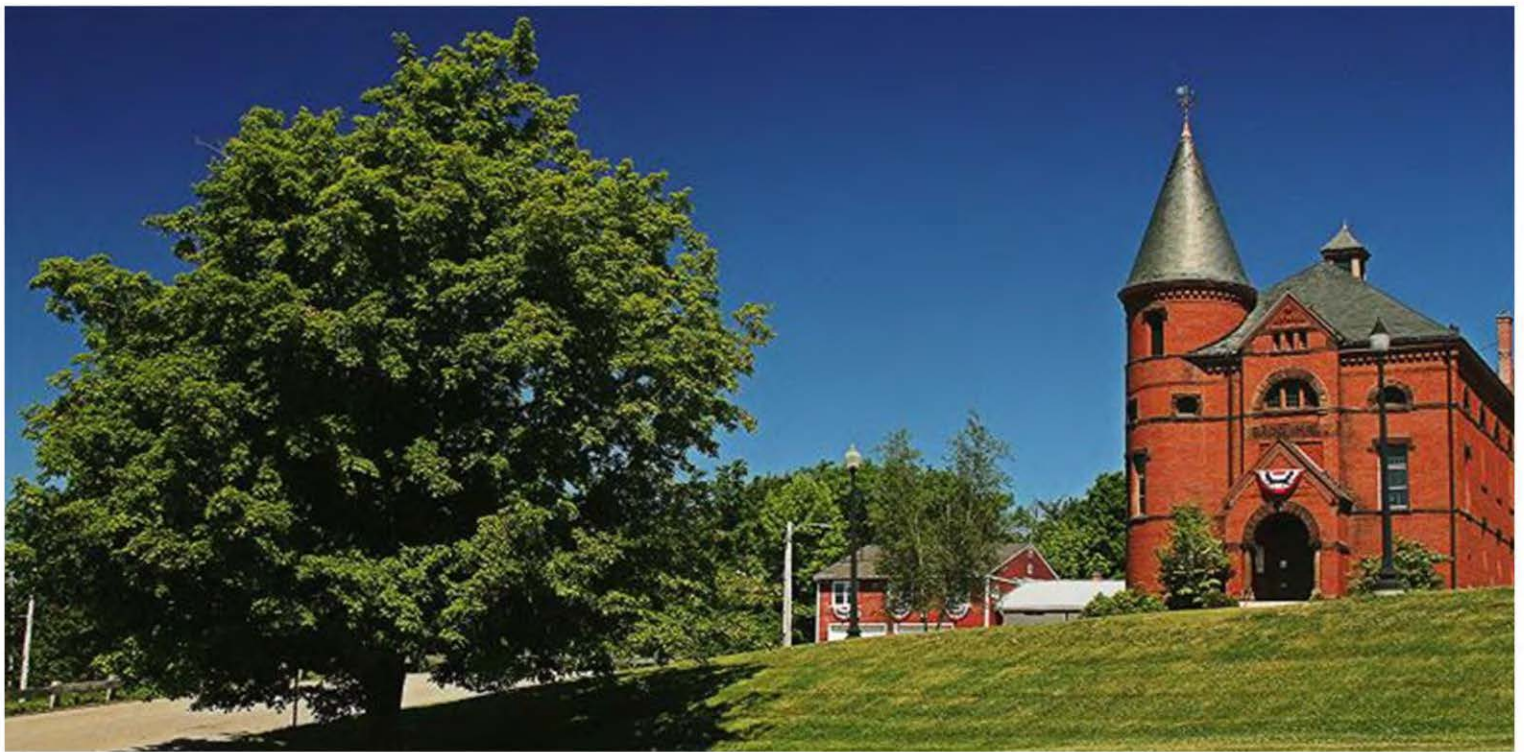




# TOWN OF PRINCETON

## Municipal Vulnerability Preparedness Summary of Findings Report 2021



## ABOUT THE AUTHORS

### CMRPC Mission

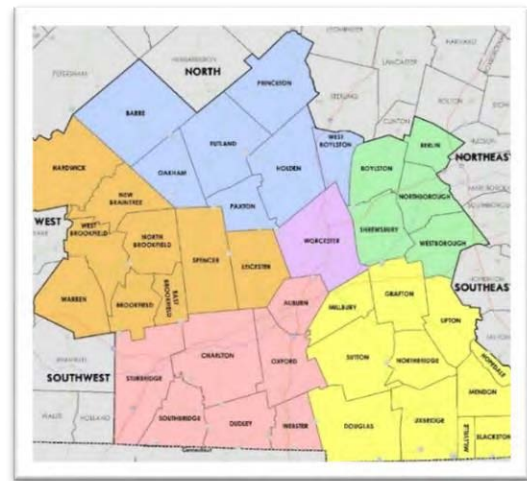
The Central Massachusetts Regional Planning Commission is a regional partnership serving the planning and development interests of 40 member communities in southern Worcester County in Massachusetts. Our primary mission is to improve the quality of life for those who live and work in our region.

We do this by (1) addressing growth and development issues that extend beyond community boundaries; (2) maintaining the region's certification for federal transportation improvement funds; (3) providing technical knowledge and resources to assist local government in addressing specific land use, economic or environmental problems resulting from growth or decline, and (4) building strong working relationships with member communities, state and federal officials, as well as the range of area stakeholders.



### Our History and Progress

Founded by the Massachusetts Legislature in 1963, the Central Massachusetts Regional Planning Commission (CMRPC) provides a variety of services to its constituencies and brings a regional perspective to planning and development. One of 13 regional planning agencies in Massachusetts, CMRPC serves the city of Worcester and 39 surrounding communities in the southern two-thirds of Worcester County. CMRPC's programs include Transportation, Regional Services, Geographic Information Systems (GIS), and Community Planning.



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The Central Massachusetts Metropolitan Planning Organization (CMMPO) hereby states its policy to operate its programs, services and activities in full compliance with federal nondiscrimination laws including Title VI of the Civil Rights Act of 1964 (Title VI), the Civil Rights Restoration Act of 1987, and related federal and state statutes and regulations. Title VI prohibits discrimination in federally assisted programs and requires that no person in the United States of America shall, on the grounds of race, color, or national origin, including limited English proficiency, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving Federal assistance. Related federal nondiscrimination laws administered by the Federal Highway Administration, the Federal Transit Administration, or both prohibit discrimination on the basis of age, sex, and disability. These protected categories are contemplated within the CMMPO's Title VI Programs consistent with federal and state interpretation and administration. Additionally, the CMMPO provides meaningful access to its programs, services, and activities to individuals with limited English proficiency, in compliance with US Department of Transportation policy and guidance on federal Executive Order 13166.

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## EXECUTIVE ORDER 569 AND THE MASSACHUSETTS MUNICIPAL VULNERABILITY PREPAREDNESS PROGRAM

In September 2016, Massachusetts Governor Baker signed Executive Order 569, directing multiple state agencies to develop and implement a statewide comprehensive climate adaptation plan with the best climate-change data available. Recognizing that many adaptation solutions are local in nature, a key commitment of Executive Order 569 is to assist local governments in completing their own assessments and resiliency plans. The MVP Grant and Designation Program represents the first step in fulfilling this commitment.

The MVP program provides planning grants to municipalities to complete vulnerability assessments and develop action-oriented resiliency plans. Funding is used by cities and towns to hire an MVP-certified consultant who is trained to provide technical assistance and complete a community's vulnerability assessment and resiliency plan using the Community Resilience Building Framework. Towns and cities are free to choose the consultant of their choice from a list of certified MVP providers. The Town of Princeton invited the Central Massachusetts Regional Planning Commission to lead them in this planning effort.

Communities that complete the MVP planning process become certified "MVP Communities" and are eligible for Action Grant funding and other opportunities through the Commonwealth.



<https://www.mass.gov/news/governor-baker-signs-legislation-directing-24-billion-to-climate-change-adaptation>



## PRINCETON: A PROFILE

The Town of Princeton, Massachusetts was incorporated in 1771. Princeton is located right off of I-190, along State Route 140 and 62, 15 miles north of the City of Worcester and is largely a bedroom community. Much of Princeton lies within the Nashua River watershed, also known as the Upper Worcester Plateau or Monadnock Upland, which sees its highest point at Princeton's Wachusett Mountain (elevation 2,006 feet). Princeton is bordered by Hubbardston and Rutland on the west, Leominster and Sterling on the east, Holden on the south, and Westminster on the north. Princeton has a total area of 35.8 square miles and a population of 3,455 (2019 American Community Survey). According to the Central Massachusetts Regional Planning Commission's (CMRPC) Long Range Transportation Plan, Mobility 2040, the Town of Princeton is a low growth community, expected to stay close to its 2019 population number of 3,455.



The number of residents has grown from 3,189 in the 1990 US Census to 3,353 in 2000 to the currently (2019) estimated 3,455. Approximately 96% of the population is White. The median age for the town is 49, with 21.4% of the population under the age of 19 and 22.4% of the population over the age of 65. The median household income resides at \$136,083, with only 4.8% of the community below the poverty line.

The Town of Princeton actively involves the community through a variety of recreational and social programs for children, adult, and senior populations. The Princeton Senior Center and Public Library host weekly youth and adult programming including senior fitness classes, public readings, and monthly socials. The town promotes outdoor activities through its expansive bike and hiking trails and park facilities. Aside from recreational activities, the town of Princeton houses fully staffed Police and Fire Departments. Princeton is affiliated with both the Wachusett Regional School District and Montachusett Regional Vocational Technical School.

## COMMUNITY RESILIENCE BUILDING WORKSHOP

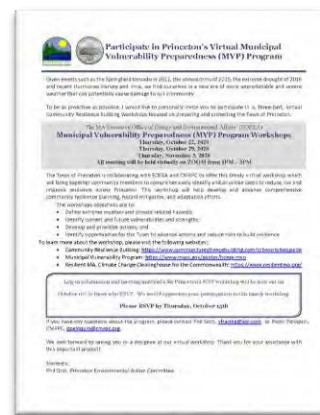
The Town of Princeton contracted with the Central Massachusetts Regional Planning Commission (CMRPC) in January 2020 to serve as the MVP provider, including completing the Community Resiliency Building (CRB) workshop. Through the Community Resilience Building (CRB) process, stakeholders actively engaged in an ongoing discussion to determine the top hazards related to climate change that currently impact or have the potential to impact Princeton. A small group of town officials and Board Members convened on January 29, 2020 to form the 'Core Team' which, together with CMRPC staff, organized and planned the CRB Workshop over the course of three meetings.

The Town of Princeton's CRB workshop was scheduled to be held on April 2, 2020 at the Town Annex. On March 23, 2020, Governor Baker ordered all non-essential businesses to cease in person operation through April 7, 2020. It was decided to reschedule and revisit the meeting and workshop dates as events unfolded. On March 31, 2020, Governor Baker ordered all non-essential businesses to remain closed and limitations on gatherings to not more than 10 people to remain in effect through May 4, 2020. On April 28, 2020 that order was extended to May 18, 2020. During this time of uncertainty, Princeton's Core Team continued to discuss possible alternatives in the case no extension was granted. Once extensions were granted, the Core Team decided to put the project on hold while still checking in monthly via email.

Princeton's Core Team and the staff at CMRPC reconvened on September 14, 2020 and began to create a virtual workshop. The virtual workshop would be conducted in a similar format as an in-person workshop with some slight differences. The Core Team decided that the workshop would be held virtually on ZOOM. The workshop would take place over the course of three separate meetings. The first meeting would be held for two and a quarter hours. The first quarter hour would be dedicated to familiarizing all participants with all of ZOOM's functions and introductions. The remaining two hours would be dedicated to a brief overview, identifying features, location, ownership and vulnerabilities and strengths. The remaining two meetings were reserved for completion of the prior meetings work and to develop actionable items to improve resiliency throughout the Town of Princeton.

### Workshop Overview

The virtual workshop was held on Thursday, **October 22<sup>nd</sup>, 29<sup>th</sup>, and November 5, 2020** from 1:00 PM – 3:00 PM. To prepare participants for the workshop all presentations were pre-recorded by the Core Team and the staff at CMRPC. Upon completion of the Core Team intro videos, MVP program overview presentation, Climate Projections presentation, Hazards presentation and Matrix/ Nature Based solutions presentation, the invitation was put together. The invitation was complete with links to each presentation, table maps, excerpt from the Princeton Hazard Mitigation Plan, two-page MVP program overview, CRB Workbook, how to use ZOOM information,



Online mapping tool and an agenda with ZOOM log-in information for each of the three meetings. Participants were instructed to watch all presentations at their leisure prior to the workshop.

The Workshop's goal was to identify the four top natural hazards that impact Princeton and develop strategies to enhance the town's resiliency related to climate change. Following the CRB work plan process, the Town, CMRPC facilitators and planners pre-recorded five presentations:

- Town introduction
- Overview of the CRB process
- Overview of the MVP program
- A summary of climate change projections, impacts and mitigation strategies
- A detailed profile of natural hazards in the Town of Princeton, including the top four hazards perceived by the core team.

During the first virtual workshop meeting date, the group discussed the top four hazards that affect Princeton. There was agreement between the Core Team and all participants that--in no particular order-- **flooding, wind events, winter storms** and **Drought/Heat** have the greatest effects and potential impacts on the Town. Having identified these hazards, workshop attendees were then asked to work through the CRB program's matrix and mapping exercise. Table facilitators, along with CMRPC staff guided stakeholders in four small group to examine the resources throughout the Town and to identify the town's most serious concerns regarding natural and climate-related hazards that threaten their community.

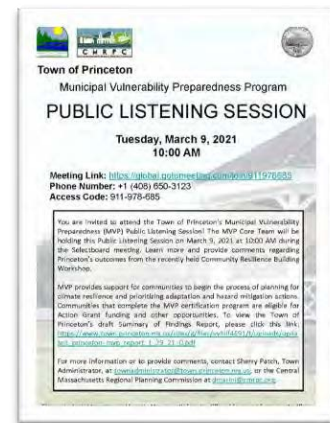
The group then reconvened one week later to build upon the first day's work. The goal of the second session was to continue to identify features and begin to identify actionable items to reduce or mitigate the projected impacts of climate change. The following week, the group used the remaining time to complete the matrix. Once the group had completed the matrix, the groups gave a summary of findings by the table reporters.

