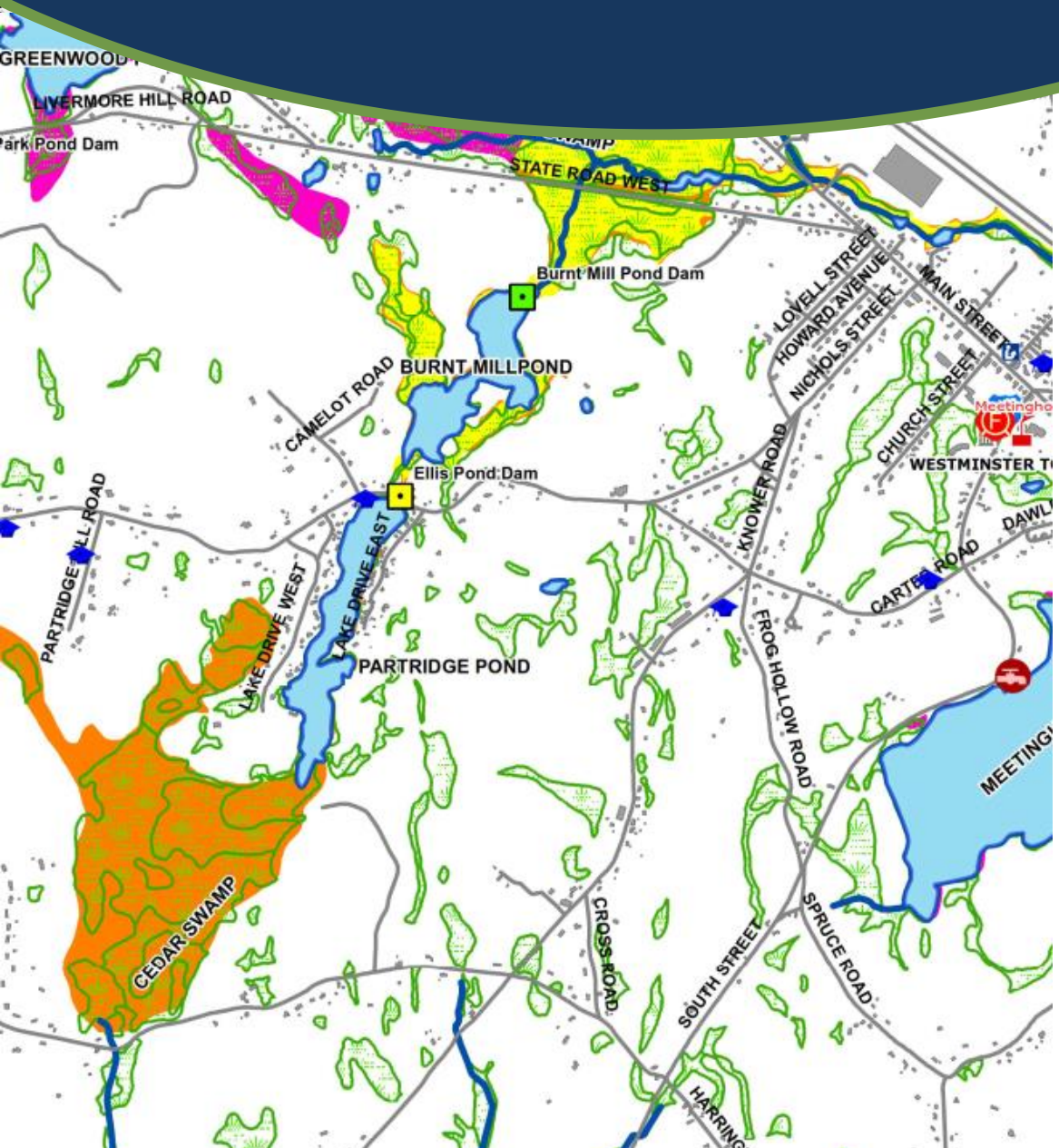
MVP Community Resilience Program

Community Resilience Building Workshop

Summary of Findings Report

Town of Westminster, Massachusetts



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1.0 Overview

The Town of Westminster is located in Worcester County, 40 miles northwest of Boston and 12 miles north of Worcester. It is bordered by Ashburnham to the north, Fitchburg to the east, Hubbardston to the southwest, Princeton to the southeast, and Gardner to the west. The town encompasses 37 square miles, of which 1.8 square miles is water. The large majority of Westminster is in the Nashua River Basin, with a small portion of the southwestern tip in the Chicopee River basin, and an even smaller part of the western corner of the town in the Millers River basin. The town's population has grown from 6,904 in the 2000 US Census to 7,277 in the 2010 US Census and in 2018 was estimated at 7,884. The town has many scattered areas of wetlands, several streams and ponds, and a large amount of forested area.

Over the past several years there have been an increasing number of impacts due to climate change that have affected the Town of Westminster. With more frequent storms, the high winds often associated with those storms have caused increasing downed trees and powerlines, with multiple storms having this effect during extreme weather every year, most notably during the Patriot's Day storm of 2007 and the Ice Storm of 2008. In more recent years, the town has experienced a variety of environmental hazards from invasive species, such as vector borne disease from mosquitos, tree death from emerald ash borer bugs and root mold, and increasing falling branches. Not only have weather patterns become more severe, but the demographic of local wildlife is shifting as well, bringing in larger numbers of animals like beavers, which are more frequently damming up local rivers and culverts, leading to flooding problems.

In response to the effects of climate change, the Town of Westminster sought out the Municipal Vulnerability Preparedness (MVP) Program and conducted a Community Resilience Building (CRB) workshop to identify and address the growing vulnerabilities in Town.

The Workshop's central objectives were to:

- Define top local natural and climate-related hazards of concern;
- Identify existing and future strengths and vulnerabilities; and
- Develop prioritized actions for the Community.

Westminster partnered with BETA as its state-certified MVP Planning grant provider to assist with the process and facilitate the CRB workshop. The core team set goals for the workshop and identified and engaged community members to participate. Inviting members of the municipality to directly address intensifying natural hazards due to climate change creates more targeted solutions to these problems and encourages the community to take ownership of the ongoing efforts involved in these solutions. This program is designed to foster discussion in order to help municipalities identify the vulnerabilities, strengths, and opportunities to take action to reduce risk and build resilience in their communities.

1.1 Community Resilience Building Workshop

As part of the MVP Program, the Town of Westminster received a grant to host a CRB Workshop. This report documents the results from the CRB Workshop which BETA facilitated following the CRB framework. The CRB framework is a system of discussions and note taking developed by The Nature Conservancy and prescribed by the MVP Program. The goal of this workshop was to further investigate the Town's prior planning efforts and resiliency measures and to develop a list of strengths, and priority actions to focus on in the immediate future.

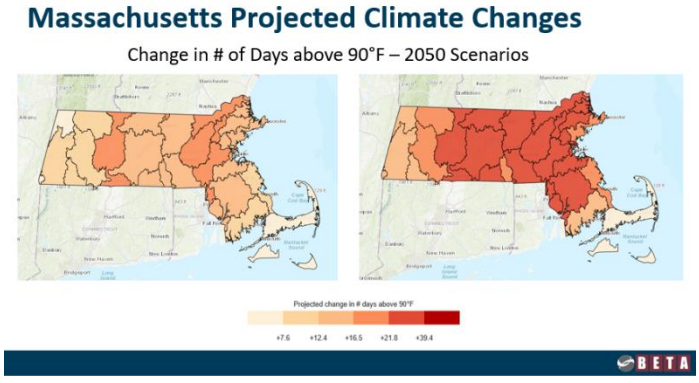
1.1.1 Participants and Planning

Planning began with discussions between BETA and the DPW Director and the Assistant DPW Director to identify the core team and participant invite list which was selected with guidance from the CRB Workshop Participant Worksheet. An effort was made to invite participants from several different departments to have a broad range of perspectives on how climate change would affect the town. There were 16 participants from the community who attended the CRB workshop, and they represented many different departments, boards and community members. Diverse representation was crucial to the success of the program, as the Police noticed different hazards than the Public Works Department, and the Health Agent. Westminster has a lot of interactions with the surrounding towns, especially within the DPW and emergency response teams. Folks from these departments had a more regional understanding of these Town problems, where some other attendees had a more town-focused approach during discussion. This diversity of thought and perspective allowed the workshop to be highly informative and an overall success. The workshop invite list and list of invitees and participants is attached in **Appendix A**. The core team consisted of DPW Director Joshua Hall and Assistant DPW Director Patrick Haley.

One unexpected hurdle in planning this CRB Workshop were the special considerations due to the pandemic. This event was originally scheduled for April of 2020, but with the complete shut down due to COVID-19, the workshop was unable to be conducted. There were efforts to conduct an in-person event during the lull in COVID cases over the summer, corresponding to an increase in the allowed number of people in a gathering but several participants were uncomfortable with an in-person event, and others were unavailable. As cases and restrictions increased during the fall it was decided that the event must be virtual. With continued efforts to include as many people as possible, to run a successful and informative workshop, the new date was set for March 2021.

The participants were divided into two groups, distinguished by the colors red and blue as noted on the matrices. These teams were split up using the "mixed sector" approach, described in the CRB Workshop Guide as grouping "participants from diverse sectors together to foster an exchange of different perspectives and actions for community resilience building. This approach helps participants see the connections comprehensively and develop common actions with co-benefits across sectors." These effects were evident, and the diversity in thought led to a difference in priorities, creating a dynamic discussion throughout the workshop, where participants were introduced to assets and perspectives which they had not previously considered. In the end the groups were able to identify resiliency opportunities that solved multiple vulnerabilities across departments.

1.1.2 Workshop Process



It was decided that the workshop would be held in one, six-hour session, held on Tuesday, March 16, 2021. The workshop session was held from 9:30 am to 3:30 pm via Zoom. BETA led this workshop with Andrew Dennehy, a CRB-trained individual, and others. They provided an overview of climate change in the area as well as climate observations and projections from the Northeast Climate Science Center research, and implications that these changes will have on Westminster's infrastructure, society, and environment so participants could have a more informed discussion throughout the rest of the workshop. The presentation is attached in **Appendix B**.

Throughout the Workshop process, BETA facilitators led the participants in discussion, often using some of the "Triggering Questions" identified in the Community Resilience Building Workshop Guide. Some questions which proved to be most useful were: What hazards have impacted your community in the past? What hazards are impacting your community currently? Where and how often do these impacts occur? What natural resources are important to your community? What makes this infrastructure vulnerable? Location, age, building codes, type of housing?

The session began with an overview of the CRB Workshop, the goals of this session and climate change predictions for the Nashua River Basin by BETA MVP-Certified facilitator Andrew Dennehy, P.E. Projections for this area predict that precipitation will increase by 8%, there will be 20% fewer days below freezing, and up to 6 times as many days over 90° F by 2050. A summary of this information, which was given to participants as a handout, is attached in **Appendix C**. A map of the town overlaid with FEMA flood zones was provided to each small group and a map depicting critical facilities in town was also displayed for reference. These maps can be found in **Appendix D**.

The participants then broke out into their designated small groups for further discussion. Small group discussions began by assessing hazards affecting Westminster. This portion of the MVP workshop also incorporated the discussion of Westminster's Hazard Risk Summary Table from the Westminster Hazard Mitigation Plan. Participants filled out the table by discussing the 14 natural hazards most impactful in Massachusetts. These 14 hazards can be seen in **Figure 1**, taken from the 2018 State Hazard Mitigation and Climate Adaptation Plan[1].

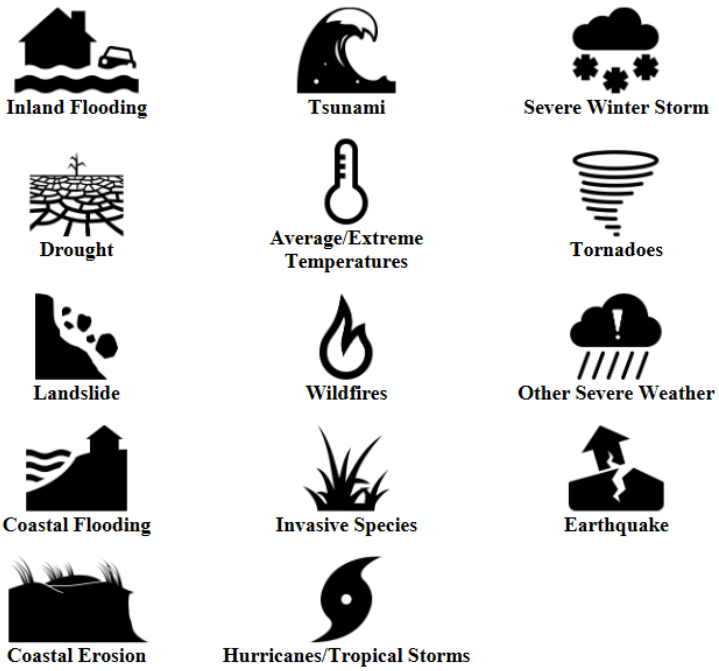


Figure 1: 14 Hazards Identified in Massachusets SHMCAP

After this discussion, groups developed a list of the top four hazards of concern each group felt Westminster was most impacted by. Groups referenced maps to discuss vulnerable areas, infrastructure, flood zones, and community resources in order to better assess which hazards to prioritize in the Risk Matrix.

The participants then returned to the larger group to discuss and come to a consensus on the top four hazards moving forward. After a discussion of the hazards brought up by both groups, the top 4 agreed upon hazards were identified as Flooding, High Wind/Rain Storms, Drought and Snow/Ice Storms. After this discussion, the participants returned to their groups in order to discuss features and add them to the matrix. Additionally, during this period of time, participants reviewed and updated a Critical Facilities List which will be used and referenced in the Westminster Hazard Mitigation Plan. Looking at the map in conjunction with the four identified hazards allowed the participants to more clearly see the risk and strength of specific areas and identify the locations most impacted by the top 4 hazards identified as a priority. This was very helpful in discussion of which features were most important. Participants also

[1] Massachusetts Emergency Management Agency – 2018 https://www.mass.gov/files/documents/2018/10/26/SHMCAP-September2018-Full-Plan-web.pdf

identified who owned each feature and categorized it as vulnerability or strength. These matrices can be found in **Appendix D**. The participants discussed their features in a large group informally, followed by a break for lunch.