Upon completion of the three virtual workshop meetings, CMRPC compiled all information from the matrix into survey form. The survey was then distributed to all attendees of the workshop from November 17, 2020 through November 23, 2020. The attendees' participation in the survey helped to prioritize what they believed to be the top project in the infrastructure, society, and environmental categories. Participants also voted for their top five actionable items. Results of the survey were used to prioritize and organize the matrix and report.

Thirty-three (33) stakeholders attended the virtual CRB Workshop, including representatives from Town government, emergency services, the MVP Core team, Municipal Department Heads, Conservation Commission, Agriculture, Churches, local contractors and concerned citizens of Princeton.



A public listening session to discuss MVP results and recommendations for future actions was held virtually on March 9, 2021. The listening session was properly promoted across several avenues, with twenty (20) people in attendance. Between the two meetings, a total of fifty-three (53) people participated in the MVP process. Immediately following the listening session, the recorded ZOOM meeting, along with the draft report was posted on the Town's website for further comment. The comment period was open from Wednesday, March 3, 2021 through Wednesday, March 17, 2021.



## Summary of Findings

Overall, the workshop was received positively by all in attendance. Following the presentations, participants were asked if they agreed with the core team's identification of, in no particular order, flooding, wind events, drought and extreme temperatures, and winter storms as the primary hazards facing Princeton. All the participants agreed that these four hazards were the most relevant for Princeton.

The Town's public buildings and emergency management systems were described as strengths, along with the open spaces and recreation opportunities. Relationships between the Town and local community businesses and organizations were considered to be an overall strength for the town. Communication access and validity were considered a vulnerability and a barrier to information distribution. Dams, culverts, and bridges were also considered vulnerable safety hazards. The lack of a public water supply was considered a vulnerability, and many private wells are at risk of runoff contamination.

Another area that was widely seen as a hazard to the Town is the inaccessibility of the existing fire ponds. Widespread and uncontrolled invasive species have overrun many of the fire ponds and forested areas, increasing the risks of wildfires, and limiting the ability to fight future fires. Other vulnerable areas mentioned were roadway flooding, runoff contamination from salting and sanding operations, and beaver activity. There was conversation regarding the need to enhance the capacity at the emergency shelter and to provide a facility for pet sheltering in times of evacuation.

Having only one power line in Town was discussed by all tables as a top vulnerability. Many agreed that the Town needs to study the feasibility of securing additional power and energy supplies. It was also discussed that there is a need to establish a series of public education campaigns regarding stormwater management, wetlands, rainwater collection, and invasive species management.

All four tables identified specific vulnerable locations that are already in need of attention and will likely face worsening impacts due to climate change. These include forested areas, fire ponds, power grid, senior residents, and dams.

## TOP HAZARDS

Following the presentations at the beginning of the workshop, a full-group discussion was held for approximately fifteen minutes to determine the top four hazards for breakout groups to further assess solutions. Taking climate change projections, critical infrastructure, and other considerations into account, workshop participants chose to focus on the four following hazards. They are presented in no particular order: **drought (wildfire and extreme heat), wind events, flooding, and winter storms (snow and ice).**

In 2016, Princeton experienced extreme droughts along with most of the state of Massachusetts. Severe storms, including high winds and intense rainfall, have been increasing in frequency and impact. All of these have caused disruption to the town, including localized flooding, power outages, and calling upon mutual aid agreements. With climate change, all of these natural events are expected to increase in severity and frequency.



### EXTREME TEMPERATURES

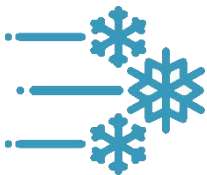
Projecting an increase of consecutive dry days, with the driest periods in the summer and fall. This leads to increased risk and stress on drinking water systems and wildfire potential.



### FLOODING

Expected increase in precipitation across all seasons. Heavy rainfall will become more frequent, increasing the risk for flash floods. Also increases non-point source pollution.

### Flooding.



### WINTER STORMS

Annual days below freezing will decrease, winter precipitation falling as rain or freezing rain. This increases risk for ice storms and flash flooding when rain falls on frozen ground.



### HIGH WIND

Intensity of storm events is expected to increase due to the warmer atmosphere. This will lead to increased severe thunderstorm and hurricane activity with higher wind speeds.

**Flooding.** Extreme weather in recent years demonstrates how the various hazards impact the town. There have been numerous flooding events over the years, and this threat is only going to increase as the climate continues to change. Local dams, undersized culverts, and beaver activity have all contributed to flooding throughout Town.

**Winter Storms.** Winter ice storms, a regional problem, are expected to be more intense and include more mixed precipitation which is highly damaging to trees, power lines and other infrastructure.

**Extreme Temperatures.** Wildfires are expected to increase due to the impact of prolonged droughts and extreme heat. Drier forests and wooded areas will be more combustible in drought conditions. Drought will also lead to water shortages that will impact the entire town whether or not residents and businesses are on town water or have wells.



**High Wind.** Heavy wind events are a serious concern. The town and the surrounding area have experienced a recent uptick in storms with hurricane-level winds. While this phenomenon can be linked to extreme temperatures and rising precipitation rates, workshop participants felt it was serious enough to be singled out as a hazard. Thus, the fourth hazard is focused primarily on the winds associated with these storms, leaving heavy rain events to be discussed under flooding.

The workshop participants agreed that different hazards affect the town at different times of the year. Flexibility and comprehensive response by town officials is needed to ensure the safety of the citizens in different hazard situations exacerbated by climate change.

These concerns, which are largely inter-related, are based on data provided by the Massachusetts Climate Clearinghouse as well as watershed-specific data from the Northeast Climate Adaptation Science Center at the University of Massachusetts at Amherst. For the Nashua River Basin, where Princeton is located, projections show an expected increase in precipitation overall, with the greatest increase during winter. The number of days with more than 2" of rainfall, potentially leading to inland flooding, is also expected to increase with the average expected to be close to 15 days by the year 2100 compared with approximately 10 days now. Consecutive dry days and days above 90 degrees Fahrenheit are expected to increase, leading to drought. Days at the wintery-mix level of cold are also expected to increase, leading to a greater likelihood of freezing rain in the winter. Higher wind in the summer and storm severity increases with warmer temperatures.

### Vulnerable Areas

The areas in Princeton identified by workshop participants during discussion as vulnerable to the hazards discussed include:

**Forested areas** throughout town are vulnerable to increasing pressures from heat, drought, and invasive insect species. The aging tree population is of concern for the overall health of the forested area covering most of the Town. Roadside trees are also a vulnerability due to a lack of a sustainable tree trimming programs and remove and replace program.

### VULNERABLE AREAS

- Forested Areas
- Fire Ponds
- Power Grid
- Senior Residents
- Dams

**Fire ponds** throughout Town were identified as being compromised and inaccessible. Many of the fire ponds in Town are overrun with invasives or are over silted. Those fire ponds of particular concern are located off of Hickory Drive, Worcester Road, Sharon Drive, and Stagecoach Road.

**Power grid** vulnerability was a major concern as there is only one power line that supplies electricity to the Town. This leaves the Town more susceptible to high wind and intense storm events than other Towns.

**Senior residents** were considered vulnerable by all groups during the breakout sessions. High concentrations of senior citizens living in condensed areas were viewed as a risk in the event of evacuation. A lack of back of backup power was concerning for many due to the projected longer period of higher temperatures. In addition to better emergency planning, the availability of transportation for, and communications with, the senior population during these times is considered to be a key aspect of resiliency that needs upgrading and rethinking.

**Town-wide dams** were of concern to many in attendance as a number of dams in town are designated as High Hazard, Significant Hazard, or are at-risk. Dams in particular to be concerned with include the Chimney Pond Dam, Echo Lake Pond Dam, Paradise Pond Dam, and Tenny's Pond Dam.

## CURRENT CONCERNS AND CHALLENGES PRESENTED BY HAZARDS AND CLIMATE CHANGE

CMRPC, the MVP planning provider, had the unique advantage of preparing Princeton's Hazard Mitigation Plan (HMP), which was adopted by the Town's Board of Selectmen and approved by FEMA in April 2016. Meetings with the MVP Core Team prior to the workshop as well as the HMP helped to identify past climate-related events that significantly impacted the Town. Disaster events of concern included frequent major winter storms (as in 2015 and 2018), ice storms (2008), severe rain events (2005, 2010, 2016), tropical storms (Irene, Sandy), infestations of invasive and otherwise undesirable species (Asian Longhorn Beetle, gypsy moths, aquatic invasive species, ticks), and extended periods of drought (2015 to 2016). Princeton does not have a public water supply in place. Advisedly, it will be important for the town to secure a backup drinking water supply and response plan in the event that private wells are damaged by drought or storm and cannot be replenished at the prescribed rate of use.

At the workshop, CMRPC staff presented downscaled climate change data provided by Massachusetts's Executive Office of Energy and Environment Affairs (EEA) and the Northeast Climate Science Center at the University of Massachusetts, Amherst. Princeton lies within the Nashua River Basin, and should projections for the watershed hold true, by mid-century, annual average temperatures will increase in the range of 3 to 6.4 degrees from the historical baseline. Hot days over 90 degrees will increase from 8 to 29 days annually; days below freezing will fall from 19 to 38 days annually; annual precipitation will increase 1.2 to 6.3 inches. Seasonal drought conditions will become more frequent as precipitation becomes more concentrated in extreme intensity events and winter snowpack is reduced. Some of the challenges of these projected changes – many of which are already being observed – were discussed in a presentation at the workshop focused on specific hazards in the Princeton area.

Challenges highlighted in the presentations and/or discussed as a group or in the breakout groups included the following concerns:

- Issues associated climate change will exacerbate problems that are already apparent, and the town lacks the resources to address comprehensively – flooding and storm water management, vulnerable roads, ecological damage, and vulnerable populations, all within the context of a small community.
- An increase in hot and warm days and decrease in cold days will mean greater need for cooling and less need for heating, especially among vulnerable groups such as children and seniors.
- Increased temperatures can also be expected to cause changes in the water cycle, leading to more intense rain events. Increased precipitation rates will lead to more frequent and severe flooding in areas outside of designated flood zones defined using historical data –



particularly around Sterling Road, Thompson Road, East Princeton Road, Worcester Road, Merriam Road, and Route 62.

- Increased storm intensity will likely cause more tree damage leading to power outages and road closures, higher peak river flows requiring new approaches to storm water management, and increased erosion of river and brook banks and nearby infrastructure. Severe storms will still likely damage and impact the power lines throughout the town and especially the overhead transmission lines owned and maintained by the Princeton Municipal Light Department. Tree damage will occur from intense wind storms such as recent tornadoes or from heavy snow and ice storms.
- More frequent and severe droughts will challenge water supplies and increase risks from wildfire. Increased risk of wildfire can lead to a wide-range of ecological outcomes including increased damage to human property and life, removal of suitable habitat space, and changes in ecosystem services made available by forest cover.
- Invasive plant and animal species can impact public health through increasing numbers of disease carrying pests (e.g., ticks and mosquitoes) and by damaging key ecosystems such as forests and wetlands, thereby increasing wildfire and flood risks.

As the climate continues to change and natural disasters increase in frequency and strength there will be a greater need to communicate with residents, businesses, and other institutions. Changing climate will dictate the need for enhanced communications systems and related infrastructure and flexible emergency response and evacuation plans. These flexible response and evacuation plans will be particularly important for the senior citizens who live alone and do not have access to a vehicle.

## SPECIFIC CATEGORIES OF CONCERNS AND CHALLENGES

The following topics were identified by workshop attendees as concerns or challenges related to Princeton's changing climate and natural hazards.

### Infrastructure Concerns



#### *Dams, Culverts, and Bridges*

According to the Massachusetts Office of Dam Safety, there are nine dams located within Princeton. Of those nine dams, one is designated as a High Hazard, two are designated as a Significant Hazard, and two are designated as Low Hazard. Dams designated as High Hazard are those where failure or improper operation will likely cause loss of life and serious damage to homes, industrial or commercial facilities, important public utilities, main highways, or railroads. Those that are designated as Significant Hazard indicate that failure or improper operation may cause loss of life and damage to homes, industrial or commercial facilities, secondary highways or railroads, or cause interruption to use or service of relatively important facilities. The Chimney Pond Dam located in the western part of Town is rated as a High Hazard Dam. However, participants noted that this dam may be misnamed and identified incorrectly within the Office of Dam Safety database. According to the database, the High Hazard dam is named Bickford Pond Dam. The Town should plan to contact the private dam owners to ensure that the dam is labeled and evaluated properly. The Department of Conservation and Recreation owns and manages three dams in Town: Echo Lake Dam, Paradise Pond Dam, and Tenny's Pond Dam. Echo Lake Dam is located in the center of Town and is rated a Significant Hazard. Paradise Pond Dam is also rated a Significant Hazard. There was concern regarding the flooding risks that the dam could impose on Route 140, an evacuation route through Town.

### INFRASTRUCTURE

- Dams, Culverts, and Bridges
- Power Grid
- Roadways
- Town Facilities and Services

There was also concern about the condition of culverts and bridges town wide. The Town of Princeton has around 200 culverts, many of which are old, crumbling, or undersized. Areas of particular concern include Sterling Road, Thompson Road, East Princeton Road, Worcester Road, and Meriam Road. These major roads have faced many flooding and drainage issues. Mirick Road has experienced flooding and icing from clogged storm drains, limiting access to the emergency shelter. Similarly, many bridges in town are undersized and in poor shape. The bridges in Town need to be evaluated and upgraded. With the increase in annual precipitation in the form of heavier and increasingly frequent storms inundating these natural resources beyond their capacity, the town will be faced with greater flooding. The increased volume of storm water runoff will render most culverts inadequate to handle the amount of water and could cause dam and bridge failure. Spillage onto the roads and into developed areas will make streets impassable and cause property damage.

### *Power Grid*

Each table expressed concern about the vulnerability of the power grid. The Town of Princeton only has one power line owned by the Princeton Municipal Light Department (PMLD) that runs from Westminster to Princeton. This single line provides the only municipal power supply in Princeton. If that line were to go down in a storm, then the entire town would be without power. The streets in Town are lined with trees that pose a risk to the power line. Many of these trees are large, old, and could fall during intense storm and wind events. The PMLD trims these trees, but a majority of tables determined that a more concerted effort between the Town and the PMLD is desired to maintain the stability of the power line.

### *Roadways*

From flooding to steep slopes and erosion issues, there are a wide array of issues that limit access to roadways in Town. Gregory Hill Road, Pine Hill Road, Merriam Road, Allen Hill, Thompson Road, and Westminster Road all have steep slopes that lend to perennial icing. To make matters worse, the Town of Princeton lacks a winter road policy. Without a winter road policy, there is no guidance on when and where to use salt or sand on roads. Salt or sand use can have a detrimental impact to wells and other water resources, so it would be beneficial to explore alternative ice treatments. There are also a number of dirt and gravel roads in Town that are susceptible to erosion, icing, and require frequent maintenance. During the ‘mud season’ these roads face many complications and can be inaccessible. And with a lack of sidewalks throughout Town, icy, flooded, or mudding roads create dangerous walking conditions for pedestrians.

### *Town Facilities and Services*

The Town of Princeton is fortunate to have many facilities in Town that offer a variety of services and utilities. However, an increase in the number of climate change-related disasters could damage the Town’s infrastructure and could interrupt these services. The community will need buildings and command centers that can effectively store equipment, sustain shelters, and maintain important departments and services.

Many municipal buildings, while beautiful, are old and are in need of repairs to maintain their functionality. The Princeton Public Library, located at 2 Town Hall Drive, is prone to flooding in the basement. The Public Safety Building, located at 8 Town Hall Drive and home to both the Police and Fire Departments, is also prone to flooding. It is also not up to OSHA standards and has a steep roof. This creates hazards from falling snow and ice, can prevent access to ambulances, and creates a dangerous walking environment for pedestrians. The Thomas Prince School located at 170 Sterling Road serves as the emergency shelter for the Town. While the school has backup generators, it cannot hold the entire Town and roadway flooding limits access to the shelter. The Wachusett House Corporation, located at 13 Boylston Avenue, serves as an affordable and senior housing facility. While this provides a benefit to the town, the facility does not have a generator and is vulnerable to losing power. As many senior residents might rely on access to medical equipment, a lose of power could prove detrimental to those residents.



## Societal Concerns



### *Transportation*

Transportation, or lack thereof, was viewed as a vulnerability by participants during the workshop, especially with the projected increases in climate-based disasters. There are no public transportation options in Town. This severely limits mobility access for senior and low-income residents in Princeton who may not be able to drive themselves or do not have access to their own vehicle. While the Wachusett House Corporation does provide some transportation to their elderly residents through vans, there is no emergency transportation plan established for times of disaster. If evacuation is necessary, senior and low-income residents could be left stranded.

### SOCIETAL

- Transportation
- At-Risk Populations
- Communication

### *At-Risk Populations*

Participants identified several groups of people at higher risk from the effects of climate change. Senior residents will feel the effects of climate change more than other residents in town. Due to their age, they will be more vulnerable to extreme temperatures and a limited drinking water supply that will accompany drought and hot days. In addition, older residents are more susceptible to disease, particularly EEE and other insect-borne diseases, many of which will increase with the changing climate. And as noted above, older residents will be more defenseless and vulnerable in times of emergency when evacuation is necessary due to their reduced ability to mobilize quickly. There is only one senior housing facility in town – the Wachusett House – so many seniors are living independently throughout Town. And participants noted that Princeton has an aging population, so it will be imperative for the Town to develop a more coordinated effort to get support and necessary resources to these individuals.

There was also concern regarding the number of tourists who visit the town. Mass Audubon's Wachusett Meadow Wildlife Sanctuary and Wachusett Mountain are two tourism hotspots in Town, both located in Northern Princeton. These attraction areas create a bottleneck in Northern Princeton and can create a drastic influx in population. This is significant because it increases the number of people in Princeton who both lack a knowledge of the town and do not have a means to access emergency notifications. Other vulnerable groups discussed included low-income individuals and families, and persons with disabilities. These two demographics are more vulnerable in times of extreme heat or drought and during intense storm events because they often have limited incomes and lack access to critical resources.

### *Communication*

The current communication system in Princeton is in need of upgrades. As noted above in the Infrastructure Vulnerabilities section, there is only one power line through Town. This makes communication lines very susceptible to power outages. Along with this, there are many dead zones in Town where there is no cell coverage. The Town of Princeton does utilize CodeRED to send out emergency alerts to those residents who have opted in, but this system still lacks a town

wide reach. Town staff have turned to social media as a means for communication of important town information, but workshop participants viewed this method as a blessing and a curse. While more and more residents are turning to social media pages to gather information, there is a lot of misinformation being given on Next Door and other non-Town affiliated social media pages.

In addition to the system concerns, there was also discussion about inclusion and addressing the communication needs of non-English speakers. While 9-1-1 operators can provide translation services, the Town does not have any other translation options established in their communication lines. Without translation options, non-English speaking residents and visitors do not have sufficient access to emergency notifications or understanding of the evacuation protocols.

## Environmental Concerns



### *Invasive and Nuisance Species*

Climate change will bring a shift in flora and fauna of the region. Plants and animals that have adapted to warmer and drier climates will increase in Massachusetts, and native species that are better adapted to cooler weather will decrease. When a non-native species invades an area, it can often outcompete the native species. And without a predator to manage population numbers, invasive species can dominate an ecosystem very quickly. This is especially detrimental to forest ecosystems. Attendees noted the gypsy moth and the Emerald ash borer as invasive insect concerns. While these insects typically do not have direct harmful effects to humans, they do have disastrous effects on native tree species in Massachusetts. The gypsy moth prefers to feed on oak and birch trees among other species, while the emerald ash borer feeds on ash trees. Trees that are impacted by invasive insects are much more vulnerable to damage during intense storm events as well as drought. Participants were just as concerned with invasive plant species. Invasive plants can choke out native species and contribute to leaf debris. This leaf debris can increase the risk of wildfires. It was noted that the Town of Princeton lacks a Landscape Management Plan and a Pest Policy. Without these kinds of policies in place, there is no guidance for how to properly manage for and reduce the number of invasive species on Town land.

## ENVIRONMENTAL

- Invasive and Nuisance Species
- Runoff Contamination
- Insect-Borne Disease
- Fire Prevention

### *Runoff Contamination*

The Town of Princeton lacks a public water supply or treatment facility, so the town is dependent on privately owned wells and sewer systems. Workshop attendees discussed the runoff and contamination risks that these private wells face. There have been instances where the water wells have been contaminated with Per- and polyfluoroalkyl substances (PFAS), a chemical that is difficult to filter out, leaving the water unsafe to drink. Fluoride, arsenic, and iron have also caused issues with the drinking water supply and have been costly to the Town and private residents.

In addition to well water contamination, wetland resources have also experienced runoff pollution from salt and sand operations. When sand runs off into wetlands, it can cause damage to the ecosystem and can clog catch basins and other important stormwater infrastructure. Salt can dramatically rise the level of sodium in tributaries, disrupting the nutrient balance of the ecosystem. As flooding events become more frequent, these harmful substances can move to other water resources and get into the groundwater. The Town of Princeton does not currently have a Wetlands Protection Bylaw which leaves some wetlands unprotected from these contamination risks.

### *Insect-Borne Disease*

Risk of insect-borne diseases, especially EEE and Lyme disease, will worsen as the climate warms and periods of flood and drought increase. Mosquitos carry EEE and West Nile Virus (WNV). They tend to lay their eggs in and around standing water, so populations of mosquitos will likely increase in times of flooding. Mosquitos are also more aggressive on hot, dry days, and will feed more frequently during those periods, causing greater instances of contracting those diseases. In Massachusetts, deer ticks (*Ixodes scapularis*) can carry Lyme disease. Typically, deer ticks will die out during the cold winter months, controlling the deer tick population and managing the spread of Lyme disease. However, climate change will result in milder and warmer winters, causing fewer disease-carrying ticks to die out during those winter months. With fewer ticks dying, the overall tick population will increase, creating a greater chance of contracting Lyme-disease. Children and senior citizens are more susceptible to the effects of insect-borne diseases, and those living near open water or flood-prone areas could be more exposed to insect-borne diseases. It was noted during the workshop that the Town of Princeton does not have a tick or mosquito control plan and that it does not spray town-owned lands. Residents have hired independent contractors to spray their private homes, but a town wide spraying effort has not been supported in the past. Education and prevention measures of insect-borne disease should be taught, and their use encouraged across Princeton.

### *Fire Prevention*

According to the most recent land use data, 77% of lands in Princeton are forested, and another 5% of lands are labeled as other vegetation. All but a few buildings in the Town of Princeton are located either within forested areas or within the wildland urban interface – the 200-ft buffer zone between forest and development. Wildfire risks are elevated within these two zones. With an increase in temperatures and the number of consecutive hot days, drought, and consequently more wildfires, will be an ongoing hazard. Workshop attendees expressed concern regarding sparking from the railroad off of Ball Hill Road, Gates Road, and Calamint Hill. Clearing brush and leaf debris along the railway will be necessary to limit wildfire risks. There was also concern that a large number of forests in Princeton are privately owned. This means that maintenance and prevention largely fall on the public who may not have an awareness or knowledge of the fire risks in their own backyards. Widespread education regarding drought and wildfire awareness is needed to mitigate these risks.

The need to maintain fire ponds was also widely discussed during the workshop. Currently, there are fire ponds off of Hickory Drive, Worcester Road, Sharon Drive, and Stagecoach Road that are

all in poor condition. The fire ponds in these locations are overgrown with invasive species, over silted, and are largely inaccessible. These fire ponds could be a valuable resource to improve Princeton's wildfire resilience, but without a dedicated maintenance schedule, these fire ponds remain inadequate.



## CURRENT STRENGTHS AND ASSETS

Princeton has taken some steps to address natural hazards and climate change over recent years. Public opinion holds that public safety is an “infrastructural strength” that will protect and strengthen the Princeton community. Perceived environmental strengths focused mainly on the large and diverse number of natural resources and recreation opportunities that Princeton residents can take advantage of.

### Infrastructure Strengths



#### *Road Maintenance*

Maintenance of the town’s public roads and streets is one of the Town of Princeton’s leading infrastructural strengths. The Town uses both salt and sanding operations to reduce icing and maintain traction on public roads during the winter. Thorough salting and sanding operations are a significant strength for Princeton, ensuring safety for drivers during the icy winter months. Additionally, the Princeton Department of Public Works also provides an essential Tree Limb Maintenance Plan. Under this plan, tree limbs across the town are trimmed periodically. This Tree Limb Maintenance Plan takes preventative action to avoid tree limbs falling onto roads after storms and other events. The Municipal Light Plant also offers tree trimming and removing services in Princeton. Their efforts aim to protect the town’s power line and prevent any tree limbs from disrupting it.

### INFRASTRUCTURE

- Road Maintenance
- Public Safety
- Municipal Buildings

#### *Public Safety*

The Town of Princeton also has numerous public safety strengths within the police, fire, and paramedicine departments. The Princeton Police Department has recently improved their radio system, with new ultra-high frequency radios. This improvement increases public safety by improving the communication and efficiency of the local police. In addition, the Princeton Police have a Repeater stationed on Wachusett Mountain, to further clarify and improve communication between Town Police. This shows the Princeton police working to keep the town as safe as possible, as well as showing the Police Department’s strong relationship with the Massachusetts Department of Conservation and Recreation. Princeton also has community paramedics, providing local and fast emergency medical assistance.

Princeton’s Fire Department has also found new ways to increase public safety. The department and the Town have designated more than twenty fire ponds throughout Princeton to help aid firefighting efforts. Fire ponds are local ponds that are utilized exclusively for firefighting efforts. These ponds are especially important in areas where access to fire hydrants is limited or non-existent.

The Town of Princeton also offers expansive coverage for the CodeRED program for its residents. Upon signing up for CodeRED, Princeton residents are enrolled to automatically receive

emergency alerts to their mobile device or home phone. In emergencies, such as evacuation notices, missing child alerts, boil water notices and more, residents of Princeton in the CodeRED program will be automatically alerted by local authorities (Community Notification Enrollment, 2020). The Town of Princeton also has excellent Broad Band WIFI service through Spectrum, allowing emergency communication such as CodeRED and other information sharing platforms, to have reliable communication for residents.

### *Municipal Buildings*

The Town buildings, schools, housing units, and library are other infrastructural strengths for Princeton. First, the Thomas Prince School, as part of the Wachusett Regional School District, serves the town as an emergency shelter with backup generators. Located on Sterling Road in Princeton, Thomas Prince is just off Route 140 and Route 62 (Thomas Prince School, Home, 2020). The emergency shelter in the school is a strength for the town because it is an easily accessible shelter for Princeton during an emergency.

Along with the Thomas Prince School, are many other Town buildings in Princeton that provide essential services to residents of Princeton. The Town Hall, is a historic and beautiful building, serving as a solid foundation for local government. It serves as the home base location for many Town services, such as the Building Department, Parks and Recreation Department, Veterans Services, and more (Departments | Princeton, MA, 2020).

Senior and affordable housing are another integral piece of a prosperous and equitable society. The Wachusett House Corporation is located at 13 Boylston Ave in town. It serves the community with 48 bedroom units designated for very low, low, and moderate income families, as well as the elderly, and those with disabilities (Wachusett House Corporation in Princeton, Massachusetts, 2020). This is a strength for Princeton, providing equity for housing opportunities for marginalized populations, such as the elderly, those with lower income and disabilities.

Finally, the Princeton Public Library is another strength for the town. The library offers books along with e-books, e-audiobooks, e-magazines, Ancestry.com services, Universal Class courses on many different subjects, and the Boston Public Library's e-card (Princeton Library, 2020). These services enrich the community with knowledge for children and adults, as well as local entertainment for all residents.

## Society Strengths



### *Community*

The residents of Princeton are a close-knit community that understand how to adapt to serve all its residents. Organizations such as NEADS World Class Service Dogs for seeing eye dogs, plans for community gardens, as well as Wachusett House are each examples of ways

## SOCIETAL

- Community
- Town Services and Personnel
- Communication Systems

Princeton practices community awareness. These organizations provide services for the community, serving as strengths for the town.