The participants then returned to their small groups to fill in the Risk Matrix by discussing action items that address the hazard and the feature by either posing a solution to a hazard/feature or enhancing the strengths of a feature against a specific hazard identified in the previous session. Some common action items included public outreach and education, tree trimming, and dam maintenance. Participants were also concerned about backup power sources in key locations, like the DPW, which is the home of the SCADA system, the senior center, and some of the pump stations in town. Throughout the small group discussions, the BETA facilitators stayed with groups to ask questions to prompt discussion (triggering questions) and provide guidance.

After actions had been identified, the small groups decided whether each action was a high, medium, or low priority and if the time frame was short term, long term, or ongoing action. This prioritization naturally separated the many actions into categories, making it easier to distinguish the *most* important. Using this information each small group determined their top five or six priority actions to present to the large group.

After the groups had completed the above tasks individually, participants reconvened to discuss, rank and prioritize together in order to come to a consensus on the highest priority actions to be taken across Westminster. Each group explained their thought process and stated their top five actions. A discussion ensued in which the group at large deliberated why some items should or shouldn't be included in the priority actions. The results and any other notable information throughout the process of the workshop are described in the following sections of this report. Notes were taken during the discussions of the hazards, critical facilities and assets, and when each group contributed their ideas during large group discussion. These were typed and "screen-shared" during the discussion so everyone could see. These notes can be found in **Appendix E**.

2.0 Summary of Findings

2.1 Current Concerns & Challenges

2.1.1 Top Hazards Of Concern

During the small group discussion, the following hazards were identified as being most prevalent and/or impactful in the Town of Westminster and were brought up for discussion in the larger group. Several of these hazards were grouped together because of their similarities.

Red Group Top Priorities

- Drought
- Snow/ Ice
- Flooding
- Thunderstorm/High Wind

Blue Group Top Priorities

- Flooding
- Snow/Ice Storm / Blizzard
- Drought
- High Wind/Nor'easter

All Hazards Discussed as Priority

- Flooding
- Snowstorm
- Ice Storm
- Blizzard
- Drought
- High Wind
- Nor'easter
- Thunderstorm

The small groups had many of the same concerns in mind while choosing top natural hazards. Every group identified flooding, snow/ice storms, high wind events and drought as a top priority affecting Westminster. There were only small differences in the wording of these priority hazards. Conversation continued in greater depth during the discussion of features and actions and is discussed in later sections.

Many participants wanted to address the consequences of winter storms, or high wind events, as these are extremely common in Westminster and cause a significant number of trees to fall or lose branches. These events can affect the powerlines. After even a small storm the cleanup can be a few days' work for the DPW, and can seriously affect many aspects of the town, including schools, jobs, the elderly, the power grid etc. The language was able to be shifted in order to accommodate all the concerns identified in the group.

Drought was the most universal concern among workshop participants as it affects almost the whole town. 75 – 80% of residents get their water from private wells, and increasingly there have been occurrences of those wells drying up. Reservoirs also haven't been able to recover to the normal level after the snow melt in winter, so people were already concerned for this coming summer. This was a concern that affects many aspects of town life and doesn't have an easy or obvious solution. Therefore it was universally agreed that it should be a top hazard for the entire group.

Ultimately, some of these hazards could be grouped together into one category and through the discussion there was largely group consensus on what the top four hazards should be with some discussion of the wording. The group decided on the following hazards as the top four.

Top Hazards

- **Flooding**
- **Drought**
- **Snow/ Ice Storms**
- **High Wind/ Rain Storm**

2.1.2 Areas of Concern

In discussing the top hazards, participants naturally began pointing out areas where these hazards often occur. The hazards which triggered the most discussion were flooding and drinking water sources. Participants discussed various locations marking out both natural resources for drinking water and areas of concern during drought, and areas of high-water use, like golf courses and housing developments. The map shows several areas in the 100-year flood zone as well as many areas of wetlands and other water bodies. These are the most likely areas to flood. These larger bodies of water were called out on the maps as well as in the Risk Matrix as a concern. During either a dam failure or drought, the town would see major consequences.

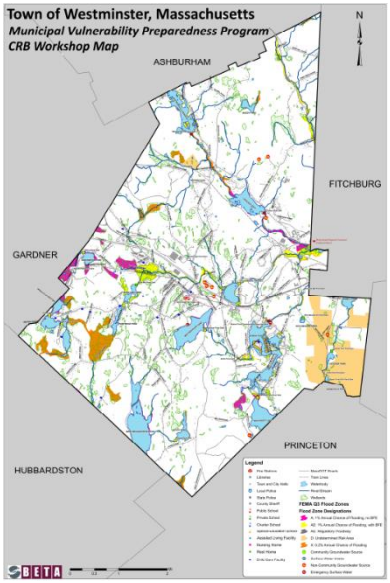


Figure 2: Map of Westminster used in the CRB Workshop

Westminster has experienced an increasing number of weather-related events in recent years, and these events are expected to continue this upward trend due to climate change. Due to the more rural nature of the town, there are large forested areas in town. Because of all these trees, high wind events can have serious effects. Thunderstorms and microbursts can last only a short amount of time but knock enough trees and branches down to block roads and take a day or so to clean up.

Drought has been an increasing concern throughout town, as 75 – 80 % of residents rely on well water. Weather patterns have been changing so that there are larger rain events, with much longer dry spells in between. This makes it so that less water seeps back into the ground. For Westminster this is a troubling trend. This year the reservoirs were an inch below full after recovering from the draw-down during last year's drought period, and the Town more than likely entering water-restricted time. Additionally, the Town has mostly bedrock aquifers, which means that one person's water supply in their well can be affected by someone else drawing from their well up to a few miles away. This is a big reason that community education and outreach is especially important regarding drought and water conservation. There were several areas in town particularly affected by drought, including the residences on Bean Porridge Hill Road.

2.1.3 Important Features Related to Identified Hazards

Based on the frequency and severity of the four identified hazards, the groups discussed which areas, communities and systems would be most affected by the occurrence of these hazards. Three categories of town features were discussed: infrastructural, societal, and environmental. Below is a list of all the community features the groups identified:

- Infrastructural
    - Power Grid/ Electrical System
        - 3 major transfer stations
    - Dams
        - Wyman
        - Crocker
        - Westminster
        - Round Meadow
    - Water Supply Infrastructure
        - including treatment plant, pumping stations, private wells)
    - Sewer System
        - Collection system
        - Pumping stations (esp. Whitman River)
    - Storm Drainage System
    - Roads
    - Railway
    - Bridges (9 critical Bridges)
    - Culverts
    - Unitil Gas Line
- Societal
    - Community Organizations
        - Neighbors Helping Neighbors
        - Westminster Lions Club
        - Religious Organizations
        - Westminster Village Foundation
    - Elderly Population
        - Westminster Senior Center
        - Wellington Apartments
    - In patient Treatment Facilities
        - Recovery Centers of America
        - On-Site Academy at Windy Hill Farm - Bragg Hill Road

    - Schools
    - CAPS Collaborative
    - Shelters
    - Safety Complex/CodeRED System
    - Academy Hill/Town Common
    - Library
- Environmental
    - Reservoirs/Aquifer Levels
    - Bodies of Water
        - Lakes
        - Ponds
        - Rivers
        - Streams
    - Mosquito Populations
    - Tick Populations
    - Beaver Population
    - Invasive Species
        - Asian Longhorn Beetle
        - Emerald Ash borer
        - Mold Spore
    - Leominster State Forest
    - High Ridge Wildlife Management Area
    - Mount Wachusett/Midstate Trail
    - Hager Park
    - Muddy Pond Conservation Area

It is important to note that not all these features were considered vulnerabilities. Some of these features are already strong and as the small groups began to think about ranking, the largest vulnerabilities were identified and prioritized.

2.2 Strengths and Assets

Workshop participants noted that the town has strengths in each of the three feature categories: societal, environmental, and infrastructural. Some of the features were noted as both a strength and a vulnerability, like the dams in town and the emergency shelters. The dams are in good condition and are inspected regularly, but the failure of any one dam could be catastrophic downstream, so in that way it is both a vulnerability and a strength. Similarly, emergency shelters are a strength because the town has facilities in place if they are needed, but some need backup generators or other resources that make these shelters vulnerabilities as well.

Participants agreed that the open spaces in the town such as High Ridge Wildlife management area and Hager Park are strengths. They provide options for increasing flood storage, in the event the Town chooses to investigate that. They also provide habitat for wildlife.

The Safety Complex and CodeRED system are considered a strength because the police and fire station in that location are in good condition in a central location in town. Additionally, the CodeRED System is a great aid to contacting the public in the event of an emergency or hazardous event

Community organizations such as the Lions Club, Neighbors helping Neighbors, Religious organizations etc. were also considered a strength because they invest resources in the town and provide an opportunity for outreach on different topics. If the town were to begin a public education campaign on

invasive bugs or drought, these organizations would be great avenues to help spread the information. These organizations also reach a different group of people than if the town were to rely only on their own resources and avenues of communication. This diversity in approaching a public education campaign is very much a strength in Westminster.

Sheltering facilities were considered both a strength and a vulnerability because the Town has sheltering facilities currently, and they are in good condition although some need improvements and backup power at some locations. **Appendix D** has more detailed information for reference.

2.3 Future Actions and Resolutions to Improve Community Resilience

Some of the common action items that related to the biggest concerns came up repeatedly in small groups and are described below.

- *Drought:* Water conservation public education and outreach was the most commonly discussed action item regarding drought. Because of the large portion of people on well water, and because even deep wells a few miles apart can share a water source, conserving water must be a town-wide community effort. Education on watering and water conservation as well as a potential monitoring system to detect leaks or overuse would be a great help in reducing the impacts of drought felt by the residents.
- *Sewer System:* Westminster is mostly on private septic systems, but some areas are serviced by the public sewer system, in the downtown area; some participants expressed interest in conducting an infiltration and inflow study in an effort to keep more groundwater out of the sewer system, which gets piped away from the underground aquifer. Additionally, removing this extra water would reduce cost and strain on the pump stations in town.
- *Tree Trimming:* During high wind or heavy snowstorm events, downed trees and branches cause major maintenance problems in town. Tree trimming and tree removal is extremely important preventative maintenance which the Town would like to encourage power companies to continue to keep up with, as many of these trees are not maintained by the town.
- *Dams:* Every group mentioned dams as a feature that was a concern. There are many dams in Westminster although only a few are owned by the town. These dams are inspected regularly and are in good condition. It is very important however to maintain and prioritize these dams, because a failure at any one dam would have cascading effects to properties downstream and cause large issues in adjacent municipalities. Because of this, both groups discussed active inspection and maintenance of dams, as well as working with the City of Fitchburg and private owners of the dams in Westminster to perform preventative care.
- *Invasive Species:* One of the most common concerns is the increasing prevalence of mosquitos, ticks, and invasive insects which cause damage to trees. The mosquitos and ticks are very common in Westminster, especially considering the large amount of woodland area. These insects can carry diseases that are harmful to people and animals and education and mitigation were important to both groups. Additionally, with tree-damaging insects becoming increasingly prevalent, there is concern for the health of the trees and forest as well as to the residents of Westminster during large storm events. Weakened trees from infestation are much more likely to shed limbs or fall down completely, potentially damaging roads, homes or other infrastructure. These concerns were universal among participants and recognized as important, especially considering the town currently does not have a solution or mitigation effort in place for these species. The most common action discussed in relation to this problem was to increase public outreach and education as well as looking into mitigation programs, like releasing

dragonflies to mitigate mosquitos and looking into ways to prevent the Asian Longhorn Beetle and Emerald Ash Borer from spreading in town.

Some of these items became incorporated into the top five priority action items, while the rest of that list came from more general concerns addressed in the top four hazard categories facing Westminster.

2.3.1 PRIORITIZING ACTIONS

Participants at the workshop identified a number of recommended actions to address vulnerabilities and increase resiliency. The following is a complete list of these recommendations listed by priority but not ranked within the priority category. See **Appendix D** for the actions as they relate to hazards and features and whether they pertain to a strength or vulnerability. In addition, see **Appendix E** For list of all priority hazards and priority actions.

The high priority actions are as follows:

- Water Supply Infrastructure: Annual water conservation/ education communication with public. Public education about private wells (deep wells). Conservation outreach with customers utilizing Public Water Supply. Education on low impact development, low water plants etc. Town to look into ways of monitoring water usage.
- Electrical System: State Rd West Substation most affected during flood event - Monitor potential flooding events. Planning event with National Grid to discuss backup/rerouting capabilities. National Grid to continue tree trimming, line replacement, pole height, to protect against storms. Town to provide backup generators at public buildings. Generator @ DPW in order to maintain SCADA system and backup emergency Comms. Purchase of trailered portable generator.
- Elderly Population/Senior Center: Invest in generator to maintain, senior center as cooling/warming center. Generator at Wellington House. Maintain current outreach systems (Code RED, social media, mailing and email lists)
- Beaver Population: Investigate where beaver populations and mitigate the effects of their dams, Request additional funding to keep up and replace older "beaver deceivers", continue weekly maintenance of these devices. Continue maintenance at shallow crossings.
- Reservoir/Aquifers: Public education on water conservation, effects of over watering etc. Investigate monitoring system. Maintain Low-impact development regulations. Encourage Groundwater Recharge. I/I investigation.
- Railway: Continue Tree maintenance in anticipation and aftermath of storm event. Town to discuss maintaining railway with Pan-American. Spark arresters, maintenance on braking systems to avoid fires, especially during dry weather.
- Culverts: Conduct culvert study, replace undersized culverts as appropriate; Increased stormwater management efforts. Investigate raising road at Patricia Road Culvert, potentially resize.
- Roads: Ensure critical roadways are not subject to washouts. Increase equipment for snow removal.
- Safety Complex/ CodeRED System: Ensure critical equipment (Communication System) is elevated above flood prone areas and hardened against high winds. Tree trimming where critical communication equipment is located. Ensure Emergency backup power.
- Open Spaces: Conduct scouting; Invasive species management; Tree Management Program; Debris removal; Fire Management; Beaver Management Program at the following locations – Hager Park, Leominster State Forest, Mount Wachusett, Midstate Trail, Muddy Pond Conservation Area.

- Water Bodies: Conduct hydrological study; better water management practices at lakes ponds, rivers and streams.