The churches in Princeton are often used for various community events and gatherings. The Heritage Bible Chapel is located at 182 Brooks Station Road in Princeton (Heritage Bible Chapel, 2020). The chapel serves as a place for residents to strengthen their sense of community through practice of their faith. Also, the Princeton First Congregational Church, on 14 Mountain Road, serves the community through programs such as Sunday school and nurse care. Finally, the Prince of Peace Parish, just off of Route 62 on Worcester Road in town, provides a historical New England aesthetic for Catholic worship in Princeton (Google Maps, 2020). The Heritage Bible Church has the potential to be used as a backup shelter, in a case of an emergency.

#### *Town Services and Personnel*

Each of the Town departments and committees in Princeton also are strengths to the prosperity of the town. Boards and committees such as the Road Advisory, Open Space Committee, and Environmental Action Committee, work particularly diligently to maintain open communication and stay proactive. The Highway Department is integral to maintaining safe conditions on roads throughout town. Often the department can arrive and fix problem roads in around 2-3 hours, depending on the situation and conditions. Through the Police Department, Princeton also offers a service to help new residents moving into town. By filling out the New Residents Form, the police are informed of the new residents' needs and vulnerabilities, allowing the new residents to be better equipped for emergencies.

The Town of Princeton also consistently works to meet the needs of its senior population. Though there is only one senior housing facility in Town, the Wachusett House on Boylston Avenue does offer its residents safe and comfortable housing. Vans visit this facility regularly, providing transportation services to its senior residents. The Town also provides many services to seniors in private homes. The Senior Center, located at 206 Worcester Road, produces a monthly newsletter, providing seniors with important information pertaining to the elderly population (Senior Center | Princeton, MA, 2020). In addition, the Council on Aging in Princeton also has a list of elderly citizens in town that might need additional assistance during emergencies, allowing the Town to help seniors that live in private housing as well.

#### *Communication Systems*

Princeton recognizes that efficient and effective communication to all residents throughout the Town is necessary and is striving to achieve that. In addition to CodeRED as mentioned above, Princeton also provides 9-1-1 translation services to residents. This allows non-English speakers to have full utilization of emergency services via dialing 9-1-1. Residents of Princeton also look to Town's social media presence for information. The Town's website and Facebook page are successful modes of communication for many residents of town. Communication potential has also been recently been further improved with the expansion of internet services in Princeton.

## Environmental Strengths



### *Tourism and Recreation*

Tourism and local use of recreational spaces is a major environmental strength for Princeton. Frequent visitors to the parks contribute to economic growth for the Town, allowing for and encouraging the maintenance of all of these recreational areas. For example, the Wachusett Meadow, at 113 Goodnow Road in town, offers beautiful scenery, abundant wildlife, and Colonial historical landmarks. Tourist attractions along the trails include beaver ponds, ancient trees, the Glacier Boulder, and the Brown Hill Summit. Along with trails that open all day every day, the Wachusett Meadow also offers homeschool programs, and adult recreation programs, such as seasonal snowshoeing, through a partnership with Mass Audubon (Wachusett Meadow Wildlife Sanctuary, 2020). These attractions are a strength for Princeton because they contribute to economic growth for the town.

## ENVIRONMENTAL

- Tourism and Recreation
- Forests and Trees
- Bylaws and Policies

Wachusett Mountain is another attraction and recreation area for tourists and local alike. Managed by the Massachusetts Department of Conservation and Recreation, Wachusett Mountain is a largely popular location for skiing in the winter months. The windmills on the mountain also offer historical scenery and entertainment for visitors. The mountain's attracts tourists from across New England and the country, increasing economic development for Princeton. Along with skiing, the mountain offers terrain hiking, ski racing, as well as food courts with new food options (Home | Wachusett Mountain, 2020). As the home of these tourist and local attractions, Princeton's recreational destinations can be considered a strength, specifically contributing to economic growth.

### *Forests and Trees*

The forests in Princeton are another environmental strength of the town. Princeton's large number of forests provide wildlife habitats, protection for soils, carbon safety, water resources, and recreational opportunities. There are expansive trail systems, many small ponds, and scenic hills at the Leominster State Forest (Leominster State Forest Paradise Pond and Wolf Rock Loop | Princeton, MA, 2020). With loop trails that are well marked and an abundance of wildlife to observe, Leominster State Forest is a publicly owned attraction for nature-lovers both near and far.

Appropriate tree removal is also a strength for Princeton. With proactive efforts for removing trees, more direct sunlight is exposed to main roads. With more solar insolation, the Town is able to reduce the amount of salt or sand needed to defrost roads that have frozen over. With less salt and sand distributed throughout the Town roads, there is less salt and sand runoff into catch basins, and therefore less contamination in wetlands and other water resource areas. Therefore, the Town's effort to increase sunlight on roads through tree removal, can help protect the Princeton's clean water supply.

### *Bylaws and Policies*

The zoning bylaws in Princeton preserve the resources and character of the town. For example, the Open Space Residential Design Bylaw requires a certain amount of open space in all development designs for the town. Similarly, the Rural Preservation Overlay Bylaw decreases the amount of forest and tree removal during any new development or constructions. The Earth Removal Zoning Bylaw also assists in the regulation of any de-vegetation occurring throughout town.

In addition, under the Wetlands Protection Act, Princeton practices strict preservation procedures to regulate permits for work areas on any town wetlands (310 CMR 10.00, 2020). The Town is also considering adopting a Wetlands Protection Bylaw for additional protections. Finally, Princeton remains “farming friendly” under the Town’s Farm Preservation Bylaw, permitting chickens and other animals in residential areas (Residential-Agricultural District, Town of Princeton, 2020).



## RECOMMENDATIONS TO IMPROVE RESILIENCE

Workshop attendees at each table took the next step in completing the CRB Matrix by suggesting actions that would address vulnerabilities, or further bolster strengths they identified. The following actions are compiled from the matrices from all three tables at the Princeton MVP Workshop. The completed Matrix for each table can be found in the Appendix at the end of this document.

### Infrastructure Actions



Improved **management of water** within town will be critical in building resilience. A stormwater, flooding, and drainage assessment that addresses culverts, dams, and bridges should be performed. That assessment should map culverts, identify those that need to be replaced or upgraded, utilize environmentally friendly alternatives, and adopt a maintenance policy. Dams and bridges should be evaluated to maintain safety, and relationships with private dam owners should be established to ensure compliance with dam safety standards. A town-wide water assessment should also be performed, exploring options for a backup source of clean drinking water. Locations where runoff could be used to create parklike areas with water features and floodwater storage for firefighting should be identified. All fire ponds and water supply features should be mapped, and plans should be developed to improve existing retention ponds through an Adopt-A-Fire Pond program.

### INFRASTRUCTURE

- Water Management
- Alternative Power Sources
- Access

**Alternative sources of power** should be secured to maintain critical services to vulnerable populations, especially considering there is only one power line through Town. A power redundancy feasibility study should be completed to determine the possibility of constructing additional power lines or utilizing alternative energy sources. Back-up generators or alternative power supplies should be secured for buildings and infrastructure most vulnerable to power outages, such as at the Wachusett House.

With increased flooding, storm events, and other crises become more prevalent, **maintaining access to key resources** was identified as a major concern. A town-wide vulnerability assessment should be utilized to map and identify vulnerable areas in Town and to analyze potential impacts to undeveloped properties. Ice management and road safety should be evaluated, and the high-risk transformers should be located and replaced. Additionally, sheltering options in town should be improved. The town should explore alternative shelter locations, such as at churches, Wachusett Mountain Lodge, or the Mass Audubon Wachusett Meadow Wildlife Sanctuary. Pet shelter locations should also be identified and an inventory analysis on pets and pet needs of residents in town should be performed.

## Societal Actions



**Investing in and fostering partnerships** was discussed in order to build more unity and support. As railroad sparking was a concern, it was suggested that the Town form a Railroad Coalition with other communities along the Providence-Worcester railroad line to encourage regular maintenance of brush and trees along to rail lines for fire prevention. Additionally, the Town should appoint a Tree Maintenance Committee to coordinate tree trimming and removal efforts of the Town and the Princeton Municipal Light Department.

As the burden of many risks fall on the shoulders of the public, participants felt it will be important to **enhance community preparedness and awareness** of climate-related vulnerabilities. It was recommended that the Town establish a series of educational campaigns to improve public knowledge and awareness of stormwater management, rainwater collection, well maintenance, insect-borne illness, invasive species, drought and wildfire risks, and water conservation. Additionally, it was suggested that the Town improve access to and use of the CodeRED system. A mailing and information campaign should be utilized to encourage residents to sign up for the CodeRED system. And to improve the preparedness of Princeton's senior residents, the Town should coordinate with the Council on Aging in helping to maintain the list of senior residents in town and their needs. Establishing an Adopt-A-Senior program could encourage engagement with the senior community and build their resilience network.

With the risks and vulnerabilities that the Town of Princeton will face as the climate changes, it will be important to **assess and address the resources** that they are lacking. Establishing a transportation plan for times of emergency was suggested in order to provide mobility, evacuation, and shelter access to the senior and disabled community. Transportation could be accomplished through the use of shuttle buses or trolleys. Additionally, it was recommended that the Town identify a location for a community garden in order to improve access to food. Developing a strategy to share and bring food to shelters during evacuation events was discussed at length to improve food access as well.

### SOCIETAL

- Utilize Partnerships
- Enhance Community Preparedness
- Assess Resources

## Environmental Actions



The vulnerability to the power grid and the risk of wildfire led participants to focus on **forest and tree management**. Performing a Tree Inventory Assessment was recommended to identify compromised trees in the street line and beyond. Establishing a Tree Removal and Replacement Program that utilizes the planting of understory, drought resistant trees could also improve the

### ENVIRONMENTAL

- Forest Management
- Environmental Policy
- Outreach

tree health. Developing Forestry Management Plans and securing necessary fire management equipment was also recommended to aid in the clearing of access roads.

Participants felt that natural resource protection could be improved by **strengthening environmental policies** in Town. Adopting a series of policies that address environmental and safety issues will establish a standard for residents to follow. A Landscape Manual and Policy for all Town-owned lands could encourage the use of native drought resistant plants and nature-based solutions. And Integrated Pest Control Plan could aid in the identification and management of invasive pests and plants throughout Town. Implementing a Water usage Policy could encourage residents to conserve water during periods of drought. And a Winter Maintenance Road Plan could reduce the usage of sand and salt in vulnerable environmental areas. Adopting a Stormwater Management Bylaw, a Wetlands Protection Bylaw, and a Wildlife Corridor Overlay District could provide stronger legal protections to natural resources in Town as well.

Conservation lands, forests, farms, and trails were viewed as environmentally strengths in Princeton, and it is believed that **expanding outreach** to these areas will maintain these assets. The Town should establish a partnership with DCR in order to coordinate forestry management of Wachusett Mountain. This partnership could also develop best practice management techniques as it regards to salt, sand, and pesticide usage within environmentally vulnerable areas. Improving access and knowledge of recreation opportunities in Town could be accomplished by establishing a paid recreation position within Town. Seeking LAND and PARC grant funding could be utilized to acquire land and build additional recreation opportunities. And it was recommended that the Central Massachusetts Regional Planning Commission map the existing trails in Princeton.

## Top Recommendations




Following the three-day virtual workshop, these actions were placed into a survey on the Survey Monkey platform so that participants could prioritize their top recommendations. Participants answered survey questions on: 1) what hazards they were most concerned with; 2) whether an action was high, medium, or low priority; 3) whether an action was a short, long, or ongoing project; and 4) which actions they would like to see Princeton complete. A copy of the survey questions and the survey results can be found in the Appendix at the end of this document.






### TOP RECOMMENDATIONS




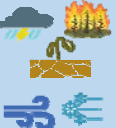




















- Power Redundancy Feasibility Study
- Stormwater and Drainage Study
- Educational Campaigns
- Forest Access Plans
- Water Supply Assessment
- Environmental Policies

The majority of participants, approximately 57.14%, indicated that they were most concerned with the possibility of increased winter storms as the climate changes. Winter storms will bring more high wind events and ice, increasing tree damage and power outages. Consequently, as the vulnerability of the power grid was discussed at each table, one of the top priority recommendations with a total of eight points was to **perform a power redundancy feasibility study** to determine the possibility of constructing additional power lines. Also with eight votes, the next top recommendations were to **perform a stormwater and drainage assessment study**, and to **establish a series of education campaigns to improve public knowledge of climate resilience topics**. Other highly favored recommendations include development of **forest access plans**, a **Town-wide water assessment** to explore a backup source of clean drinking water, and **adoption of a series of environmental policies** that will establish a standard for residents to follow. These actions received seven, six, and six votes, respectively.

















At the end of the three-day virtual workshop, Peter Peloquin thanked attendees for giving their time and attention, and commended the town for their willingness and flexibility to utilize a virtual platform giving the current public health conditions. The top recommendations on the following pages were compiled based on those actions reported out voted on by participants. Actions are organized by priority and project type. The key below describes the Category and Hazard types found in the top priority action table.

Category	Key
Infrastructural	
Societal	
Environmental	

Hazard	Key
Severe Storms/Flooding	
Winter Storms	
Wind	
Drought	
Wildfires	

Project Type	Category	Issue	Recommended Actions	Hazards
<b>High Priority</b>				
Power/Energy		Alternative Energy	Power Redundancy Feasibility Study to determine the possibility of constructing additional power lines or utilizing alternative energy sources.	
Education and Outreach		Public Awareness	Establish a series of educational campaigns to improve public knowledge and awareness of the following topics: 1) Stormwater Management; 2) Rainwater Collection and Storage; 3) Well Maintenance and Upkeep; 4) Tick and Mosquito Risks; 5) Invasive Species Control; 6) Water Conservation and Contamination; 7) CodeRED; and 8) Drought and Wildfire Risks/Prevention. Utilize partnerships with schools and youth engagement to advance these education campaigns.	
Resource Management		Wildfires	Develop Forest Access Plans and secure appropriate fire management equipment to aid in the clearing of access roads.	
Water	  	Stormwater	Stormwater, Flooding, and Drainage Assessment that addresses culverts, dams, and bridges. Map culverts, identify those that need to be replaced or upgraded, utilize environmentally friendly options, and adopt a maintenance policy. Evaluate dams and bridges to maintain safety, and contact private dam owners to ensure compliance.	
		Water Supply	Perform a Town-wide Water Assessment. Explore options for a backup source of clean drinking water, utilizing retention wells, tanks, and filtration strategies. Identify locations where runoff could be used to create parklike areas with water features and floodwater storage for firefighting. Map fire ponds and water supply features, and develop plans to improve existing retention ponds through an Adopt-A-Fire Pond program. Create a pressurized system using gravity to bring water from Echo Lake to other areas of town. And partner with schools and colleges nearby to develop pond management plans to improve water and habitat quality of ponds in Town.	
Policy	 	Natural Resource Protection	Adopt a series of policies to address environmental and safety issues that will establish a standard for residents to follow such as: 1) A Landscape Manual and Policy for all Town-owned lands that emphasizes native, drought resistant plants and nature based solutions; 2) Integrated Pest Control Plan to aid in the identification and management of invasive pests and plants throughout Town; 3) Water Usage Policy to encourage water conservation during periods of drought; and 4) Winter Maintenance Road Plan to reduce sand and salt usage in vulnerable environmental areas. Utilize the assistance of DCR, MWRA, and other professionals to develop these environmentally friendly policies.	
<b>Medium Priority</b>				
Power/Energy		Alternative Energy	Acquire generators or alternative power supplies for buildings and infrastructure most vulnerable to power outages, such as at the senior housing facilities or the Wachusett House.	
Emergency Preparedness		Senior Population	Improve the preparedness of Princeton's senior residents through 1) coordinating with the Council on Aging to maintain a list of senior residents in town and their needs; 2) establishing an Adopt-A-Senior Program to encourage engagement with the senior community; 3) utilizing the Senior Center Newsletter and other community organizations as a network of information sharing for senior residents; and 4) coordinating with first responders and the Montachusett Regional Transit Authority to respond to and provide medical care to seniors with mobility issues.	
Resource Management		Vulnerable Areas	Town-wide Vulnerability Assessment to map and identify vulnerable areas and analyze potential impacts to undeveloped properties. Evaluate ice management and road safety. Locate and replace highest risk transformers.	
		Tree Health	Tree Inventory Assessment to identify compromised trees in the street line and beyond. Establish a Tree Removal and Replacement Program that utilizes the planting of understory trees that are drought and pest resistant. Utilize downed trees or branches as Fuel.	
Communication		Inter-Town Communication	Improve communication town-wide. Encourage communication lines between different boards and committees, and update contact information on Town website as needed. Establish a contact list or phone tree for power outage notification. Transform the Police Department's "New Resident" form into a fillable PDF and encourage residents to fill it out to identify their needs.	
		CodeRED	Improve access and use of the CodeRED system. Encourage residents to sign up by sending a pamphlet with information on how to sign up and use the system in town-wide mailings, such as the census. Expand language options and different levels of interactions that residents using the system can use.	



Low Priority					
Emergency Management		Shelter	Improve sheltering options in town. Explore options for alternate shelter locations (Post Office Place, churches, Wachusett Mountain Lodge, the Mass Audubon Wachusett Meadow Wildlife Sanctuary, etc.). Develop an agreement with these alternative shelter locations to formalize arrangement. Identify potential pet shelter locations (NEADS) and perform an inventory analysis of pets and needs of residents in town.		
		Transportation	Establish a transportation plan for emergencies to move vulnerable populations (senior/disabled residents) to shelters via shuttle busses. Explore purchasing trolleys to provide additional transit options.		
Recreation		Knowledge and Access	Improve access and knowledge of recreation opportunities in Town by: 1) establishing a paid recreation position with the town; 2) adding more facilities and programs; 3) improving outreach and education; 4) seeking state grant funding; and 5) having CMRPC map trails.		
Access		Food	Improve food access by identifying a location for a community garden and developing a strategy to share food/bring food to shelters during evacuation events.		
Resource Management		Beavers	Research sustainable solutions to limit beaver activity in areas of town that are vulnerable to flooding (beaver deceivers). Consult a DCR biologist for guidance with this.		
		Tree Health	Develop a Tree Maintenance Committee to coordinate the efforts of the Town and the Princeton Municipal Light Department (PMLD) in tree trimming and wire protection.		
Policy		Housing and Community Development	Analyze existing bylaws and plans, and update regularly. Develop a Housing Production Plan to address the needs for senior housing in town. Update the Master Plan focusing on zoning, land use, and tax base.		
		Natural Resource Protection	Assess the need for additional natural resource protections and consider adopting the following: 1) Stormwater Management Bylaw; 2) Wetlands Protection Bylaw; and 3) Wildlife Corridor or Overlay District.		
Partnership Building		State Property	Establish partnership with DCR to coordinate forest management plan of Wachusett Mountain and develop best management practices within watershed for salt, sand, and pesticide usage. Install a zip line on Wachusett Mountain for recreation and to aid in rescue.		
		Railroad	Form a Railroad Coalition with other communities along the Providence-Worcester railroad line to encourage regular maintenance of brush and trees along the rail lines in order to prevent fire.		

## Public Comments

During the March 9, 2021 Public Listening Session, and during the March 3- March 17, 2021 Public Comment Period, the below comments were received:

- Language should be added to the Summary of Findings Report to allow the Town access to provide a generator and access to a hut.
- Lessons were learned during the 2008 ice storm, and the PMLD is updating a document for Surviving the Next Storm. This document will address losing power for a long period of time, frozen pipes, generators not lasting, and carbon monoxide poisoning. During this ice storm, residents experienced 4 to 6 hours of power for internet, and 2 to 4 hours of energy for cellular power. The storm resulted in an 8-day outage.
- A fire hazard exists with some creosote soaked railroad ties that have been lying around for a while near the railroad tracks.
- There is a significant regulatory obstacle of testing water holes as it costs approximately \$20,000 - \$30,000 to do.
- The existing Public Safety Complex puts the Town and its public safety officials at risk because they are inadequate to provide essential workplace safety features. The Town will face a very high expense in the next few years when it replaces the outdated Town Center and Police/Fire Complex.

## Next Steps

This planning process and list of prioritized recommendations is only the first step in building a more resilient community. The intent of the Summary of Findings Report is to identify the strengths and vulnerabilities of a Town, and to brainstorm potential actions that could help the Town build climate resilience. Once the State accepts the Summary of Findings report and deems the Town of Princeton an MVP Designated Community, the Town should begin identifying projects that they would like to complete from the list of Recommended Actions. Based on Town interests and capabilities, should begin developing action plans to pursue these projects, and should utilize MVP Action Grants, Town resources, or other grant programs and funding opportunities to explore these ideas further.

## CRB WORKSHOP PARTICIPANTS

Name	Affiliation	Attended	Table #
Karen Cruise	Board of Selectmen Member	Y	1
Brian Keevan	Conservation Commission	Y	1
Rick Gardner	Open Space	Y	1
Sean Conway	Local Construction Co.	Y	1
Chris Courville	Tree Warden	Y	1
Ricky Thebeau	Princeton Police Department	Y	1
Phil Gott	EAC	Y	1
Melissa Hawthorne	Assistant Treasurer Collector	Y	1
Karen Rossow	Open space Committee	Y	1
Ben Metcalf	Highway Dept.	Y	2
Kelly Freada	DCR	Y	2
Deb Carey	Mass Audubon	Y	2
Kelton Burbank	Recreation Committee	Y	2
Claire Golding	EAC	Y	2
Andrew Santry	Highway Dept.	Y	2
Charlie Cary	Waste Wood Utilization	Y	3
Michelle Powers	Police Chief	Y	3
Gary Harrington	Power Company	Y	3
Kim Ferguson	State Rep.	Y	3
Sherry Patch	Town Manager	Y	3
Corey Burnham-Howard	EAC	Y	3
Diane Lemon	Admin. Secretary	Y	4
Susan Priest	Building Inspector	Y	4
John Bennett	Fire Chief	Y	4
Erin Redihan	Library	Y	4
Holly Palmgren	MBTA/WRTA	Y	4
Hilary King	MVP Regional Coordinator	Y	4
Sarah Adams	Principal Planner, CMRPC	Y	1
Ian McElwee	Associate Planner, CMRPC	Y	2
Dani Marini	Assistant Planner, CMRPC	Y	3
Mimi Kaplan	Associate Planner, CMRPC	Y	4
Matt Franz	Project Manager, CMRPC, IT Support	Y	ALL
Peter Peloquin	Associate Planner, CMRPC	Y	ALL

## CITATION

Town of Princeton (2020) Community Resilience Building Workshop Summary of Findings.  
Central Massachusetts Regional Planning Commission. Princeton, Massachusetts.

## CRB WORKSHOP PROJECT TEAM

Name	Affiliation	Role
Phil Gott	Town of Princeton	Environmental Action Committee
Brian Keegan	Town of Princeton	Conservation Commission Chair
Ben Metcalf	Town of Princeton	Highway Department Superintendent
John Bennett	Town of Princeton	Fire Chief/EMD
Michelle Powers	Town of Princeton	Police Chief
Terry Thompson	Town of Princeton	Road Advisory Committee
Larry Greene	Town of Princeton	Board of Health
Karen Cruise	Town of Princeton	Board of Selectman
Aimee Kindorff	Town of Princeton	Senior Center, Director
Sherry Patch	Town of Princeton	Town Administrator
Pete Peloquin	CMRPC	Associate Planner, Lead Coordinator
Sarah Adams	CMRPC	Principal Planner

## ACKNOWLEDGEMENTS

The Municipal Vulnerability Preparedness (MVP) program and Community Resiliency Workshop were funded by the Executive Office of Energy and Environmental Affairs. This Summary of Findings and CRB Workshop were prepared for the community of Princeton by the Central Massachusetts Regional Planning Commission (CMRPC). Support from the Princeton Board of Selectmen and town officials was much appreciated, especially for allowing the workshop and listening session to take place virtually.

The CMRPC would like to acknowledge the Town of Princeton's Core Team for their time and hard work in participating in this project. These include, but are not limited to:

Sherry Patch, Princeton Town Administrator

John Bennett, Princeton Fire Chief/EMD

Michele Powers, Princeton Police Chief

Phil Gott, Environmental Action Committee

Terry Thompson, Road Advisory Committee

Ben Metcalf, Highway Superintendent

Larry Green, Board of Health

Brian Keeven, Conservation Commission

Karen Cruise, Selectboard

Aimee Kindorf, Senior Center, Director

The following individuals were directly and personally involved in planning and conducting the Princeton Community Resilience Building Workshop:

Peter Peloquin, Associate Planner, CMRPC

Sarah Adams, Principal Planner, CMRPC

Dani Marini, Assistant Planner, CMRPC

Matt Franz, Project Manager, CMRPC

Hillary King, Regional Coordinator, EOEAA



## APPENDIX

- I. Agendas and Sign-In Sheets
- II. Workshop Meeting Materials
  - a. Invitation
  - b. Maps
  - c. Table Matrix
  - d. Survey
- III. Workshop Presentation
- IV. Listening Session Presentation



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**Princeton Municipal Vulnerability Preparedness (MVP)**  
**Meeting #1**

**Date/Time:** January 29, 2020, 6PM  
**Location:** Town Hall Annex, 4 Town Hall Dr, Princeton, MA 01541

**AGENDA**

- Introductions
- MVP Program Background
- Roles & Responsibilities
  - Town
    - Assemble Core Team (participates in prep meetings, workshop and listening session)
    - Identify stakeholders to invite to workshop and lead invitation/RSVP process
    - Lead outreach for public listening session
    - Provide feedback on summary of findings report
    - Grant reporting and documentation of in-kind match
  - CMRPC
    - Organize and lead Core Team meetings
    - Organize and lead workshop, including preparation of presentations and other materials (maps, handouts, etc.)
    - Organize and lead public listening session; assist with outreach
    - Prepare and submit summary of findings report
- Core Team Timeline
  - Core Team Meetings (three total)
  - Pre-Workshop meeting/Call
  - CRB Workshop
  - Listening Session (Must be held before May 31<sup>st</sup>)
- Workshop Agenda/Structure
  - Welcome speaker(s) (Town)
  - Content speakers (CMRPC)
  - Table facilitators (generally Town or other local stakeholders; CMRPC will assist)
  - Table reporters (Town or other local stakeholders)
  - Scribes (generally students/seniors)
  - Food (can be funded through grant)



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- Nuts and bolts
  - Workshop location options
  - Estimated date
- Other/next meeting



## **Municipal Vulnerability Preparedness (MVP)**

### **Program Information**



In September 2016, Governor Charlie Baker signed Executive Order 569, instructing state government to provide assistance to cities and towns in Massachusetts to complete climate change vulnerability assessments and resiliency planning.

The Municipal Vulnerability Preparedness grant program (MVP) provides support for cities and towns to begin the process of planning for resiliency. The MVP program provides support for communities to address the challenges of climate change, and to prioritize climate adaptation actions at the local level in order to create a safer and more resilient future.

The state awards communities with funding to complete vulnerability assessments and develop action-oriented resiliency plans. MVP-certified providers across the state have been trained to provide technical assistance in completing the assessments and resiliency plan using the Community Resilience Building Framework. Municipalities work with a MVP-certified provider through a community-led process to identify key climate-related hazards, vulnerabilities and strengths, develop adaptation actions, and prioritize next steps.

The MVP Program is led by a Project Coordinator from the community with a Core Team of town staff and volunteers representing town planning departments, emergency managers, conservation commissioners, economic councils, the business community, and other key stakeholders who care about the future health and resilience of the community.

The MVP program helps communities to:

- Define extreme weather and natural and climate related hazards
- Identify existing and future vulnerabilities and strengths
- Develop and prioritize actions for the community
- Identify opportunities to build resiliency and reduce risk

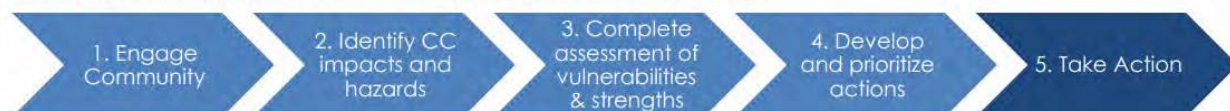
Results of the workshops and planning efforts will be incorporated into existing local plans, grant applications, budgets, and policies in order to ensure that resilience is a community priority. One area of focus will be using the findings to inform Master Plans, Hazard Mitigation Plans, Open Space Plans, and other comprehensive planning processes.