The medium priority actions are as follows:

- Roads: Conduct bridge study; repair or replacement bridges where appropriate. Increased stormwater management efforts. Continue Tree maintenance/ road clearing in anticipation and aftermath of storm event. Continue routine plowing/ treating of roads in anticipation of and during storms. Town to support private efforts to replace Leino Park Bridge or improve access, potentially through Honeybee Lane. Investigate raising road at Patricia Road Culvert, potentially resize. Start raising road project on Rt 140 between Wachusett Reservoir and Wyman Pond.
- Dams: Ensure dams are adequate and safe during floods/ large rain events; consider dam removal; Continue planning with private Dam owners. Continue communication with City of Fitchburg – through emergency management. Conduct Inspections during drought; make appropriate repairs.
- Electrical System: National Grid to continue/ increase preventative tree trimming, line replacement, pole height, to protect against storms. Town to provide backup generators at public buildings. Generator @ DPW in order to maintain SCADA system and backup emergency Comms. Ensure all critical equipment is elevated above flood prone areas, and not subject to high winds. Increase tree trimming. Purchase of trailered portable generator.
- Water Supply Infrastructure: Continue upkeep on icebreaker at Meetinghouse Dam. Continue upkeep at Meetinghouse Dam. Continue maintenance exercises on generators at pump stations. Generator @ DPW in order to maintain SCADA system and backup emergency Comms. Public outreach on water usage habits; New well exploration; Water conservation at private wells. Ensure all critical equipment is elevated at flood prone areas. Ensure emergency back-up power at critical facilities.
- Storm Drainage System: Replace Old Town Farm Road Culvert and update according to stream standards. Investigate raising road at Patricia Road Culvert, potentially resize. Continued monitoring & Maintenance of drains/ culverts before large storms. Investigate pipe and culvert sizing and condition. Continue plowing/ maintenance of catch basins and country drainage during snow and ice events. Investigation/repair large arch culvert on Oakmont Avenue.
- Sewer System: I/I investigation throughout system to avoid over-capacitation. Prioritize snow removal at pump stations. Discuss snow removal with private road at Ellis Rd. to access town pump station.
- Wastewater Pumping Stations: Ensure all critical equipment is elevated at flood prone areas. Ensure/Maintain emergency backup power at critical facilities. Whitman River pump station in flood plain. Invest in portable, trailer mounted backup power source for Town, esp. Narrows Road, Val & Hy Pump station. No backup power at Mile Hill Road pump station (private).
- Mosquito Population: Public outreach on standing water, habitat/ breeding ground, release of dragonflies. Look into opting into State Mosquito Control Project.
- Tick Population: Public outreach on standing water, habitat/ breeding ground
- Elderly Population: Public outreach on use of shelters; Provide transportation to shelters; Public outreach on water usage; Ensure adequate water availability.
- Shelters: Ensure all critical equipment is elevated above flood prone areas; Provide transportation to vulnerable populations; Ensure emergency back-up power; Provide public outreach on use of shelters.

- School: Educational outreach in schools; Ensure emergency back-up power; Ensure all critical equipment is elevated above flood prone areas.

The low priority actions are as follows:

- Unitil Gas Line: Maintain Roadway access to Liquid Natural Gas tankers to site
- Schools: Maintain Westminster Elementary School as emergency shelter. Use parking lots as an asset to distribute potable water in the event of an emergency
- Invasive Species (Asian Longhorn Beetle, Emerald Ash Borer, Mold Spore): Educate public in order to find and report signs of affected trees. Investigate treatment plan for insects and removal of affected trees. Public Shade Tree assessment, continue maintenance of downed trees. Investigate treatment plan for insects and removal of affected trees. Public Shade Tree assessment. Educate public in order to find and report signs of affected trees.
- Developmentally Delayed Population (CAPS): School to investigate generator for CAPS building
- Community Organizations: Investigate possibility for volunteers, town outreach and educational messaging from community groups (Neighbors Helping Neighbors, Westminster Lions Club, Religious Organizations, Westminster Village Foundation)
- In-patient Treatment Facilities (Recovery Centers of America, On-Site Academy at Windy Hill Farm): Improve/ Maintain road access. Investigate paving road for better access.
- Academy Hill/Town Common: Tree trimming as necessary. Drought tolerant plantings; increased stormwater retention (rain gardens); tree planting with mulch systems to retain water

2.3.2 Highest Priority Actions

The top actions, presented by the small groups, to all the participants are listed below. As in other categories there was overlap in the findings and opinions of the groups.

- Drought Public Outreach
- Culvert Study/ Upsizing as appropriate
- Bridge Study/ Rehabilitation or replacing as appropriate
- Tree Management Program
- Protection of Communication System at Safety Complex
- Hydrological Study of rivers, streams, lakes and ponds
- Generator @ priority buildings (Esp DPW, senior center)
- Planning With National Grid to discuss backup/rerouting capabilities in event of Power outage
- Outreach/Education for water conservation
- Look into Beaver/Tick/Mosquito control and prevention – natural resources program
- Investigate best monitoring/ enforcement for water usage during restricted periods and leak identification.

After each group presented their proposed top action items there was a large group discussion about the merits of each. Participants discussed how feasible and pertinent each action was to the priority hazards listed earlier. In general, the participants recognized each action as important to the town and the discussion proceeded to come up with consensus on the top priority actions to be taken as a result of the Municipal Vulnerability Preparedness Workshop. The results are as follows:

Highest Priority Actions

- **Invasive species & beaver control & prevention program/ Tree Management Program**
- **Prioritize Outreach/Education for water conservation and investigate management**
- **Culvert Study/ Upsizing and replacing as appropriate**

- **Planning with National Grid to discuss backup/rerouting capabilities in event of power outage**
- **Investigate generator at priority buildings**

Invasive species, beaver control and a tree management program were all grouped because of how interconnected the problem and solutions are. The trees are greatly affected by these new bugs entering the area, and ticks and mosquitos thrive off of forested environments. Additionally, beavers not only cut down trees to build dams, which cause problems, they also live in large forested areas as well. Therefore, a prevention and management program for all of these concerns would be interconnected. This was prioritized because of the widespread effects. These bugs are extremely harmful to the trees and cause rotting and the eventual death of the tree. Not only does this affect the trees, but anything around the trees is in danger if the tree or a limb should fall, including homes, cars, powerlines, etc. Another part of a tree and debris management program would be to encourage the power companies to vigilantly trim trees, especially ahead of storms so that power loss would be less frequent. Additionally, the beaver control program would investigate ways to prevent beavers from damming up important culverts in order to protect the natural streams as well as the roads which the culvert runs under.

Planning with National Grid to discuss backup power and rerouting capabilities in the event of a power outage was a significant priority due to the length of time that the town has been without power during recent significant storm events. A recent event left the town without power for 72 hours. This cause many side-effects and the risk of this happening again poses a significant threat to the elderly, the disabled and emergency response efforts, as the town tries to clear roads and restore order.

A culvert study was prioritized in order to look into problem areas of flooding at low roads, which have small culverts. This study would look both at the condition of existing culverts and investigate upsizing culverts in order to restore a more natural flow path of the river. Additionally, there is some overlap in this action with the beaver mitigation, which made it an easy choice for top priority action for the group.

There are several important buildings without backup generators; this is especially concerning at the DPW building because this location houses the SCADA systems and other emergency response systems. Another location that would benefit from a backup generator is the Senior Center. This is used as both an emergency shelter and a cooling/warming center when needed, making it a critical location to have a power supply during emergency events.

After all the discussion about the effects of drought on Westminster it is no surprise that this was one of the top 5 priorities. Education and outreach on water conservation is critical to the residents of the town. Last year some wells were completely dry through July and August. Hopefully a water conservation campaign, as well as looking into monitoring systems can help prevent this from happening in the future.

While this document describes much of the discussion that ensued during the CRB Workshop there is additional detail in the Appendices. See **Appendix D** for a list of all the actions and assets whether it was considered a strength or vulnerability, and **Appendix E** for list of all priority hazards and priority actions.

2.4 PUBLIC LISTENING SESSION

Westminster presented the CRB process and summary of findings at a public listening session virtually on April 20, 2021. This provided an opportunity for any member of the interested public to learn, ask questions, and provide feedback about the workshop and the results that emerged. The following topics were discussed during the Listening Session:

- Protection of Bee Colonies: There are several hundred bee species in Massachusetts, and more selective use of pesticides to control mosquitoes and ticks should be considered to maintain healthy populations of native bee populations.
- Tree Management: The replanting of the street trees along Main Street, around Academy Hill, and elsewhere that were lost in the ice storm and more recent storms.
- Temperature: Westminster has always had the benefit of more elevation and many more trees than surrounding communities, which keeps the town approximately 10 degrees cooler on a hot summer day. Preservation of the town forests and mature trees on development sites is important. The town also has cold water fisheries, so maintaining a forested buffer along streams and rivers as well as infiltration of stormwater is important. No forested area should be converted to solar farms, for example.
- Vernal Pool Protections. The Town should think about developing a program, perhaps through the school or scouts, to certify vernal pools around town. Westminster is underrepresented in the State vernal pool mapping/inventory. This is a missed opportunity to protect critical habitat and preserve flood storage.
- Greening Downtown. An opportunity for public-private partnership could be a project to green downtown with open space, a park, and add trees and landscaping (as well as traffic control) to the plaza in Westminster Center.

Many of the public's concerns have been captured in the Workshop and are included in the Summary of Findings.

3.0 Next Steps

3.1 Continuing with the MVP Program

Conversations held through the MVP CRB Workshop and listening session highlighted climate related challenges facing Westminster and enlightened participants and the public to the importance of preparing for and addressing them. Participants identified many short- and long-term strategies for adapting to the changing climate.

The findings will serve as a basis for Westminster's MVP Action Grant application, providing an opportunity to take the community's ideas and turn them into actions. Priority actions identified during the workshop will also be integrated into local planning efforts to improve the town's resiliency to the effects of climate change.

4.0 Citation

BETA Group (2021, May). MVP Community Resilience Building Workshop Summary of Findings, Westminster, MA.

5.0 Acknowledgements

Many thanks to the MVP Core Team members and CRB workshop participants. Thank you to the Town of Westminster for providing guidance on the workshop and listening session and for making the workshop a priority for town staff to take part in.

Funding for the CRB workshop was provided through a Massachusetts MVP Planning Grant.

APPENDIX A

- Participant List

Appendix A: List of Invitees

First	Last	Department / Role
ML	Altobelli	Agricultural Committee
Heather	Billings	Crocker Pond Committee
Kyle	Butterfield	Fire Chief
John	Deline	Deputy Commissioner of Water Supply (Fitchburg)
Robert	Francis	Local Business Owner, Resident and Private Dam Owner
Patrick	Haley	Assistant Director of DPW
Joshua	Hall	DPW Director
Mark	Hawke	Town Administrator
Ned	LaFortune	Local Business Owner and Resident
Stephanie	Lahtinen	Assistant to Town Administrator
Ralph	LeBlanc	Chief of Police
Ann	Loree	Health Agent
Lee	Pelletier	Wyman Lake Association
Stephen	Wallace	Town Planner
Jon	Wyman	Chair of Planning Board

APPENDIX B

- CRB Workshop Presentation

Municipal Vulnerability Program (MVP)

Westminster, MA

March 16th, 2021

BETA

Welcome and Introductions

- Andrew Dennehy, Senior Associate, BETA Group, Inc.
- Mary Beth Cops, Staff Engineer, BETA Group, Inc.
- Katelyn Burke, Engineering Designer, BETA Group, Inc.

Municipal Vulnerability Program Agenda

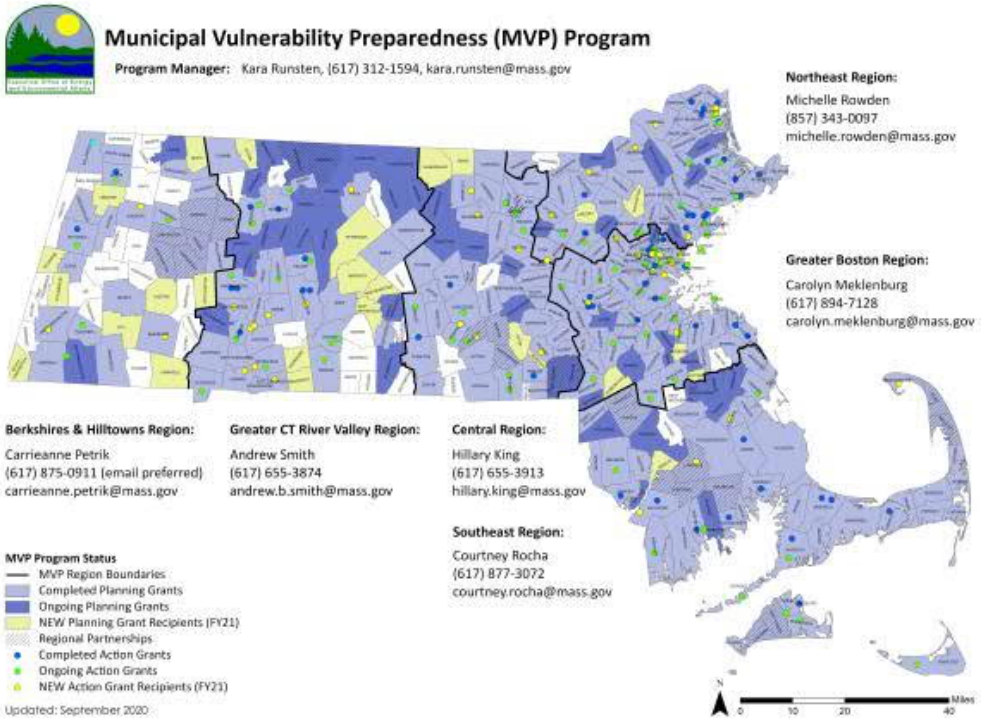
- Program Overview
- Workshop Overview
- Discussion of Hazard Mitigation Plan
- Science and Resources Information
- Introduction to Small Team Exercise #1
- Reporting Small Team Findings #1
- Small Team Exercise #2
- Reporting Small Team Findings #2
- Summary Discussion

Program Overview

EXECUTIVE ORDER 569: AN INTEGRATED CLIMATE CHANGE STRATEGY FOR THE COMMONWEALTH 9.16.16

- Reducing greenhouse gas emissions to combat climate change
- Preparing for the impacts of climate change
  - State Adaptation Plan
  - Agency Vulnerability Assessments
  - Municipal Support
  - Climate Coordinators

Program Overview



1. Engage Community
2. Identify CC impacts and hazards
3. Complete assessment of vulnerabilities & strengths
4. Develop and prioritize actions
5. Take Action

Program Overview

Two MVP Grant Opportunities

RFR 1: MVP Planning Grant

RFR 2: MVP Action Grant

Nature Based Solutions

Nature-Based Solutions

Nature-Based Solutions *use* natural systems, *mimic* natural processes, or *work in tandem with* traditional approaches to address natural hazards like flooding, erosion, drought, and heat islands.