Upon successful completion of the program, communities will be designated as a “*Municipal Vulnerability Preparedness (MVP) Program Community*” and are eligible for MVP Action Grant funding and other opportunities.

**All MVP-certified communities will acquire priority status for follow-up state grant funding.**

**Flip page to learn more about MVP grant opportunities →**

**State and local partnership to build resiliency to climate change**





# **Municipal Vulnerability Preparedness (MVP)**

## **Program Information**



The MVP Program offers two grant programs for municipalities or groups of municipalities to either

- 1) conduct community resilience-building workshops and develop resiliency plans, OR**
- 2) for communities that have already completed the MVP process, to implement priority projects.**

### **MVP PLANNING GRANTS**

***To participate in the MVP program, communities first apply for Planning Grants, which are used to complete a community-based workshop and prioritize next steps to address climate change impacts.*** Applications may be for single communities or may be regional, with a single community serving as the fiscal agent. Municipalities with no current local hazard mitigation plan (HMP), or those with plans expiring in 2019 or 2020 are eligible for additional funding to complete or update a full draft of the HMP for MEMA review. Please note that an in-kind match is required for the MVP Planning Grant. All projects are required to provide quarterly reporting as well as a Final Report. All proposals must provide the following:

- A signed letter of support from the chair of the board of selectmen, mayor, a town administrator, or similar city or town official
- A short statement of the community's commitment to taking on this grant and planning for the impacts of climate change in the city or town
- The name of a qualified employee of the municipality, committee member or volunteer who can serve as the local project manager and point of contact for the grant
- A summary of community support and any project partners and letters of support from all relevant local boards, departments, commissions, businesses, organizations and other partners
- A description of any ongoing planning efforts such as local hazard mitigation plans, open space plans, master plans, etc.
- A description of the community's need to address climate change, expected impacts, and any ongoing climate-change related projects within the community or region
- If the community wishes to expand the scope of the planning grant provide a description of the additional work you intend to complete.

### **MVP ACTION GRANTS**

**Already a MVP Community? Apply for an Action Grant to implement priority projects identified at your community workshop and in your resiliency plan.** *MVP Action Grants are available only to designated "MVP Communities" to implement key priorities and projects identified through the MVP planning process.* The MVP Action Grants allow municipalities to implement crucial measures to prepare for the effects of climate change while strengthening community engagement and collaboration among town departments.

Applicants may request up to \$2,000,000 in funding and awards are expected to range from \$25,000–\$2,000,000. Regional proposals may request up to \$5,000,000. Note that exceptions may be made at EEA's discretion. These projects include follow-up vulnerability assessments, design studies, local bylaws and ordinances, redesigns and retrofits, natural infrastructure and storm protection, and education and outreach. Projects should be proactive, and applicants should clearly demonstrate how the projects have been redesigned, re-evaluated, or reconsidered to better respond to changing climate conditions and to incorporate new climate change data. Projects that propose nature-based solutions or strategies that rely on green infrastructure or conservation and enhancement of natural systems to improve community resilience will receive higher scores.

Please note that a 25% in-kind/cash match is required for the MVP Action Grant.



### MUNICIPAL STAFF COMMITMENT

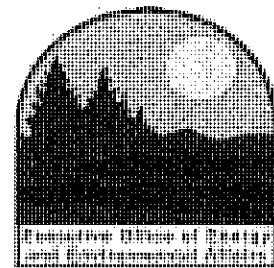
The municipality must provide sufficient staff time (estimated at 120-200 hours) to assure completion of this planning exercise and community engagement:

- Paperwork; selecting and contracting vendor
- Help establish a core team within the town or region to steer the project
- Help identify and complete outreach to critical stakeholders, partners and town officials for workshop(s) and public listening session(s)
- Help coordinate, schedule, send invitations and attend planning meetings and workshop(s) and listening session(s)
- Find sufficient volunteers to serve as scribes during the workshop(s)
- Help coordinate staff interviews with key experts to collect information prior to the workshop(s)
- Provide MVP provider access to relevant planning documents, budget information, and other information on as needed useful to conducting the planning exercise, including access to;
- With MVP Provider, complete and send 3 progress reports to EEA with information on progress and spending to date, and submit final deliverables and invoice
- With consultant support as budget allows, complete at least one public listening session to engage the broader public in a discussion of the workshop results and completed report
- Continue municipal outreach and engagement, using the completed report to inform existing planning and project activities

### MVP PROVIDER COMMITMENT

The MVP state certified provider must provide sufficient time (estimated at 120-240 hours) to complete the following tasks:

- Meet with Municipal Project Manager to set out project scope, timeline, and compile list of data needs; help with stakeholder mapping; and, set schedule for workshop(s)
- Meet with Community Core team 2-3x to help plan for workshop(s) and collect information
- Conduct several interviews with key municipal staff
- Prepare materials for workshop including:
  - Basemaps of town with critical layers
  - Climate change data relevant to the town and summary of potential impacts
  - Relevant planning documents and other existing town information about current hazards
  - Risk matrix
- Serve as the lead facilitator during workshop(s) and bring 4-5 facilitators (or as many breakout groups planned) to assist as table facilitators.
- Designate town leads or skilled volunteers to be scribes at each table
- Document all workshop outcomes and prepare final risk matrix and summary reports
- Work with town to submit all materials to Commonwealth



Executive Office of Energy and Environmental Affairs  
Municipal Vulnerability Preparedness Program, 2018

# Common Pitfalls to Avoid

- Be prepared to know what's already been done in the municipality
  - Read any Master Plans, Hazard Mitigation Plans, etc. to know the top hazards and be ready to address these.
- Provide reminders that the goal is to identify action items and to prioritize them to assist the community in taking first steps towards resilience
  - Encourage groups to move actions from conceptual to shovel-ready or implantation ready
- Make sure facilitators take time to fully explain any mapping resources provided at the workshop tables
  - E.g., Hurricane SLOSH maps, geospatial climate projections, nature-based solution, etc.
- Who shows up to the workshop hugely shapes the outcome
  - Assure a broad cross-section of the community stakeholders are represented at the workshops
  - Facilitators should ensure all voices are heard
- The CRB framework is facilitation heavy
  - Please ensure that the workshop is appropriately staffed with enough table facilitators and pre-appointed scribes for each table

# Community Resiliency Building Workshop



## Town of Princeton

### *Municipal Vulnerability Preparedness*

#### Date

8:30am – 4:30pm; Registration at 8:00 am

#### Location

#### Address

## Workshop Objective

- Define extreme weather and climate related hazards;
- Identify current and future vulnerabilities and strengths;
- Develop and prioritize actions; and
- Identify opportunities for the Town to advance actions and reduce risks to build resilience

## Workshop Agenda



*8:00am – 8:30am Registration, Networking & Coffee*

*8:30am – 10am:*

- Welcome and Overview
  - Town Speaker
- MVP Program Overview
  - Hillary King, Central Region MVP Coordinator, EOEEA
- Overview Presentation
  - Peter Peloquin, CMRPC
- Climate Change Projections and Impacts
  - CMRPC
- Profile of Natural Hazards
  - CMRPC

*10am – 12pm*

- Breakout Groups – Identify Hazards, Local Features, Strengths & Vulnerabilities

***12pm -1pm Lunch Break***

*1pm – 4:30pm:*

- Afternoon Overview presentation– Peter Peloquin, CMRPC
- Breakout Groups – Identify & Prioritize Actions
- Table Reports and priority vote
- Closing Remarks and Wrap up

**Thank you for participating in Princeton's Community Resilience Building Workshop!**



## Participate in Princeton's Municipal Vulnerability Preparedness (MVP) Program

Given events like Hurricane Irene in 2011, the snowstorms of 2015, the extreme drought of 2016 and recent Hurricanes Harvey and Irma, we find ourselves in a new era of more unpredictable and severe weather that can potentially cause damage to our community.

To be as proactive as possible, I would like to personally invite you to join me at a free, full-day, Community Resilience Building Workshops focused on preparing and protecting the Town of Princeton.

The MA Executive Office of Energy and Environmental Affairs' (EOEEA)  
**Municipal Vulnerability Preparedness (MVP) Program Workshop**  
[DATE]

8AM Coffee and Registration, Workshop 8:30AM - 4:30PM

[Location]

Lunch will be provided

The Town of Princeton is collaborating with EOEEA and CMRPC to offer this timely one-day workshop which will bring together community members to comprehensively identify and prioritize steps to reduce risk and improve resilience across Princeton. This workshop will help develop and advance comprehensive community resilience planning, hazard mitigation, and adaptation efforts.

The workshops will focus on:

- Understanding connections between natural hazards and local planning/mitigation efforts.
- Evaluating the strengths and vulnerabilities of residents, infrastructure, and natural resources.
- Developing and prioritizing actions for the municipality, local organizations, businesses, private citizens, neighborhoods, and community groups.
- Identifying immediate opportunities to advance actions that reduce the impact of hazards and increase resilience in Princeton.

More information about Princeton's MVP Award is attached to this letter.

We would appreciate your participation in this timely workshop.

**Please RSVP by [DATE]**

If you have any questions about the program, please contact **NAME, TITLE, (PHONE/EMAIL) or NAME, TITLE, (PHONE/EMAIL).**

We look forward to seeing you or a designee at our workshop. Thank you for your assistance with this important project!

Sincerely,

Sherry Patch, Town Administrator

MR/ MS	First Name	Last Name	Department	Street Address	RSVP Y/N	Attended
			Highway Dept.			
			Admin. Secretary			
			Adult Day care facility			
			Agricultural Committee			
			Animal Shelter			
			Army Corp. Engineering			
			Board of Health Member			
			Board of Selectmen Member			
			Boys and Girls Club			
			Building Inspector			
			CERT Teams			
			Chamber of Commerce			
			Conservation Commission			
			Council on Aging			
			Cultural Council			
			DCR			
			Department of Dam Safety			
			Diversity Group			
			Economic Development			
			Emergency Management Director			
			EOEEA- MVP Regional Coordinators			
			Fire Chief			
			Golf Course			
			Housing Authority			
			Lake/River Association			
			Land Trust Members			
			Library			
			Local business			
			Local Construction Co.			
			Local Engineering Firms			
			Local Farmers			
			Local Non-Profits			
			Local Realtors Associations			
			MA Fish & Wildlife			
			Mass Audubon			
			Mass Dot			
			MBTA/WRTA			
			Natural Gas Provider			
			Neighboring Town MVP Core Team Member			
			Neighboring Town MVP Core Team Member			
			Neighboring Town MVP Core Team Member			
			Neighboring Town MVP Core Team Member			
			Neighboring Town MVP Core Team Member			
			Other Muni. Employees			
			Planning Board Member			
			Police Chief			
			Power Company			
			Rail Road			
			Rail Trail			
			Recreation Committee			
			School Superintendent			
			Senior Center			
			Sewer Department			
			State Rep.			
			Storm Water Committee			
			Sudbury Valley Trustees			
			Sustainable Group			
			Town Manager			
			Utility Company			
			Veterans Rep.			
			Waste Transfer Provider			
			Water Dept.			
			Youth Commission			



Meeting Name: MVP Meeting #1

Community: Princeton

Location: Town Hall Annex

Date: January 29, 2020

Meeting Time: 6PM

Participant Name	Organization	Title	E-Mail
Phil GOTT	Princeton Environmental Action Committee		vtfracing@aol.com
Brian Keegan	Princeton Conservation Commission (Chair)		conservation@town.princeton.ma.us
Ben D. Metcalfe	Highway Dept.	Superintendent	highway/dept@town.princeton.ma.us
Annee Kindorf	Council on Aging	Director	coa@town.princeton.ma.us
Michele Powers	Princeton PD	Police Chief	mpowers@princetonpolice.org
TERRY THOMPSON	RESIDENT		N/A
PETE PELOQUIN	CMRPC		
SARAH ADAMS	CMRPC		
Sherry Patch	Town Administrator		
Karen Cruise	Selectman		CRUKAREN99@gmail.com





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**Princeton Municipal Vulnerability Preparedness (MVP)**  
**Meeting #2**

**Date/Time:** March 5, 2020, 9AM

**Location:** Town Hall Annex, 4 Town Hall Dr, Princeton, MA 01541

**AGENDA**

- Introductions
- MVP Program Background
- Core Team Timeline
  - Core Team Meeting #2(Today) #3 **March 18, 2020 6PM**
  - Pre-Workshop meeting/Call
  - CRB Workshop **April 2, 2020 8-4:30**
  - Listening Session **TBD**
- Climate Concerns and Priorities
  - Identify four (4) focus hazards
- Workshop Agenda/Structure
- Workshop roles & responsibilities for CMRPC & Town
  - Welcome speaker(s) (Town)
  - Content speakers (CMRPC)
  - Table facilitators (Town w/ CMRPC support)
  - Table reporters (Town)
  - Scribes (Town)
- Workshop Nuts and bolts
  - Location- **Senior Center** or **Annex Building**
  - Outreach plan(s)
    - Invitations
    - Confirmed guests
  - Logistics and IT situation
  - Table set up
  - Food vendor
- Presentations and maps to be developed
  - MVP Program; Climate Change Data; Profile of Local Hazards
  - Base Map; potential reference maps
    - Zoning, Dams, Evacuation Routes and Shelters, Land Use, Water/Sewer Systems, other
- Match Documentation
- Other/next meeting



Meeting Name: MVP Meeting #2

Community: Princeton

Location: Town Hall Annex

Date: March 5, 2020

Meeting Time: 9AM

Participant Name	Organization	Title	E-Mail
Phil Gert	Princeton EAC	MVP Liaison	vfrazier@aol.com
Michelle Powers	Princeton Police	Chief	Chief@PrincetonPolice.org
SARAH ADAMS	CMRPC	PRINCIPAL PLANNER	sadams@cmrpc.org
Hillary King	ETA MVP	Central Reg. Coordinator	hillary.king@webb.org
Brian Keegan	P. Con. Comm	Chair	Conservation@town.princeton.nj.us
Dr. D. Mella	Highway Dept.	Superintendent	highwaydept@town.princeton.nj.us
John D. Bennett	Princeton Fire	Chief	Firechief@town.princeton.nj.us
Tony Thompson	Red Bank Socy -	MEMBER	N/A
Anne Kindorf	Council on Aging	Director	councilonaging.princeton.nj.us
Sherry Foster	Town	Town Adm	
LAR GREENE	ESOL-2BA	ESOL-2BA	GREENE@PRINCETON.NJ.US