Green Infrastructure

Low Impact Development (LID

Nature Based Solutions

Floodwater Detention and Retention Basins

Daylighting Rivers and Streams

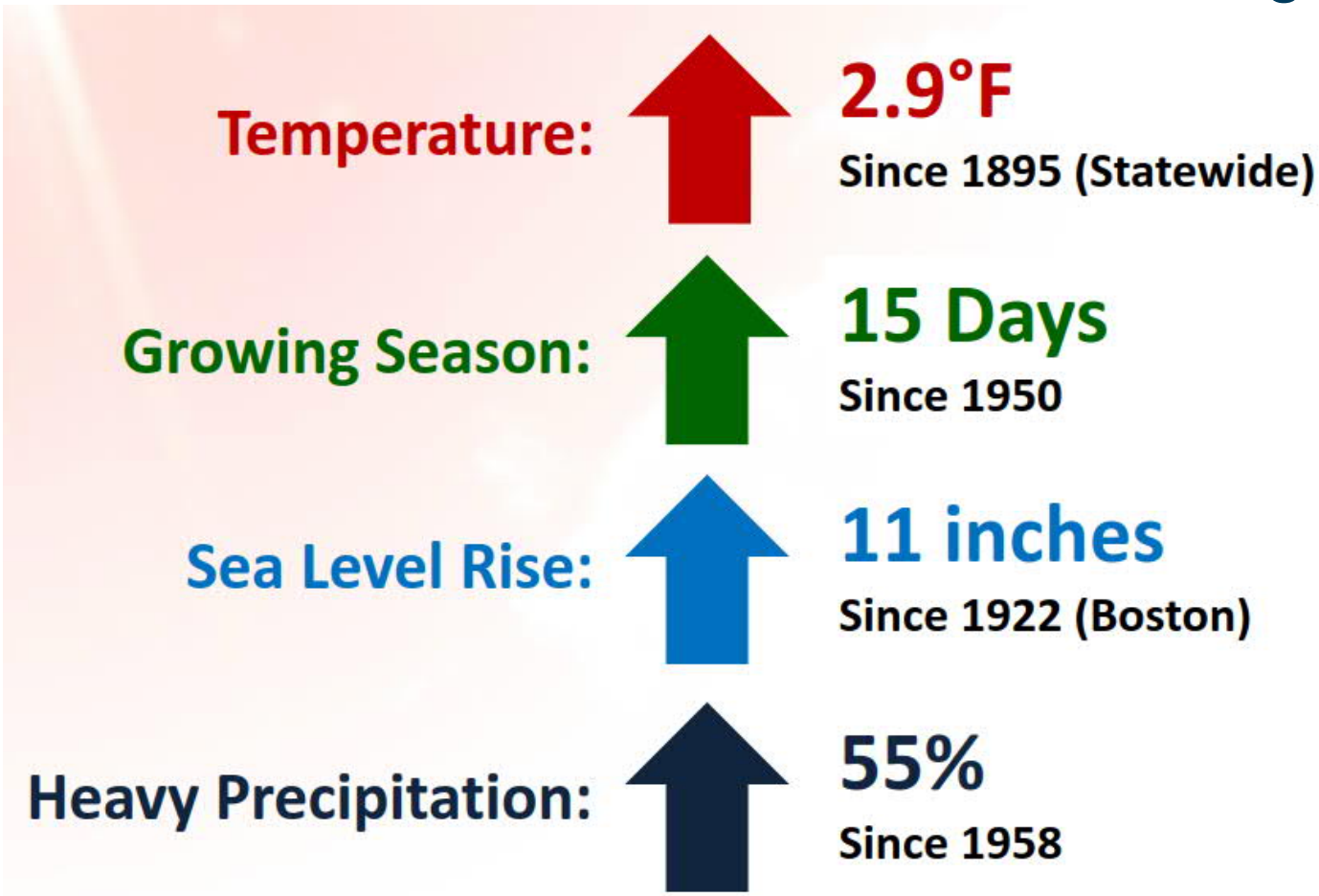
Open Space Preservation through Land Acquisition

Green Streets

Flood Friendly Culverts

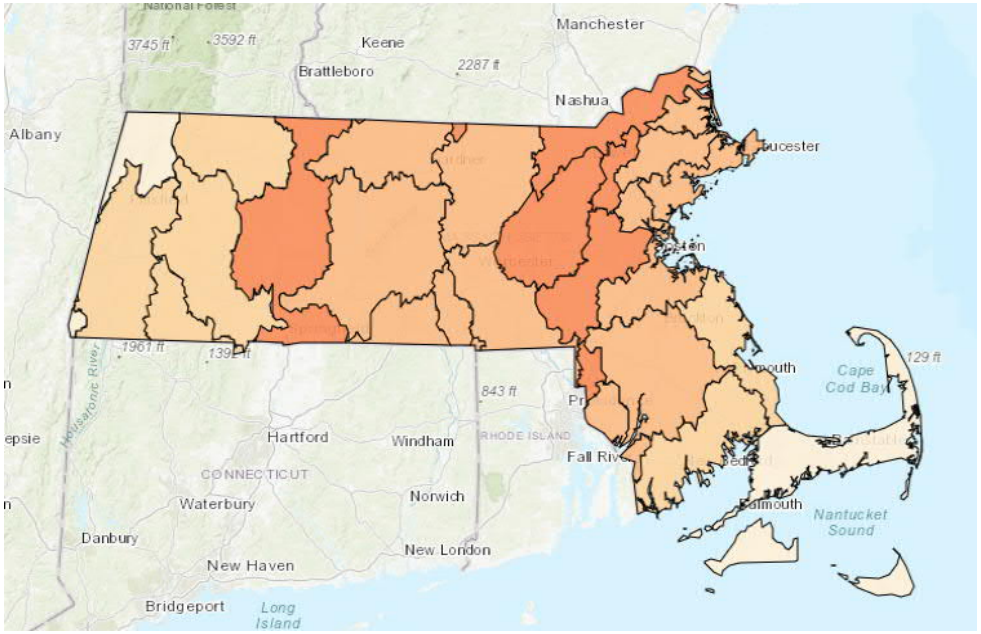
Regulatory and Policy Approaches to Address Hazards