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**Princeton Municipal Vulnerability Preparedness (MVP)**  
**Meeting #3**

**Date/Time:** March 18, 2020, 6PM

**Location:** Conference call, Town Hall Annex, 4 Town Hall Dr, Princeton, MA 01541 Conference call

**AGENDA**

- Introductions
- COVID19 rescheduling/update
- Core Team Timeline
  - Core Team Meeting #3(Today)
  - Pre-Workshop meeting/Call, ~~Conference Call March 30 or 31~~ **Need to reschedule**
  - CRB Workshop ~~April 2, 2020 8-4:30~~ **Need to reschedule**
  - Listening Session **May 19<sup>th</sup> 6PM Possible date change**
- Climate Concerns and Priorities
  - Identify four (4) focus hazards
    - *Ice/Flooding/Wind Events/Drought*
- Workshop roles & responsibilities for CMRPC & Town
  - Welcome speaker(s) (Town)
  - Content speakers (CMRPC)
  - Table facilitators (Town w/ CMRPC support)
  - Table reporters (Town)
  - Scribes (Town)
- Workshop Nuts and bolts
  - Location- **Senior Center**
  - Outreach plan(s)
    - Invitations
    - Confirmed guests
  - Logistics and IT situation-
  - Table set up
  - Food vendor- (*Aimee*)
- Presentations and maps to be developed
  - MVP Program; Climate Change Data; Profile of Local Hazards
  - Base Map; potential reference maps
    - Zoning, Dams, Evacuation Routes and Shelters, Land Use, Water/Sewer Systems, other
- Match Documentation
- Other/next meeting



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**Princeton Municipal Vulnerability Preparedness (MVP)**  
**Meeting #4**

**Date/Time:** April 2, 2020, 9:30AM

**Location:** Conference call, (605) 313-5879; Access code: 697971

**AGENDA**

- Roll Call
- COVID19 Update, Concerns
- Core Team Timeline
  - Core Team Meeting #4(Today)
  - Pre-Workshop meeting/Call
  - CRB Workshop ~~April 2, 2020 8-4:30~~ **May 6, 2020**
  - Listening Session ~~May 19<sup>th</sup> 6PM~~ **Possible date change**
- Climate Concerns and Priorities
  - Identify four (4) focus hazards
    - ***Ice/Flooding/Wind Events/Drought***
- Workshop Agenda/Structure
- Workshop roles & responsibilities for CMRPC & Town
  - Welcome speaker(s) (Town)
  - Content speakers (CMRPC)
  - Table facilitators (Town w/ CMRPC support)
  - Table reporters (Town)
  - Scribes (Town) **Administrative Assistants**
- Workshop Nuts and bolts
  - Location- **Senior Center, Annex Building, Station#2, Virtual (ZOOM, Go To Meeting)**
  - Outreach plan(s)
    - Invitations
    - Confirmed guests
  - Logistics and IT situation
  - Table set up
  - Food vendor- Aimee
- Presentations and maps to be developed
  - MVP Program; Climate Change Data; Profile of Local Hazards
  - Base Map; potential reference maps
    - Zoning, Dams, Evacuation Routes and Shelters, Land Use, Water/Sewer Systems, other
- Match Documentation
- Other/next meeting





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**Princeton Municipal Vulnerability Preparedness (MVP)**  
**Meeting #5**

**Date/Time:** April 23, 2020, 9:00AM

**Location:** Zoom Meeting (join via Zoom app: <https://zoom.us/j/99085182198?pwd=cU5WSjJWWTjVNL1hTcDB4WGFFcW9mUT09>)  
Or call (646)558-8656, Access code: 99085182198#

**AGENDA**

- Roll Call
- COVID19 scheduling/update
- Workshop Agenda/Structure
  - ZOOM Platform
  - Workshop roles & responsibilities for CMRPC & Town
  - Welcome speaker(s) (*Town Department Heads*)
  - Content speakers (CMRPC)
  - Table facilitators (Town w/ CMRPC support)
  - Scribes (CMRPC)
  - Virtual Table set up
- Core Team Timeline
  - Core Team Meeting #5 (Today)
  - Pre-Workshop meeting/Call
  - CRB virtual Workshop dates
  - Listening Session
- Climate Concerns and Priorities
  - Four (4) focus hazards- *Ice/Flooding/Wind Event/Drought*
- Workshop Nuts and bolts
  - Outreach plan(s)
    - Invitations
    - Confirmed guests
- Presentations and maps to be developed
  - MVP Program; Climate Change Data; Profile of Local Hazards
  - Base Map; potential reference maps
    - Zoning, Dams, Evacuation Routes and Shelters, Land Use, Water/Sewer Systems, other
- Match Documentation
- Other/next meeting



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**Princeton Municipal Vulnerability Preparedness (MVP)**  
**Meeting #5**

**Date/Time:** May 18, 2020, 11:00AM

**Location:** Join Zoom Meeting

<https://us02web.zoom.us/j/89931344050?pwd=UzhCT2VXM1NSRGxwYlFVQmZCSFZKdz09>

Meeting ID: 899 3134 4050

Password: 954454

One tap mobile +1-646-558-8656, 89931344050# US (New York) +13017158592,,89931344050# US (Germantown)

**AGENDA**

- Roll Call
- COVID19 scheduling/update
- Core Team Timeline
  - Core Team Meeting #6 (Today)
  - Pre-Workshop meeting/Call
  - CRB virtual Workshop dates
  - Listening Session
- Workshop Agenda/Structure
  - ZOOM Platform
  - Workshop roles & responsibilities for CMRPC & Town
  - Welcome speaker(s) (*Town Department Heads*)
  - Content speakers (CMRPC)
  - Table facilitators (Town w/ CMRPC support)
  - Scribes (CMRPC)
  - Virtual Table set up
- Climate Concerns and Priorities
  - Four (4) focus hazards- *Ice/Flooding/Wind Event/Drought*
- Workshop Nuts and bolts
  - Outreach plan(s)
    - Invitations
    - Confirmed guests
- Presentations and maps to be developed
  - MVP Program; Climate Change Data; Profile of Local Hazards, Town Intros
  - Base Maps- ARC GIS Online
- Match Documentation
- Other/next meeting





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**Princeton Municipal Vulnerability Preparedness (MVP)**  
**Meeting #7**

**Date/Time:** September 14, 2020, 11:00AM

**Location:** Join Zoom Meeting

<https://us02web.zoom.us/j/89908278094?pwd=ejlKSTNlc1dkRUk5U3Jld0l6N2ZrUT09>

Meeting ID: 899 0827 8094 Passcode: 476191 Dial in: 1-646-558-8656

**AGENDA**

- Role Call
- COVID19 scheduling/update
- Core Team Timeline
  - See attached
- Workshop Agenda/Structure
  - ZOOM Platform
  - Workshop roles & responsibilities for CMRPC & Town
  - Welcome speaker(s) (*Town Department Heads*)
  - Content speakers (CMRPC)
  - Table facilitators (Town w/ CMRPC support)
  - Scribes (Town/CMRPC)
- Climate Concerns and Priorities
  - Four (4) focus hazards- *Ice/Flooding/Wind Event/Drought*
- Workshop Nuts and bolts
  - Outreach plan(s)
    - Invitations
    - Confirmed guests
    - Virtual Table set up
- Presentations and maps to be developed
  - MVP Program; Climate Change Data; Profile of Local Hazards,
  - Town Intros
  - Base Maps- ARC GIS Online
- Match Documentation
- Other/next meeting

## Town of Princeton MVP Timeline and Responsibilities

- Timeline:
  - Invitations sent out by Princeton Week of DATE
  - Town intro video(s) and CMRPC presentations completed by DATE
  - RSVP collected week of DATES
  - Workshop meeting materials distributed DATE
  - MVP Workshop, DATES
  - Survey created by CMRPC from DATES
  - Survey distributed to workshop attendees DATES
  - 80% draft Report delivered by DATE
  - Public Listening Session late DATE
  - Report submission late MONTH
- Princeton Core Team responsibilities:
  - Distribute invitations
  - Track RSVP
  - Assign attendees to breakout room number
  - Record introduction video
  - Provide Scribes for each breakout room
  - Distribute Pre-meeting materials to RSVP list
  - Act as Table Facilitators with assistance from CMRPC staff
  - Distribute post-workshop survey
  - Review Draft and final report
  - Attend Public Listening Session
- CMRPC Responsibilities:
  - Create Invitations
  - Create ZOOM Log-in info
  - Assemble all materials and links for Pre-meeting materials
  - Record MVP Overview, Climate Projections and Natural Hazards presentations
  - Conduct workshop and provide IT support during workshop
  - Assist table facilitators
  - Provide scribes if needed
  - Compile information into a post-workshop survey
  - Create draft report
  - Present summary of findings during a public listening session
  - Finalize and submit report



# Community Resiliency Building Workshop



## Town of Princeton

### *Municipal Vulnerability Preparedness*

**Day 1- Thursday, October 22, 2020**

1 pm – 3 pm; Check-in at 12:45 am

#### **Meeting Link (Click to Join):**

<https://us02web.zoom.us/j/83709119070?pwd=Wks5dVRUaElGN29xNWtNa3hGVTNmUT09>

**Meeting ID:** 837 0911 9070 **Passcode:** 905316

**Call in Number (if unable to join online):** 1-301-715-8592

#### **Workshop Materials:**

[https://www.dropbox.com/sh/ca781kksibadu9/AAB\\_JQjuj5Qz40yYjYgtOr7qa?dl=0](https://www.dropbox.com/sh/ca781kksibadu9/AAB_JQjuj5Qz40yYjYgtOr7qa?dl=0)

## Workshop Agenda

**12:45 am – 1 pm:**

- Login & Familiarize with Zoom

**1 pm – 1:30 pm:**

- Welcome & Overview
- Questions & Answers

**1 pm – 2:40 pm:**

- Breakout Groups
  - Identify Hazards & Local Features
  - Discuss Strengths & Vulnerabilities

**2:40 pm – 3 pm:**

- Reconvene as Large Group
- Quick Table Summary
- Closing Remarks & Wrap Up

### **Day 1: Workshop Objectives**

- Define extreme weather and climate related hazards;
- Identify current and future vulnerabilities and strengths;
- Edit online map with important hazards and features

### **Homework**

- Review Features, vulnerabilities, and strengths in matrix
- Brainstorm actions to address vulnerabilities

**Thank you for participating in Princeton's Virtual Community Resilience Building Workshop!**





# Community Resiliency Building Workshop



## Town of Princeton

### *Municipal Vulnerability Preparedness*

**Day 2- Thursday, October 14, 2020**

1 pm – 3 pm; Check-in at 12:45 am

#### **Meeting Link (Click to Join):**

<https://us02web.zoom.us/j/85686218981?pwd=VzRGOTBZUTlON3VFSENBbUUh5TnBqUT09>

**Meeting ID:** 856 8621 8981 **Passcode:** 277095

**Call in Number (if unable to join online):** 1-646-558-8656

#### **Workshop Materials:**

[https://www.dropbox.com/sh/ca781kksibadu9/AAB\\_JQjuj5Qz40yYiYgtOr7qa?dl=0](https://www.dropbox.com/sh/ca781kksibadu9/AAB_JQjuj5Qz40yYiYgtOr7qa?dl=0)

## Workshop Agenda

**12:45 am – 1 pm:**

- Login & Familiarize with Zoom

**1 pm – 1:30 pm:**

- Welcome & Recap from Day 1
- Questions & Answers

**1 pm – 2:40 pm:**

- Breakout Groups
  - Identify Actions to Reduce Risks and Build Resilience
  - Prioritize Actions by Urgency and Timing

**2:40 pm – 3 pm pm**

- Reconvene as Large Group
- Table Reports
- Closing Remarks & Wrap Up

## Day 2: Workshop Objectives

- Review vulnerabilities and strengths identified on Day 1
- Develop and prioritize actions;
- Identify opportunities for the Town to advance actions and reduce risks to build resilience

## Homework

- Review actions to reduce risks and build resilience
- Brainstorm additional actions to address vulnerabilities
- Attend Day 3 Workshop

**Thank you for participating in Princeton's Virtual Community Resilience Building Workshop!**





# Community Resiliency Building Workshop



## Town of Princeton

### *Municipal Vulnerability Preparedness*

**Day 3- Thursday, November 5, 2020**

1 pm – 3 pm; Check-in at 12:45 am

#### **Meeting Link (Click to Join):**

<https://us02web.zoom.us/j/87547268213?pwd=TEVvb3hvWnNVV0xNaOUraW5ONU4zdz09>

**Meeting ID:** 875 4726 8213 **Passcode:** 190513

**Call in Number (if unable to join online):** 1-646-558-8656

#### **Workshop Materials:**

[https://www.dropbox.com/sh/ca781kksibadu9/AAB\\_JQjuj5Qz40yYjYgtOr7qa?dl=0](https://www.dropbox.com/sh/ca781kksibadu9/AAB_JQjuj5Qz40yYjYgtOr7qa?dl=0)

## Workshop Agenda

**12:45 am – 1 pm:**

- Login & Familiarize with Zoom

**1 pm – 1:30 pm:**

- Welcome & Recap from Day 1 & 2
- Questions & Answers

**1 pm – 2:40 pm:**

- Breakout Groups
  - Identify Additional Strengths & Vulnerabilities
  - Identify Additional Actions to Reduce Risks and Build Resilience

**2:40 pm – 3 pm:**

- Reconvene as Large Group
- Table Remarks
- Closing Remarks & Wrap Up

## Day 3: Workshop Objectives

- Review vulnerabilities and strengths identified on Day 1
- Review potential actions identified on Day 2
- Develop and prioritize additional opportunities for the Town to reduce risks

## Homework

- Review actions to reduce risks and build resilience
- Vote for top priority actions via survey (link to be emailed)
- Attend Listening Session (Date TBD)

**Thank you for participating in Princeton's Virtual Community Resilience Building Workshop!**





## Participate in Princeton's Virtual Municipal Vulnerability Preparedness (MVP) Program

Given events such as the Springfield tornado in 2011, the snowstorms of 2015, the extreme drought of 2016 and recent Hurricanes Harvey and Irma, we find ourselves in a new era of more unpredictable and severe weather that can potentially cause damage to our community.