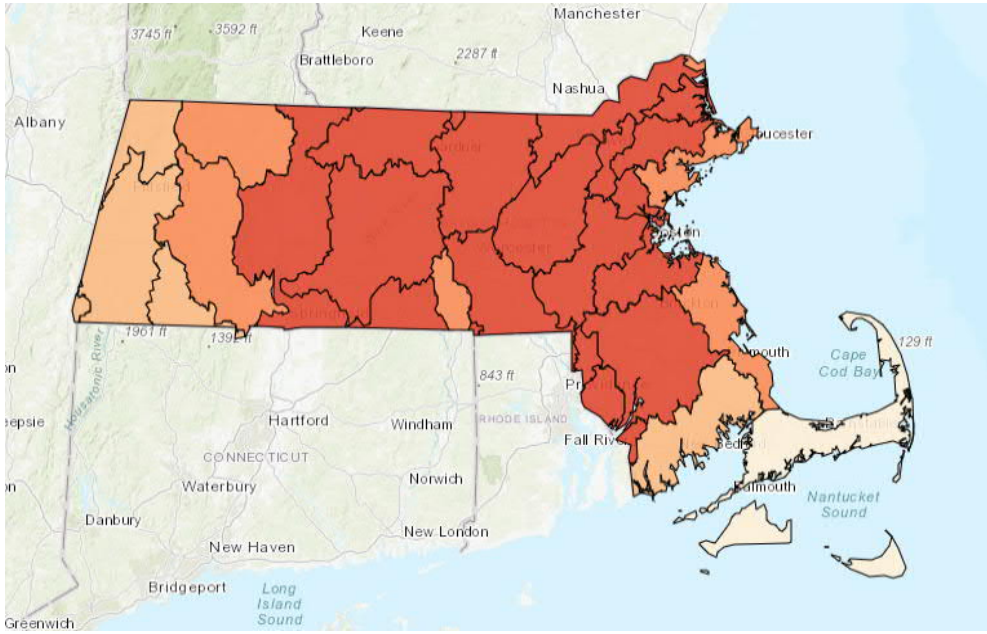
Massachusetts Observed Climate Changes



Massachusetts Projected Climate Changes

Change in # of Days above 90°F – 2050 Scenarios



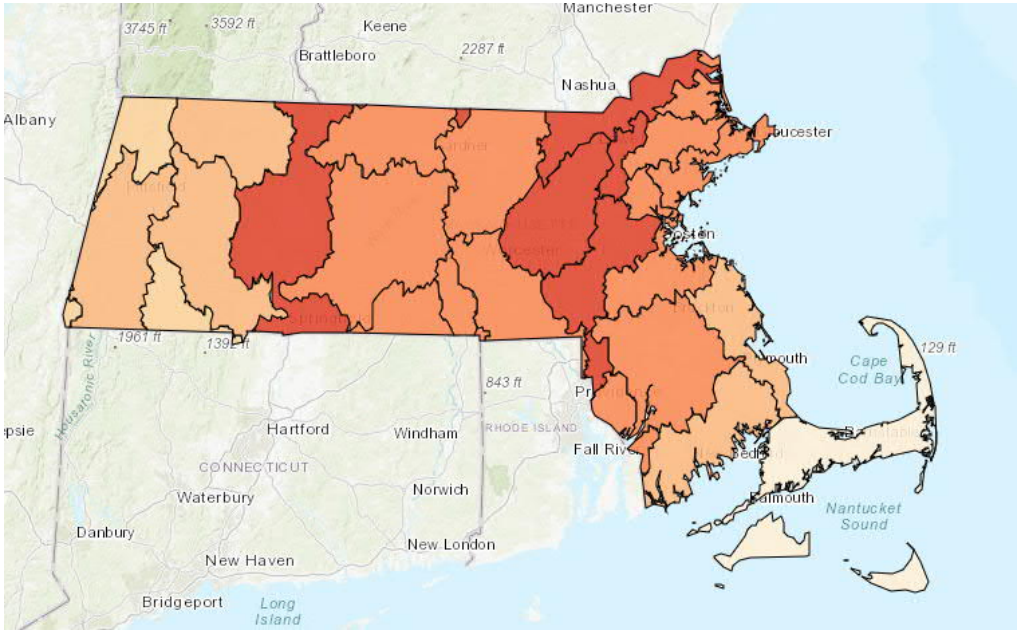


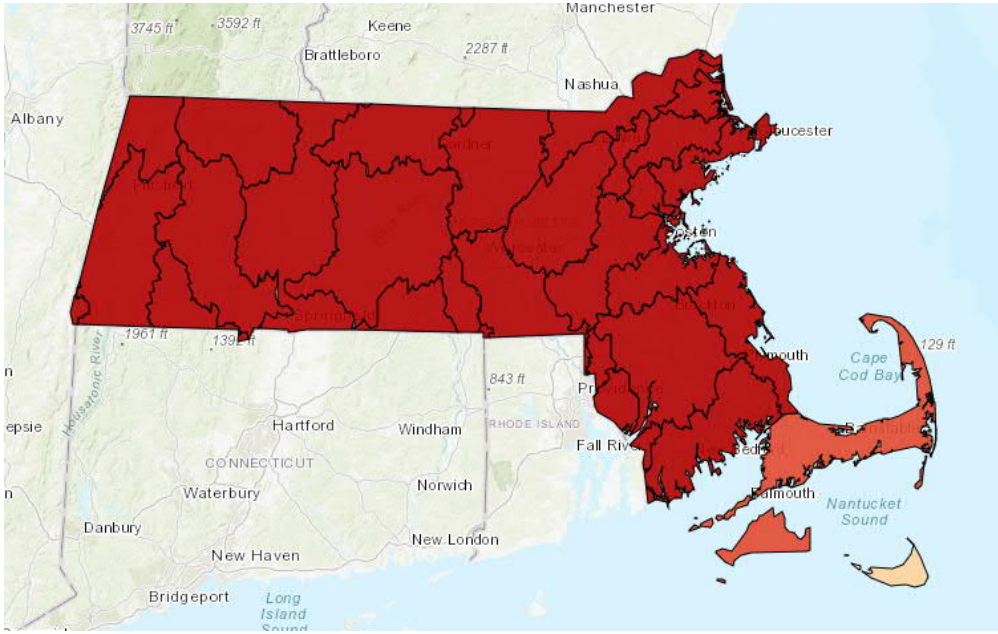
Projected change in # days above 90°F

+7.6 +12.4 +16.5 +21.8 +39.4

Massachusetts Projected Climate Changes

Change in # of Days above 90°F – 2090 Scenarios



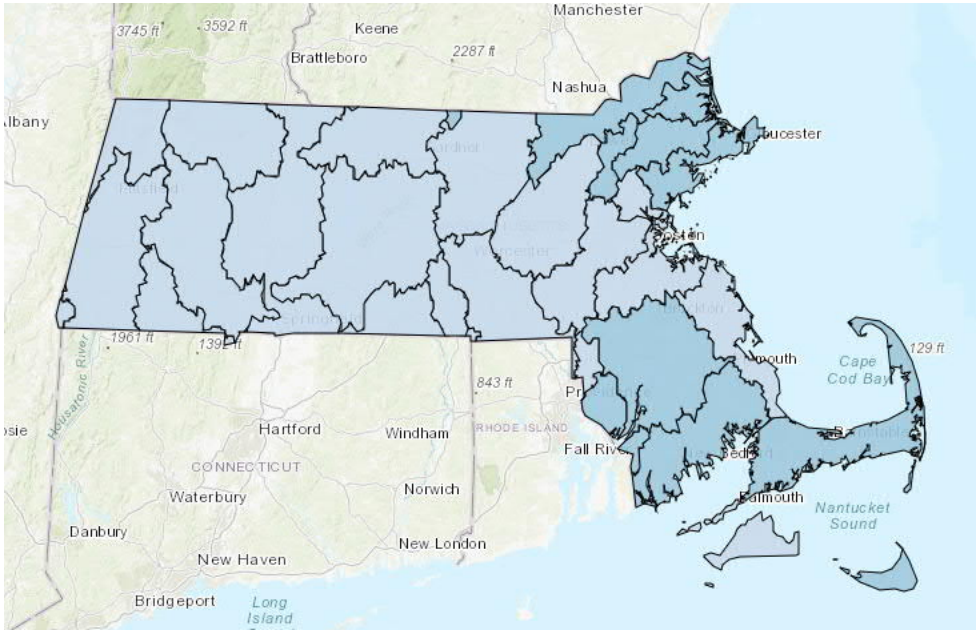


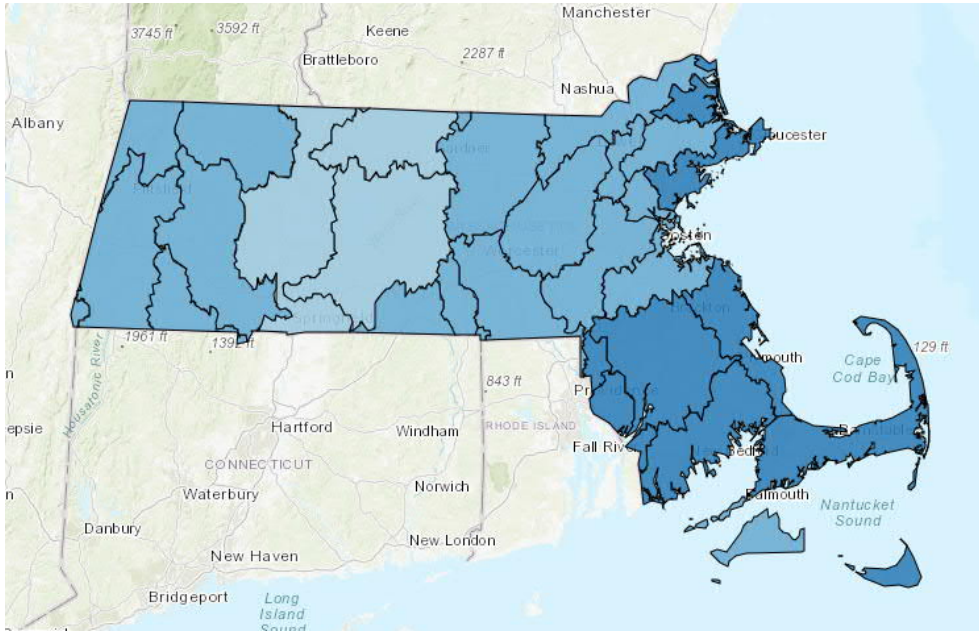
Projected change in # days above 90°F

+7.6 +12.4 +16.5 +21.8 +39.4

Massachusetts Projected Climate Changes

Change in # of Days below 32°F – 2050 Scenarios



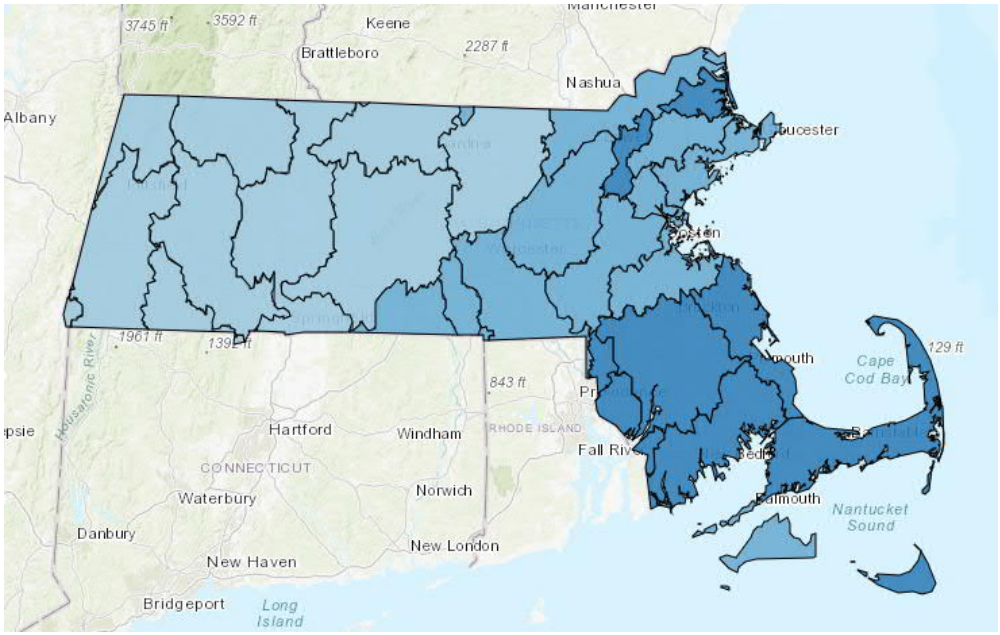


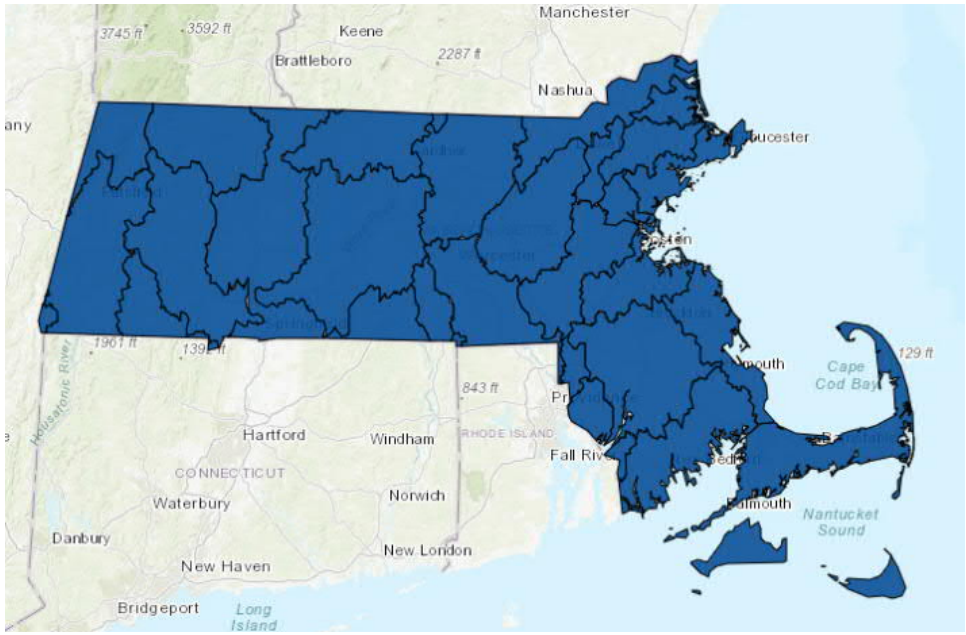
Projected change in # days below 32 °F

-20.6 -25.6 -30.8 -33.9 -47.3

Massachusetts Projected Climate Changes

Change in # of Days below 32°F – 2090 Scenarios



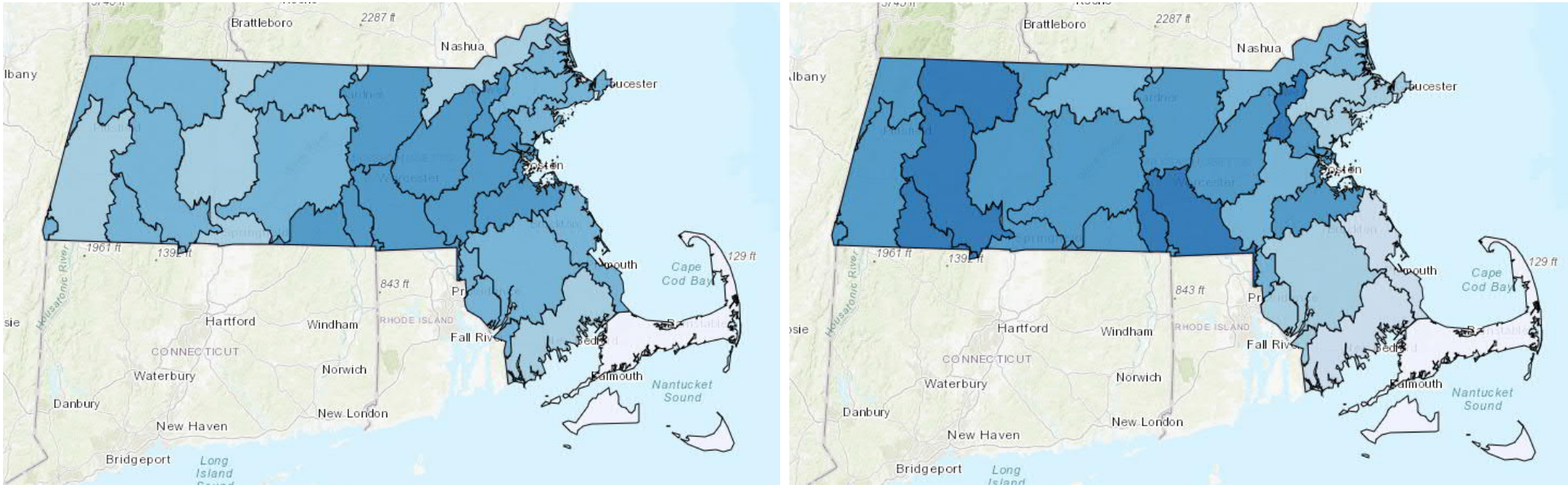


Projected change in # days below 32 °F

-20.6 -25.6 -30.8 -33.9 -47.3

Massachusetts Projected Climate Changes

Change in Inches of Precipitation– 2050 Scenarios

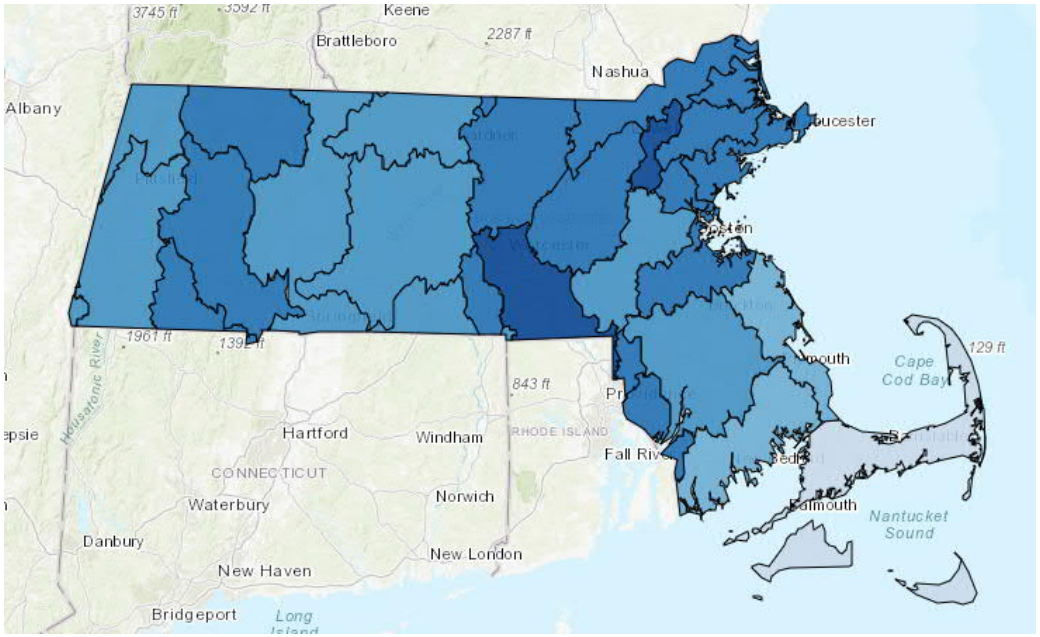


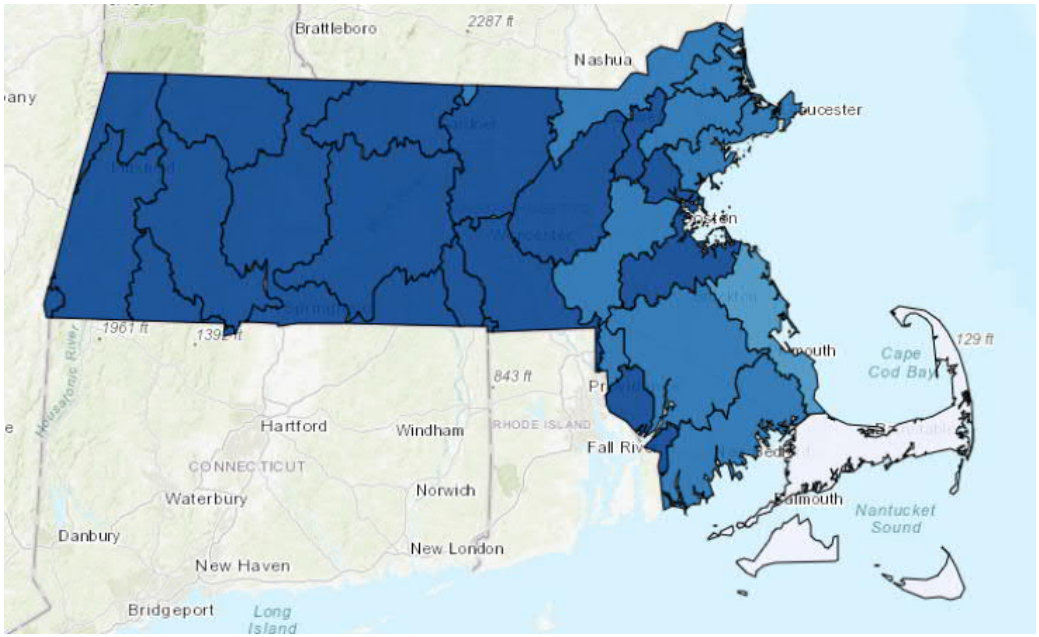
Projected change in inches of total precipitation

+1.9 +2.5 +3 +3.4 +3.9 +4.5

Massachusetts Projected Climate Changes

Change in Inches of Precipitation– 2090 Scenarios





Projected change in inches of total precipitation

+1.9 +2.5 +3 +3.4 +3.9 +4.5

Massachusetts Projected Climate Changes

Variable	Observed Value (1971-2000 average)	Change by 2050s	Change by 2090s
Annual average temperature	47.5 °F	Increase by 2.8-6.2 °F	Increase by 3.8-10.8 °F
Days per year with Temp > 90°F	5 days	Increase by 7-26 days	Increase by 10-63 days
Days per year with Temp < 32°F	146 days	Decrease by 19-40 days	Decrease by 24-64 days
Total Precipitation per year	47 inches	Increase by 0.9-6 inches	Increase by 1.2-7.3 inches
Number of days with precip > 1 in	7 days	Increase by 0-3 days	Increase by 1-4 days

Impacts from Climate Change

Increasing Temperatures

- Increase in heat-related illnesses
- Higher ozone levels and poorer air quality
- Changes to growing seasons
  - Algal blooms become larger and more frequent
  - Native species may decline and invasive species move in
  - Warmer winters contribute to increase in vector-borne diseases (Lyme, EEE West Nile)
- Larger demands on energy systems
  - Peaks in power demand during hot summer days can cause outages

Impacts from Climate Change

Increased Precipitation and Downpour Intensity

- Increased risk of flooding
  - Roadway ponding hazards and closures
  - Damage to roadways and infrastructure
  - Basement flooding
  - Increase potential for toxic mold build-up
- Water quality impacts
  - More frequent large rain events degrade habitat and carry soils and nutrients to lakes and waterways (elevated risk for swimming, fishing, drinking)
- Impact on agriculture and natural ecosystems

Impacts from Climate Change

Changes to Rain and Snow Patterns

- Reduced snow cover
- Impacts to habitats and species
- Potential increase in drought events
  - Local water supply shortages
- Extreme weather
  - Safety risks
  - Public service disruptions
  - Power outages
  - Infrastructure sustains more wear and tear

Workshop Overview

- Characterize Hazards
- Identify Community Vulnerabilities and Strengths
- Identify and Prioritize Community Actions
- Determine the Overall Priority Actions
- Develop Comprehensive Summary Products

Workshop Overview

Community Resilience Building Risk Matrix www.CommunityResilienceBuilding.org

H-M-L priority for action over the **S**hort or **L**ong term (and **O**ngoing)
V = Vulnerability **S** = Strength

Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)

Features	Location	Ownership	V or S					Priority H - M - L	Time Short Long Ongoing
Infrastructural									
Societal									
Environmental									

Characterize Hazards

Identify past, current, and future hazards (large team).

Direct participants to make a list of hazards (causes of impacts) that the community has dealt with, currently faces, and anticipates experiencing in the future (i.e., tornados, ice/wind storms, drought, wildfire, tsunamis, sea level rise, landslides, earthquakes, etc.). Utilize the following triggering questions to accelerate dialogue and surface initial agreement on top four hazards.

- What hazards have impacted your community in the past? Where, how often, and in what ways?
- What hazards are impacting your community currently? Where, how often, and in what ways?
- What effects will these hazards/changes have on your community in the future (5, 10, 25 years)?
- What is exposed to hazards and climate threats within your community?
- What have been the impacts to operations and budgets, planning and mitigation efforts?
- Others concerns or considerations related to impacts?

A **Hazard** is like the sun. The **Risk** from that hazard is sunburn. The **Vulnerability** includes the length of **Exposure** of skin to the sun. The **Action** to reduce risk from the hazard is to apply sunscreen or seek shade.

Top to bottom: © Rich Reid/TNC, © Devan King/TNC, © Jay Harrod/TNC

Hazard Characterization

- Inland Flooding
- Tsunami
- Severe Winter Storm
- Drought
- Extreme Temperatures
- Tornadoes
- Landslide
- Wildfires
- Coastal Flooding
- Invasive Species
- Earthquakes
- Coastal Erosion
- Hurricanes/Tropical Storms
- Other Severe Weather (strong wind, extreme precipitation)

Identify Community Vulnerabilities and Strengths

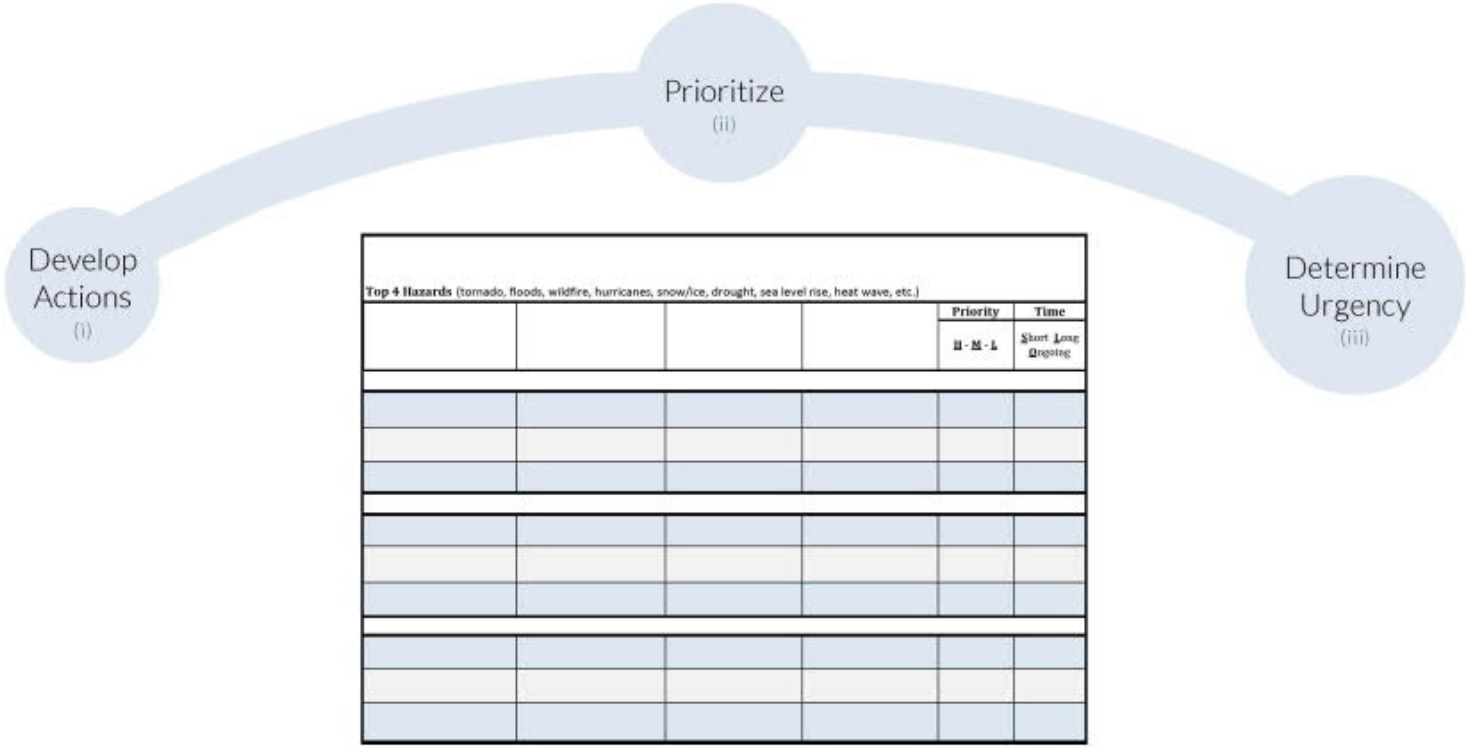
Community Resilience Building Workshop Risk Matrix

H-M-L priority for action over the Short or Long term (and Ongoing)
V = Vulnerability S = Strength

Features	Location	Ownership	V or S
Infrastructural			
Societal			
Environmental			

Steps C1, C2 and C3 below focus on identifying intrastructural, societal and environmental vulnerabilities and strengths. Each step requires three tasks to complete the Risk Matrix: **(i)** identify features, **(ii)** describe feature locations, **(iii)** identify feature ownership, and **(iv)** identify each feature as a vulnerability or strength, or both.

Develop and Prioritize Actions



Steps D1, D2 and D3 below focus on identifying and prioritizing intrastructural, societal and environmental actions. Each step requires three tasks to complete the Risk Matrix: **(i)** develop actions, **(ii)** prioritize actions (**H**igh, **M**edium, **L**ow), and **(iii)** determine urgency (**O**ngoing, **S**hort-term, **L**ong-term).

Example Actions

Community Resilience Building Workshop Risk Matrix

H-M-L priority for action over the Short or Long term (and Ongoing)
V = Vulnerability S = Strength

Top 4 Hazards (tornado, floods, wildfire, hurricanes, snow/ice, drought, sea level rise, heat wave, etc.)

Features	Location	Ownership	V or S	Coastal Flooding SLR/Storm Surge	Inland Flooding and Rain Events	Ice and Snow	Wind	Priority H-M-L	Time Short Long Ongoing
Infrastructural									
Town Campus	Specific	Town	V	Verify risk from flooding events; Identify alternative locations during peak flooding; Verify maintenance plan annually				H	S
Evacuation Routes - Roads	Town-wide	Town/State	V	Install highly visible signage for evacuation routes; Develop and implement communication program				H	S
Electrical Distribution System	Multiple	CL&P/Town	V	Within floodplain area, establish plan to address protection and long-term relocation of equipment		Upgrade transformers; Maintain power line protection zone (tree trimming)		H	O-L
Dams (inland and coastal)	Multiple	Private	V	Prevent possibility of catastrophic dam failure; Identify and remove dams to minimize downstream flooding due to failure				H	L
Railway and State Bridges	Multiple	Amtrak/State	V	Improve communications between parties; Expand green/gray infrastructure and improve bridge structures; Assess vulnerability and prioritize infrastructure improvement list				M	S
State Roads/Intersections	Town-wide	State/Town	V	Coordinate with DOT, volunteers, public works to improve response; Need signage to warn of flooding risk in critical intersections				M	L
Wharves and Shore Infrastructure	Shore	Town-State-Private	V	Pursue comprehensive shoreline management plan; Establish community dialogue on retaining/relocating infrastructure				L	S
Waste Water Treatment Facility	Specific	Town	V	Conduct alternative siting feasibility study; Relocate to low risk area within next 25 years.				L	L
New Ambulance Center	Specific	Town	S	Continue to support services in budget; Add additional staff and vehicle in next annual cycle					Ongoing
Zoning Regulations (maintain large lot size)	Multiple	Town	S	Current building codes control development in risky areas; Consider additional zoning incentives (TDRs) to reduce risk to residential units					Ongoing

More examples of actions:

- Improved access in high-risk locations
- Reduce housing stock in vulnerable areas
- Prioritize development in low-risk areas
- Integrate future risks in capital improvement plans
- Flood-proof manhole covers
- Secure new generators for critical facilities

When prioritizing, consider factors such as:

- Funding availability and terms
- Agreement on outstanding impacts from recent hazard events
- Necessity for advancing longer term outcomes
- Contribution towards meeting existing local and regional planning objectives

Examples of urgency:

- Current project to install hurricane-proof roof on school is an ongoing **(O)** action.
- Ensuring evacuation procedures are updated annually is considered a short-term **(S)** action.
- Reducing housing stock in high-risk areas, elevating a road, or replacing a bridge are long-term **(L)** actions.

Wrap-up

- Discuss actions and priorities
- Consensus on top five priority actions
- Questions?
- Next Steps
- Wrap-up

APPENDIX C

- Workshop Handouts

IMPROVING COMMUNITIES TOGETHER

Westminster Municipal Vulnerability Preparedness (MVP) Program Workshop

NASHUA RIVER BASIN CLIMATE CHANGE PROJECTIONS (PRECIPITATION)[1]

SUMMARY OF MODELING RESULTS

- Average annual precipitation could increase 8% by 2050s and 12% by 2090s.
- Greatest increase in precipitation will occur during winter months.
- Greatest increase in consecutive dry days will occur during fall months.

PRECIPITATION PROJECTIONS

Climate Parameter	Baseline (1971-2000)	Mid-Century (2050s)	End of Century (2090s)
Annual Precipitation (inches)	45.58	49.23 – 49.32	49.80 – 51.14
Winter Precipitation (inches)	10.75	11.54 – 12.07	12.29 – 13.46
Spring Precipitation (inches)	12.03	12.99 – 13.66	13.33 – 14.42
Summer Precipitation (inches)	11.05	11.82 – 11.97	11.57 – 12.27
Fall Precipitation (inches)	11.85	12.43 – 12.53	11.62 – 12.04
Annual Days with Precipitation over 1 inch	7.03	8.40 – 8.88	8.74 – 10.33
Annual Days with Precipitation over 2 inches	0.73	0.96 – 1.05	1.06 – 1.13
Annual Days with Precipitation over 4 inches	0.01	0.02	0.01 – 0.03
Annual Consecutive Dry Days	16.5	17.16 – 17.63	16.98 – 18.24

[1] Source: Northeast Climate Science Center, 2018. Massachusetts Climate Change Projections. University of MA Amherst. Published by MA Executive Office of Energy and Environmental Affairs. Available at: http://resilientma.org/data/datamajor-river-basins.

IMPROVING COMMUNITIES TOGETHER

Westminster Municipal Vulnerability Preparedness (MVP) Program Workshop

NASHUA RIVER BASIN CLIMATE CHANGE PROJECTIONS (TEMPERATURE)[1]

SUMMARY OF MODELING RESULTS

- By 2050, average temperatures could increase by 10%. By 2090, average temperatures could increase by almost 17%.
- Number of days with temperatures +90 °F could increase by 6 times as today by 2050. By 2090, there could be 12 times as many +90 °F than today.
- Number of days with temperatures below freezing could drop by almost 20% by 2050 and almost 35% by 2090.
- Less energy is expected to be spent on heating in the winter, but more energy is expected to be spent on cooling in the summer.

TEMPERATURE PROJECTIONS

Variable	Baseline (1971-2000)	Mid-Century (2050s)	End of Century (2090s)
Average Annual Temperature (°F)	46.78	50.83 – 52.22	51.90 – 56.14
Maximum Annual Temperature (°F)	57.80	61.74 – 63.20	62.91 – 66.96
Minimum Annual Temperature (°F)	35.78	39.82 – 41.35	40.92 – 45.47
Annual Days with Max Temp over 90°F	4.95	20.23 – 30.17	24.97 – 63.78
Annual Days with Min Temp below 32°F	156.95	132.85 – 125.46	126.64 – 102.62
Annual Heating Degree-Days (Base 65°F)	7,083	6,005 – 5,673	5,722 – 4,872
Annual Cooling Degree-Days (Base 65°F)	436.7	826 – 1,003	923 – 1,633
Annual Growing Degree-Days	1,712	2,453 – 2,782	2,608 – 3,683

[1] Source: Northeast Climate Science Center, 2018. Massachusetts Climate Change Projections. University of MA Amherst. Published by MA Executive Office of Energy and Environmental Affairs. Available at: http://resilientma.org/data/datamajor-river-basins.

IMPROVING COMMUNITIES TOGETHER

Westminster Municipal Vulnerability Preparedness (MVP) Program Workshop

DEMOGRAPHIC DATA[1]

Parameter	Breakdown
Total Area	37.2 square miles
% of Land Use	Agriculture = 2.9% Forest = 75.1% Open Space = 4.5% Recreation = 1.1% Urban = 11.1% Water = 5.2%
Population	7,279
Age	0-19 = 27% 20-34 = 6% 35-65 = 48% 65+ = 11%
Household Income	<$40,000 = 17% $40,000 - $60,000 = 5% $60,000+ = 78%
% Below Poverty Line	3.1%
Race	Asian = 0.5% Black = 1% White = 97.5% Other = 1%
Ethnicity	Hispanic – 3% Non-Hispanic – 97%
Environmental Justice	0%
% Population Over 65 Living Alone	3.4%
Asthma Emergency Visits	43.0 (age-adjusted rate per 10,000 people)
Pediatric Asthma Prevalence	11.6% of all children enrolled in grades K-8

[1] Source: MA Dept of Public Health, 2018. MA Environmental Public Health Tracking Community Profile for Westminster. Report Created on October 10, 2019.

Westminster Municipal Vulnerability Preparedness (MVP) Program Workshop

EXAMPLES OF STRENGTH AND VULNERABILITIES[1]

INFRASTRUCTURE

Examples of Vulnerabilities:

- Main road floods during storms, blocking emergency response.
- Power outages during heat waves lead to health concerns.
- Wildfire and high winds resulting in supply chain interruptions.
- Sewer pump stations become submerged and inoperable.
- Compromised rail system due to heat-related warping of tracks.

Examples of Strengths:

- Critical road elevated and passable by emergency management
- Hurricane roof installed at school with improved sheltering capacity.
- Hardened utility lines reduce outages due to ice storms.
- Undersized culvert replaced to reduce flooding in key intersection.
- Improvement to communication systems during extreme weather.

SOCIETAL

Examples of Vulnerabilities:

- Senior housing without backup generators during heat waves.
- Residents without access to transportation during hurricane evacuation.
- Household contamination and sewage mobilization during flooding.
- Limited areas of refuge in elementary schools during tornados.

Examples of Strengths:

- Reliable communications protocols across departments for all employees.
- "Neighbor-helping-neighbor" program aligned with emergency operations.
- Well-supported volunteer organizations (fire, ambulance, CERTs).
- Faith-based and civic groups with hazard preparedness plans.

ENVIRONMENTAL

Examples of Vulnerabilities:

- Proliferation of subdivisions in wildfire and flood prone areas.
- Lack of urban tree canopy increasing heat island effect.

Examples of Strengths:

- Forested watersheds maintain drinking water supply during droughts.
- Native, vegetated slopes remain stable after intense 24hr rain events.
- Floodplains provide stormwater storage and downstream flood reduction.

[1] Source: Community Resilience Building Workshop Guide, communityresiliencebuilding.com

APPENDIX D

- Workshop Matrices and Maps

Town of Westminster, Massachusetts

Municipal Vulnerability Preparedness Program

CRB Workshop Map

N

ASHBURHAM

FITCHBURG

GARDNER

HUBBARDSTON

PRINCETON

Phillips Brook
LAWS ROAD
DEAN HILL ROAD
FRED SMITH ROAD
WOODS ROAD
BARREL ROAD
MUDDY POND
WHITMANVILLE ERSERVOIR
SOUTH ASHBURNHAM ROAD
Westminster Reservoir Dam
BRAGG HILL ROAD
PIERCE ROAD
FAST GARDNER ROAD
OLD GARDNER ROAD
Whitman River
MOSSMAN ROAD
OAKMONT AVENUE
BEAN PORRIDGE HILL ROAD
AMBER ROAD
CROCKER POND
Crocker Pond Dam
REBANNA ROAD
OVERLOOK ROAD
COLONY ROAD
WEST MAIN STREET
SIMPLEX DRIVE
ROUTE 2
NORTH COMMON ROAD
BROWN FARM ROAD
ROPER ROAD
Montachusett Regional Vocational Technical School
Pierce Pond Dam
SUNSET ROAD
SCENIC DRIVE
WILSON DRIVE
Storeage Pond Dam
HOWARD ROAD
NEWCOMB ROAD
KIMBERLY LANE
GREENWOOD POND
SHADY AVENUE
SHADY AVENUE
LIVERMORE HILL ROAD
FENNO DRIVE
TOPHET SWAMP
STATE ROAD WEST
Holmes Park Pond Dam
RIDGE STREET
BACON STREET
BELLA DRIVE
BATTERICK ROAD
CURTIS ROAD
DEPOT ROAD
Burnt Mill Pond Dam
Round Meadow Pond Dam
WILLARD ROAD
TURNPIKE ROAD
Narrows Mill Pond Dam
WRIGHTS RESERVOIR
CAMELOT ROAD
BURNT MILLPOND
LOVELL STREET
HOWARD AVENUE
NICHOLS STREET
MAIN STREET
CHURCH STREET
Meetinghouse School
WESTMINSTER TOWN HALL
WORCESTER ROAD
STATE ROAD EAST
BATTLES ROAD
VILLAGE INN ROAD
NARROWS ROAD
ROWTIER DRIVE SAWMILL POND
Ellis Pond Dam
KNOWER ROAD
DAWLEY ROAD
WYMAN ROAD
Upper Reservoir Dam
ELLIS ROAD
PARTRIDGE HILL ROAD
LAKE DRIVE WEST
LAKE DRIVE EAST
CARTER ROAD
Rice Meadow Fly Pond Dam
WHITNEY STREET
Minott Pond Dam
PARTRIDGE POND
FROG HOLLOW ROAD
MEETINGHOUSE POND
Meetinghouse Pond Dam
Wyman Pond Compensating Reservoir Dam
HAGER PARK ROAD
WORCESTER ROAD
STONE HILL ROAD
RICE MEADOW POND
NOTOWN ROAD
CODY ROAD
FlashBrook
KURIKKA PLACE
MINOTT ROAD
CEDAR SWAMP
CROSS ROAD
SOUTH STREET
SPRUCE ROAD
LAURIE LANE
WYMAN POND
ECHO ISLE ROAD
GENESEE AVENUE
SHORE AVENUE
HILL ROAD
Crocker Fish Pond Dam
Smith Pond Dam
PATRICIA ROAD
HONEY BEE LANE
CROCKER POND
COLD OAK AVENUE
HY ROAD
EAST ROAD
NEWTON ROAD
HARRINGTON ROAD
SAWIN DRIVE
Crow Hills Pond Dam
Upper Crow Hills Pond Dam
CROW HILLS POND
VENT ROAD
GATEHOUSE ROAD
Wachusett Reservoir Dam
DAVIS ROAD
BOLTON ROAD
MILE HILL ROAD
WACHUSETT LAKE
MARE MEADOW RESERVOIR
NOYES POND
Noyes Pond Dam
LANES ROAD
WEST PRINCETON ROAD

Legend

- Fire Stations
- Libraries
- Town and City Halls
- Local Police
- State Police
- County Sheriff
- Public School
- Private School
- Charter School
- Special Education School
- Assisted Living Facility
- Nursing Home
- Rest Home
- Child Care Facility
- MassDOT Roads
- Train Lines
- Waterbody
- River/Stream
- Wetlands

FEMA Q3 Flood Zones

Flood Zone Designations

- A: 1% Annual Chance of Flooding, no BFE
- AE: 1% Annual Chance of Flooding, with BFE
- AE: Regulatory Floodway
- D: Undetermined Risk Area
- X: 0.2% Annual Chance of Flooding
- Community Groundwater Source
- Surface Water Intake
- Non-Community Groundwater Source
- Emergency Surface Water

BETA

0 0.5 1 2 Mi

Community Resilience Building Risk Matrix

BLUE GROUP

www.CommunityResilienceBuilding.org

H-M-L priority for action over the Short or Long term (and Ongoing)
V = Vulnerability S = Strength

Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)

Features	Location	Ownership	V or S	Drought	Floods	High wind/Rain	Ice & Snow Storms	Priority H - M - L	Time Short Long Ongoing
Infrastructural									
Wastewater Pumping Stations	Various	Town	V/S	N/A	Ensure all critical equipment is elevated at flood prone areas; Ensure emergency back up power at critical facilities;			M	
Water Distribution System	Town-wide	Town/Private	V/S	Public outreach on water usage habits; New well exploration; Water conservation at private wells	Ensure all critical equipment is elevated at flood prone areas; Ensure emergency back up power at critical facilities;			H	S-L-O
Roads, bridges and Culverts	Town-wide	Town	V/S	N/A	Conduct Culvert study, replace undersized culverts as appropriate; Conduct bridge study; repair or replacement bridges where appropriate, Increased stormwater management efforts	Ensure critical roadways are not subject to washouts	Increase equipment for snow removal	H	S-L-O
Dams	Town-wide	Fitchburg/ Private	V/S	Conduct Inspections during drought; make appropriate repairs	Ensure dams are adequate and safe during floods/ large rain events; consider dam removal		N/A	M	L-O
Electrical Grid	Town-wide	Private/ National Grid	S	N/A	Ensure all critical equipment is elevated above flood prone areas	Increase tree trimming; Ensure all critical equipment is not subject to high winds		M	S-O
Societal									
Schools	Town-wide	Town	V/S	Educational outreach in schools	Ensure all critical equipment is elevated above flood prone areas; Ensure emergency back up power			M	L-O
Shelters	Town-wide	Town	V/S	N/A	Ensure emergency back up power; Provide public outreach on use of shelters; Ensure all critical equipment is elevated above flood prone areas; Provide transportation to vulnerable populations			M	L-O
Wellington House/Elderly Population	South St./ Town-wide	Private/ NA	V/S	Public outreach on water usage; Ensure adequate water availability	Public outreach on use of shelters; Provide transportation to shelters			M	S-L-O
Safety Complex/CodeRED System	7 South St.	Town	S	N/A	Ensure Emergency backup power; Ensure critical equipment (Communication System) is elevated above flood prone areas	Ensure Communication System is hardened against high winds	Tree trimming where critical communication equipment is located	H	S-L-O
Academy Hill/Town Common	Academy Hill Road	Town	S	Drought tolerant plantings; increased stormwater retention (rain gardens); tree planting with mulch systems to retain water	N/A	Tree trimming as necessary		L	L-O
Library	118 Main St	Town	S	N/A	Ensure emergency backup power			M	L
Environmental									
Lakes/Ponds/Rivers/Streams	Town-wide	Private	V/S	Conduct hydrological study; better water management practices			N/A	H	S-L-O
Leominster State Forest	Southeast Corner of Town	State	S	Conduct scouting; Invasive species management; Tree management program; Debris removal; Fire Management	Conduct scouting; Tree management program; Beaver Management Program	Tree management program		H	S-L-O
High Ridge Wildlife Management Area	Northwest Corner of Town	State	S	Conduct scouting; Invasive species management; Tree management program; Debris removal; Fire Management	Conduct scouting; Tree management program; Beaver Management Program	Tree management program		H	S-L-O
Mount Wachusett/Midstate Trail	Southeast Corner of Town	State	S	Conduct scouting; Invasive species management; Tree management program; Debris removal; Fire Management	Conduct scouting; Tree management program; Beaver Management Program	Tree management program		H	S-L-O
Hager Park	Hager Park Road	Town	S	Conduct scouting; Invasive species management; Tree management program; Debris removal; Fire Management	Conduct scouting; Tree management program; Beaver Management Program	Tree management program		H	S-L-O
Muddy Pond Conservation Area	Northernmost Park of Town	Town	S	Conduct scouting; Invasive species management; Tree management program; Debris removal; Fire Management	Conduct scouting; Tree management program; Beaver Management Program	Tree management program		H	S-L-O

Community Resilience Building Risk Matrix

RED GROUP

www.CommunityResilienceBuilding.org

H-M-L priority for action over the Short or Long term (and Ongoing)
V = Vulnerability S = Strength

Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)

Features	Location	Ownership	V or S	Drought	Flooding	Snow/Ice Storm	High Wind/ Rain Storm	Priority H - M - L	Time Short Long Ongoing
Infrastructural									
Power Grid/ Electrical System (3 major transfer stations)	Town-wide	Private/ Ashburnham	V	-	State Rd West Substation most affected during flood event - Monitor potential flooding events. Planning event with national Grid to discuss backup/rerouting capabilities	National Grid to continue tree trimming, line replacement, pole height, to protect against storms. Town to provide backup generators at public buildings. Generator @ DPW in order to maintain SCADA system and backup emergency Comms.		H	S, O
Dams (Esp. Wyman, Crocker, Westminster, Round Meadow)	Town-wide	Private, Town, Fitchburg	V & S	-	Continue planning with private Dam owners. Continue communication with City of Fitchburg - through emergency management	-	Continue planning with private Dam owners. Continue communication with City of Fitchburg - through emergency management	M	S, O
Water Supply Infrastructure (including treatment plant, pumping stations, private wells)	Town-wide	Private, Town, Fitchburg	V & S	Annual water conservation/ education communication with public. Public education about private wells (deep wells). Conservation outreach with Public Water Supply well. Education on low impact development, low water plants etc. Town to look into ways of monitoring water usage.	-	Continue upkeep at Meetinghouse Dam . Continue maintenance exercises on generators at pump stations. Generator @ DPW in order to maintain SCADA system and backup emergency Comms. Continue upkeep on icebreaker at Meetinghouse Dam.		H	S, L, O
Storm Drainage System	Urbanized area	State/Town	?	-	Continued monitoring & Maintenance of drains./ culverts before large storms. Investigate pipe and culvert sizing and condition Replace Old Town Farm Road Culvert and update according to stream standards. Investigate raising road at Patricia Road Culvert , potentially resize	Continue plowing/ maintenance of catch basins and country drainage during snow and ice events		M	L, O
Roads/Railway (9 critical Bridges)	Town-wide	State, Town, Private	V & S	Town to discuss maintaining railway with Pan-American. Spark arresters, maintenance on breaking systems to avoid fires, especially during dry weather.	Investigate raising road at Patricia Road Culvert , potentially resize. Start raising road project on Rt 140 between Wachusett Reservoir and Wyman Pond	Continue routine plowing/ treating of roads in anticipation of and during storms. Town to support private efforts to replace Leino Park Bridge or improve access, potentially through honeybee lane. Continue tree maintenance/ road clearing in anticipation and aftermath of storm event		M	L, O
Sewer System (collection, pumping stations esp. Whitman River)	Urbanized area	Town/Private	S	-	Whitman River pump station in flood plain. I/I investigation throughout system to avoid over-capacitation.	Prioritize snow removal at pump stations. Discuss snow removal with private road at Ellis Rd Maintain Generators at Pump stations. Invest in portable, trailer mounted backup power source for Town, esp. Narrows Road, Val & Hy Pump station. No backup power at Mile hill Road pump station (private).		M	S, O
Unitil Gas Line	Urbanized area	Private	S	-	-	Maintain Roadway access to Liquid Natural Gas tankers to site		L	O
Societal									
Elderly Population/Senior Center/ Wellington	Town-wide	Public/Private	S	Invest in Generator to maintain, Senior center as cooling/warming center. Generator at Wellington House. Maintain current outreach systems (Code RED, Social media, mailing and email lists)		Invest in Generator to maintain, Senior center as cooling/warming center. Generator at Wellington House. Maintain current outreach systems (Code RED, Social media, mailing and email lists)		H	S
In patient Treatment Facilities (RCA, Bragg Hill)	Various locations	Private	V & S	-	-	Improve/ Maintain road access. Investigate paving road for better access.		L	L, O
Schools	Various locations	Public/Private	V & S	Use parking lots as an asset to distribute potable water in the event of an emergency	Maintain Westminster Elementary School as emergency shelter			L	O
Community Organizations	NA	Private	S	Investigate possibility for volunteers, town outreach and educational messaging from community groups (Neighbors Helping Neighbors, Lions Group, Religious Organizations, Westminster Center Foundation)				L	O
Developmentally Delayed Population (CAPS)	Various locations	Public/Private	V & S	School to investigate generator for CAPS building.				L	L, O
Environmental									
Mosquito Populations	Town-wide	NA	V	-	Public outreach on standing water, habitat/ breeding ground , release of dragonflies. Look into opting into State Mosquito Control Project.	-	-	M	O
Tick Populations	Town-wide	NA	V	-	Public outreach on standing water, habitat/ breeding ground	-	-	M	O
Beaver Population	Town-wide	NA	V	-	Investigate where beaver populations and mitigate the effects of their Dams, Request additional funding to keep up and replace older "beaver deceivers", continue weekly maintenance of these devices. Continue maintenance at shallow crossings .	Maintain/Investigate affects of Ice on Beaver deceivers	Investigate where beaver populations and mitigate the effects of their Dams, Request additional funding to keep up and replace older "beaver deceivers", continue weekly maintenance of these devices. Continue maintenance at shallow crossings.	H	S, O
Invasive Species (Asian Longhorn Beetle, Emerald Ash borer, Mold Spore)	Town-wide	NA	V	Investigate treatment plan for insects and removal of affected trees. Public Shade Tree assessment . Educate public in order to find and report signs of affected trees.		Educate public in order to find and report signs of affected trees. Investigate treatment plan for insects and removal of affected trees. Public Shade Tree assessment, continue maintenance of downed trees		L	O
Reservoirs/Aquifer Levels	Town-wide	Public/Private	V & S	Public education on water conservation, affects of over watering etc. Investigate monitoring system. Maintain Low-impact development regulations. Encourage Groundwater Recharge. I/I investigation.	-	-	-	H	L,O

Community Resilience Building Risk Matrix

Combined Red/Blue Matrix

www.CommunityResilienceBuilding.org

H-M-L priority for action over the Short or Long term (and Ongoing)
V = Vulnerability S = Strength

Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)

Features	Location	Ownership	V or S	Drought	Flooding	Snow/Ice Storm	High Wind/ Rain Storm	Priority H-M-L	Time Short Long Ongoing
Infrastructural									
Power Grid/ Electrical System (3 major transfer stations)	Town-wide	Private/ Ashburnham/ National Grid	V & S	-	State Rd West Substation most affected during flood event - Monitor potential flooding events. Planning event with national Grid to discuss backup/rerouting capabilities; Ensure all critical equipment is elevated above flood prone areas	National Grid to continue/ increase preventative tree trimming, line replacement, pole height, to protect against storms. Town to provide backup generators at public buildings. Generator @ DPW in order to maintain SCADA system and backup emergency Comms.		H	S, O
						Ensure all critical equipment is not subject to high winds			
Dams (Esp. Wyman, Crocker, Westminster, Round Meadow)	Town-wide	Private, Town, Fitchburg	V & S	Conduct Inspections during drought; make appropriate repairs	Ensure dams are adequate and safe during floods/ large rain events; consider dam removal; Continue planning with private Dam owners. Continue communication with City of Fitchburg - through emergency management		-	M	S, O
Water Supply Infrastructure (including water distribution system treatment plant, pumping stations, private wells)				Public outreach/education on water usage habits & private wells (deep wells); Education on low impact development, low water plants etc. Annual water conservation/ education communication with public; Town to look into ways of monitoring water usage; New well exploration; Water conservation at private wells; Conservation outreach with Public Water Supply well;	Ensure emergency back up power at critical facilities;			H	S, L, O
					Ensure all critical equipment is elevated at flood prone areas	Continue upkeep at Meetinghouse Dam . Continue maintenance exercises on generators at pump stations. Generator @ DPW in order to maintain SCADA system and backup emergency Comms.			
							Continue upkeep on icebreaker at Meetinghouse Dam .		
Storm Drainage System	Urbanized area	State/Town	?	-	Continued monitoring & Maintenance of drains./ culverts before large storms. Investigate pipe and culvert sizing and condition			M	L, O
					Replace Old Town Farm Road Culvert and update according to stream standards. Investigate raising road at Patricia Road Culvert , potentially resize		Continue plowing/ maintenance of catch basins and country drainage during snow and ice events		
Roads/Railway (9 critical Bridges)	Town-wide	State, Town, Private	V & S	Town to discuss maintaining railway with Pan-American. Spark arresters, maintenance on breaking systems to avoid fires, especially during dry weather.	Investigate raising road at Patricia Road Culvert , potentially resize. Start raising road project on Rt 140 between Wachusett Reservoir and Wyman Pond		Continue routine plowing/ treating of roads in anticipation of and during storms. Town to support private efforts to replace Leino Park Bridge or improve access, potentially through honeybee lane.	M	L, O
						Continue tree maintenance/ road clearing in anticipation and aftermath of storm event			
Sewer System (Collection System, Wastewater pumping stations esp. Whitman River)	Urbanized area	Town/Private	S	-	Whitman River pump station in flood plain. I/I investigation throughout system to avoid over-capacitation; Ensure all critical equipment is elevated at flood prone areas		Prioritize snow removal at pump stations. Discuss snow removal with private road at Ellis Rd	M	S, O
						Maintain Generators at Pump stations. Invest in portable, trailer mounted backup power source for Town, esp. Narrows Road, Val & Hy Pump station. No backup power at Mile Hill Road pump station (private).			
					Ensure emergency back up power at critical facilities;				
Unitil Gas Line	Urbanized area	Private	S	-	-	Maintain Roadway access to Liquid Natural Gas tankers to site		L	O
Roads, bridges and Culverts	Town-wide	Town	V & S	-	Conduct Culvert study, replace undersized culverts as appropriate; Conduct bridge study; repair or replacement bridges where appropriate, Increased stormwater management efforts	Ensure critical roadways are not subject to washouts	Increase equipment for snow removal	H	S, L, O
Societal									
Elderly Population/Senior Center/ Wellington	South St./ Town-wide	Public/Private	V & S	Invest in Generator to maintain, Senior center as cooling/warming center. Generator at Wellington House. Maintain current outreach systems (Code RED, Social media, mailing and email lists) Public outreach on water usage; Ensure adequate water availability		Invest in Generator to maintain, Senior center as cooling/warming center. Generator at Wellington House. Maintain current outreach systems (Code RED, Social media, mailing and email lists)		H	S
					Public outreach on use of shelters; Provide transportation to shelters			M	S, L, O
In patient Treatment Facilities (RCA, Bragg Hill)	Various	Private	V & S	-	-	Improve/ Maintain road access. Investigate paving road for better access.		L	L, O
Schools	Various	Public/Private	V & S	Use parking lots as an asset to distribute potable water in the event of an emergency; Educational outreach in schools	Maintain Westminster Elementary School as emergency shelter; Ensure emergency back up power			L/M	L,O
					Ensure all critical equipment is elevated above flood prone areas				
Community Organizations	NA	Private	S	Investigate possibility for volunteers, town outreach and educational messaging from community groups (Neighbors Helping Neighbors, Lions Group, Religious Organizations, Westminster Center Foundation)				L	O
Developmentally Delayed Population (CAPS)	Various	Public/Private	V & S	School to investigate generator for CAPS building.				L	L, O
Shelters	Town-wide	Town	V & S	-	Ensure emergency back up power; Provide public outreach on use of shelters			M	L, O
					Ensure all critical equipment is elevated above flood prone areas; Provide transportation to vulnerable populations				
Safety Complex/CodeRED System	7 South St.	Town	S	-	Ensure critical equipment (Communication System) is elevated above flood prone areas	Ensure Communication System is hardened against high winds	Tree trimming where critical communication equipment is located	H	S, L, O
					Ensure Emergency backup power;				
Academy Hill/Town Common	Academy Hill Road	Town	S	Drought tolerant plantings; increased stormwater retention (rain gardens); tree planting with mulch systems to retain water	-	Tree trimming as necessary		L	L,O
Library	118 Main St	Town	S	-	Ensure emergency backup power			M	L
Environmental									
Mosquito Populations	Town-wide	NA	V	-	Public outreach on standing water, habitat/ breeding ground , release of dragonflies. Look into opting into State Mosquito Control Project.	-	-	M	O
Tick Populations	Town-wide	NA	V	-	Public outreach on standing water, habitat/ breeding ground	-	-	M	O
Beaver Population	Town-wide	NA	V	-	Investigate where beaver populations and mitigate the effects of their Dams, Request additional funding to keep up and replace older "beaver deceivers", continue weekly maintenance of these devices. Continue maintenance at shallow crossings.		Maintain/Investigate affects of Ice on Beaver deceivers	H	S, O
Invasive Species (Asian Longhorn Beetle, Emerald Ash borer, Mold Spore)	Town-wide	NA	V	Investigate treatment plan for insects and removal of affected trees. Public Shade Tree assessment . Educate public in order to find and report signs of affected trees.		Educate public in order to find and report signs of affected trees. Investigate treatment plan for insects and removal of affected trees. Public Shade Tree assessment, continue maintenance of downed trees		L	O
Reservoirs/Aquifer Levels	Town-wide	Public/Private	V & S	Public education on water conservation, affects of over watering etc. Investigate monitoring system. Maintain Low-impact development regulations. Encourage Groundwater Recharge. I/I investigation.	-	-	-	H	L,O
Lakes/Ponds/Rivers/Streams	Town-wide	Private	V & S	Conduct hydrological study; better water management practices			-	H	S, L, O
Leominster State Forest	Southeast Corner of Town	State	S	Invasive species management; Debris removal; Fire Management	Beaver Management Program			H	S, L, O
				Conduct scouting; Tree management program					
High ridge Wildlife Management Area	Northwest Corner of Town	State	S	Invasive species management; Debris removal; Fire Management	Beaver Management Program			H	S, L, O
				Conduct scouting; Tree management program					
Mount Wachusett/Midstate Trail	Southeast Corner of Town	State	S	Invasive species management; Debris removal; Fire Management	Beaver Management Program			H	S, L, O
				Conduct scouting; Tree management program					
Hager Park	Hager Park Road	Town	S	Invasive species management; Debris removal; Fire Management	Beaver Management Program			H	S, L, O
				Conduct scouting; Tree management program					
Muddy Pond Conservation Area	Northernmost Park of Town	Town	S	Invasive species management; Debris removal; Fire Management	Beaver Management Program			H	S, L, O
				Conduct scouting; Tree management program					

APPENDIX E

- **Group Discussion Notes**

DISCUSSION OF HAZARDS

Red Group Top Hazards

- Drought
- Snow/ Ice
- Flooding
- Thunderstorm/High Wind

Blue Group Top Hazards

- Flooding
- Snow/Ice Storm / Blizzard
- Drought
- High Wind/Nor'easter

Top 4 Hazards

- Drought
- Flooding
- Snow/ Ice Storm
- High Wind/ Rain Storm

DISCUSSION OF CRITICAL FACILITIES

Both groups discussed the list of critical facilities and expanded upon the provided list

Red Group Discussion

- Added the Gatehouse at Meetinghouse Pond to Public water supply
- Removed Lori Swedberg from list of Early Education Childcare Facilities
- Added the senior living facility that is proposed to be constructed behind senior center
- On-Site Academy, rehab and PTSD treatment center added to medical facilities
- Fitchburg water facility moved from freight/hazmat site to public water supply
- JP Metal Finishing added to freight/hazmat sites
- Fitchburg Welding Co, moved to Freight/ Hazmat sites
- There are 9 permitted solar farms in town that should be added to Power Plant category
- In line storage for sewer also in Whitman River Pump station

Blue Group Discussion

- Added all dams to critical facilities list
- Added Old Mill Restaurant to list of Critical Facilities
- Added Westminster Pharmacy to list of Critical Facilities
- Added Vincent's Grocery Store Restaurant to list of Critical Facilities
- Pan-Am Railroad Line added to Freight/Hazmat Sites
- Westminster Family Practice added to Medical Facilities
- Daniel Irving Medical Practice added to Medical Facilities

DISCUSSION OF TOP ACTIONS

Blue Group Top Actions

- Drought Public Outreach
- Culvert Study/ Upsizing as appropriate
- Bridge Study/ Rehabilitation or replacing as appropriate
- Tree Management Program
- Protection of Communication System at Safety Complex
- Hydrological Study of Rivers, streams, lakes and ponds

Red Group Top Actions

- Generator @ priority buildings (Esp DPW, senior center)
- Planning With national Grid to discuss backup/rerouting capabilities in event of Power outage
- Outreach/Education for water Conservation
- Look into Beaver/Tick/Mosquito control and prevention – Natural resources program
- Investigate best monitoring/ enforcement for water usage during restricted periods and leak identification.

Top 5 Actions

- Invasive species & beaver control & prevention program/ Tree management program
- Prioritize Outreach/Education for water conservation and investigate management
- Culvert Study/ Upsizing and replacing as appropriate
- Planning With national Grid to discuss backup/rerouting capabilities in event of Power outage
- Investigate Generator at priority buildings