To be as proactive as possible, I would like to personally invite you to participate in a, three-part, virtual Community Resilience Building Workshops focused on preparing and protecting the Town of Princeton.

The MA Executive Office of Energy and Environmental Affairs' (EOEEA)  
**Municipal Vulnerability Preparedness (MVP) Program Workshops**

Thursday, October 22, 2020

Thursday, October 29, 2020

Thursday, November 5, 2020

All meeting will be held virtually on ZOOM from 1PM – 3PM

The Town of Princeton is collaborating with EOEEA and CMRPC to offer this timely virtual workshop which will bring together community members to comprehensively identify and prioritize steps to reduce risk and improve resilience across Princeton. This workshop will help develop and advance comprehensive community resilience planning, hazard mitigation, and adaptation efforts.

The workshops objectives are to:

- Define extreme weather and climate related hazards;
- Identify current and future vulnerabilities and strengths;
- Develop and prioritize actions; and
- Identify opportunities for the Town to advance actions and reduce risks to build resilience

To learn more about the workshop, please visit the following websites:

- Community Resilience Building: <https://www.communityresiliencebuilding.com/crbworkshopguide>
- Municipal Vulnerability Program: <https://www.mass.gov/guides/home-mvp>
- Resilient MA, Climate Change Clearinghouse for the Commonwealth: <https://www.resilientma.org/>

Log-in information and meeting material's for Princeton's MVP workshop will be sent out on October 16<sup>th</sup> to those who RSVP. We would appreciate your participation in this timely workshop.

**Please RSVP by Thursday, October 15th**

If you have any questions about the program, please contact Phil Gott, [vfracing@aol.com](mailto:vfracing@aol.com) or Peter Peloquin, CMRPC, [ppeloquin@cmrpc.org](mailto:ppeloquin@cmrpc.org)

We look forward to seeing you or a designee at our virtual workshop. Thank you for your assistance with this important project!

Sincerely,  
Phil Gott, Princeton Environmental Action Committee





## Thank You for Your Participation in Princeton's Municipal Vulnerability Preparedness (MVP) Program!



The Town of Princeton is collaborating with EOEEA and CMRPC to offer a three-day virtual workshop on **October 22<sup>nd</sup>, 29<sup>th</sup> and November 5<sup>th</sup> from 1PM - 3PM** which will bring together community members to comprehensively identify and prioritize steps to reduce risk and improve resilience across Princeton. Follow the instructions below in order to help make your community more climate resilient! If you have any questions about the program, please contact Sherry Patch, Town Administrator, [townadministrator@town.princeton.ma.us](mailto:townadministrator@town.princeton.ma.us). We look forward to seeing you virtually at our workshop!

### Step 1. Discover Princeton's MVP Dropbox

The resources included in this invitation will help you learn more about the MVP program and prepare you for the upcoming workshop. All of these resources and more can be found in the following Dropbox link. If possible, you will want to have this Dropbox link open during the workshop so that you can easily access this information.

[Workshop Dropbox](#)

### Step 2. Review the Program Overview and Workshop Guide

The following two documents will give you an overview of the MVP program and will describe a typical Community Resiliency Building (CRB) workshop.

[MVP Program Overview](#)  
[CRB Workbook](#)

### Step 3. Watch the MVP Presentations Prior to Workshop

The following link contains pre-recorded presentations that will help you be better prepared for the MVP workshop. The presentations include an overview of the program and the MVP process, climate projections and hazards that Princeton may face in the future. Please take some time to **review each presentation before October 22<sup>nd</sup>**

[MVP Program Overview](#)  
[Climate Projections](#)  
[Natural Hazards](#)  
[Completing the Matrix](#)

### Step 4. Familiarize Yourself with the Matrix and Mapping Tools

During the virtual workshop, we will divide up into breakout groups to discuss strengths, vulnerabilities, and possible actions that the town can take. During this process, we will be filling out a matrix and marking up an online map with our ideas. The following three documents will show you an example of a completed matrix, will guide you through using the online mapping tool, and will give you a set of pre-made maps that already display various features, hazards, and resources in Princeton.

[Complete Matrix Example:](#)  
[Online Mapping Tool](#)  
[Reference Maps:](#)

### Step 5. Attend the Workshop!

The 3-day workshop will be held on **October 22<sup>nd</sup>, 29<sup>th</sup> and November 5<sup>th</sup> from 1PM - 3PM**. The agenda for each day as well as the Zoom meeting links are listed below. Please review the agenda for each day and use the meeting links to join the Zoom.

<b>October 22, 2020</b>	<a href="#"><u>Agenda Day 1:</u></a>	<a href="#"><u>Zoom Link Day 1:</u></a>
<b>October 29, 2020</b>	<a href="#"><u>Agenda Day 2:</u></a>	<a href="#"><u>Zoom Link Day 2:</u></a>
<b>November 5, 2020</b>	<a href="#"><u>Agenda Day 3:</u></a>	<a href="#"><u>Zoom Link Day 3:</u></a>

### Learn How to Zoom

New to Zoom? The following document contains a series of instructional videos to help guide you through Zoom from downloading the app to joining a meeting for the first time.

[Click here](#)



# Municipal Vulnerability Preparedness (MVP) Workshop: Princeton

## Reference Map: Table Map

**Legend**

Town Boundary

Town Halls

EOC

Local Police

State Police

County Sheriff

Fire Station

Schools (Pre-K through High School)

**Dams**

High Hazard

Significant Hazard

Low Hazard

N/A

Major Road

Local Road

Active Service Railroads

Water Bodies

Streams

MassDEP Wetlands

High Slope (15% and above)

**FEMA National Flood Hazard Layer (DFIRM)**

500-year Flood Area

**FEMA Q3 Flood Zones**

100yr Flood Zone

X500

**CIH (Points)**

Vulnerable Critical Infrastructure

Non-vulnerable Critical Infrastructure

Hazard

Vulnerable Critical Infrastructure

Hazard

00.125.250.50.751 Miles

N

W

S

E

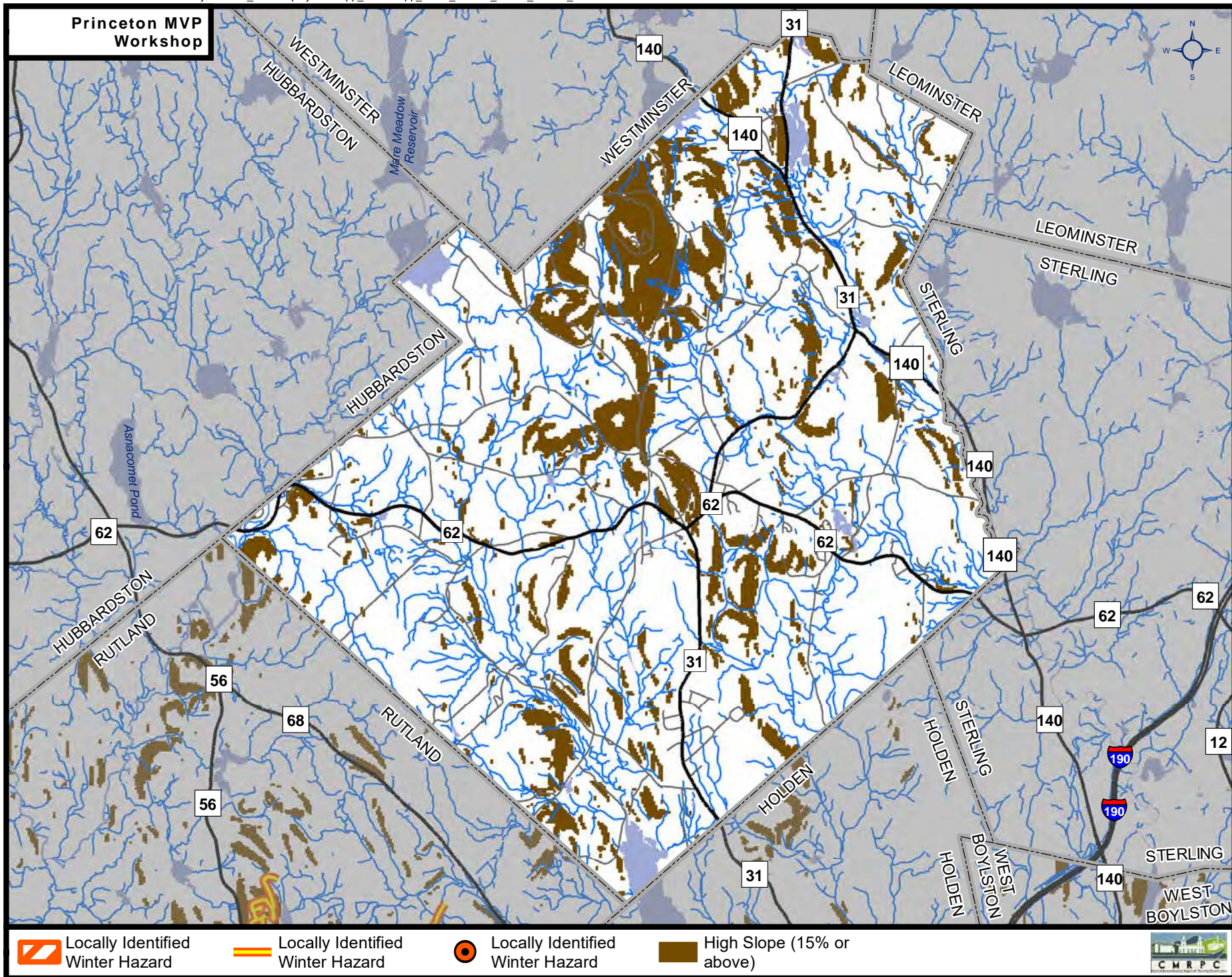
Flooding data source: FEMA's Digital Flood Insurance Rate maps(DFIRM). Other data sources include: MassGIS, MassDOT, and CMRPC. Information depicted on this map is for planning purposes only. This information is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analysis. Use caution interpreting positional accuracy.

Produced by the Central Massachusetts Regional Planning Commission. 1 Mercantile Street, Suite 520, Worcester, MA 01608

Date: 11/7/2020 Document Path: H:\Projects\HLS\_GIS\subprojects\mvp\_2019\mvp\_241\_Table\_Map\_36444.mxd



# Princeton MVP Workshop

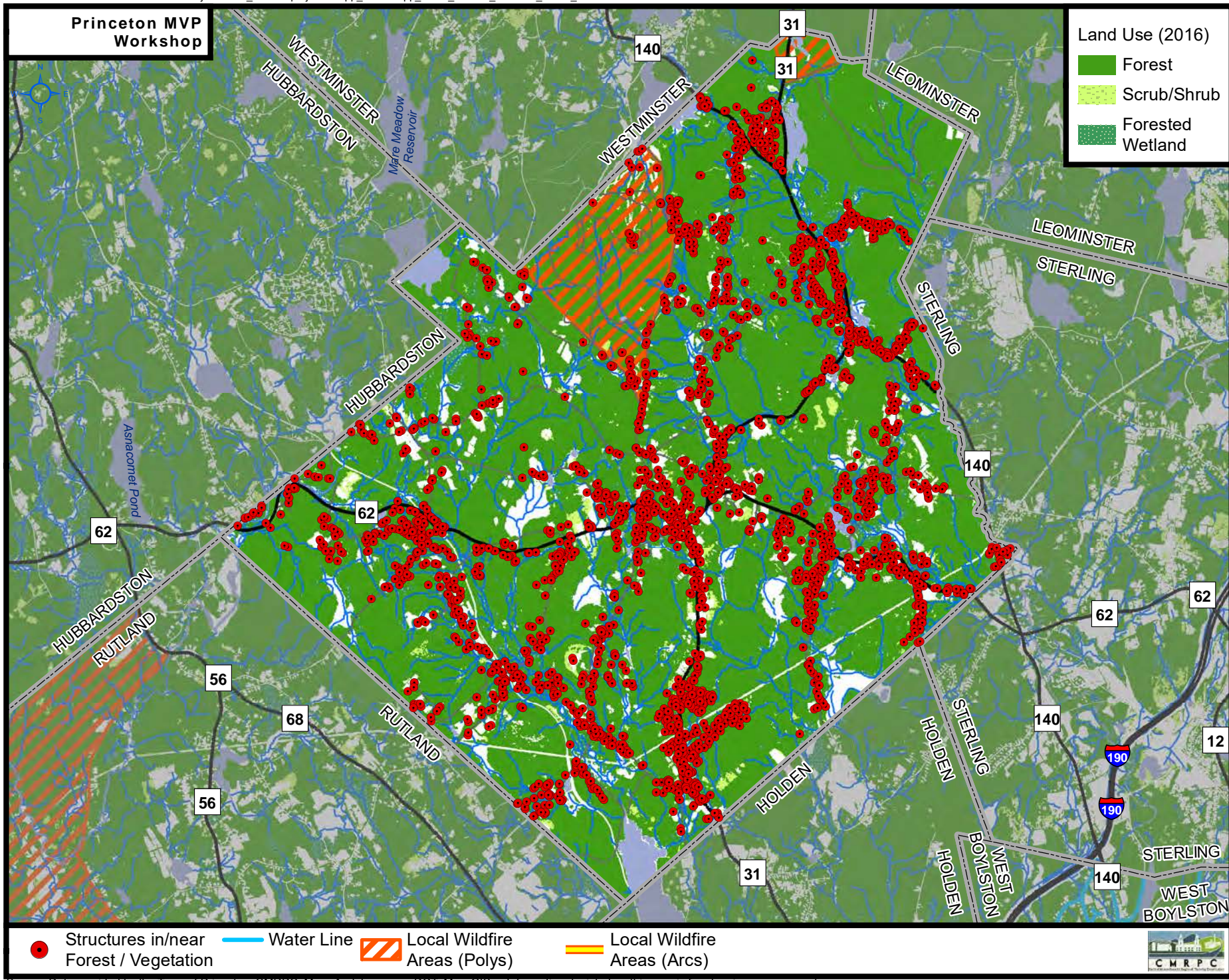


- Locally Identified Winter Hazard
- Locally Identified Winter Hazard
- Locally Identified Winter Hazard
- High Slope (15% or above)



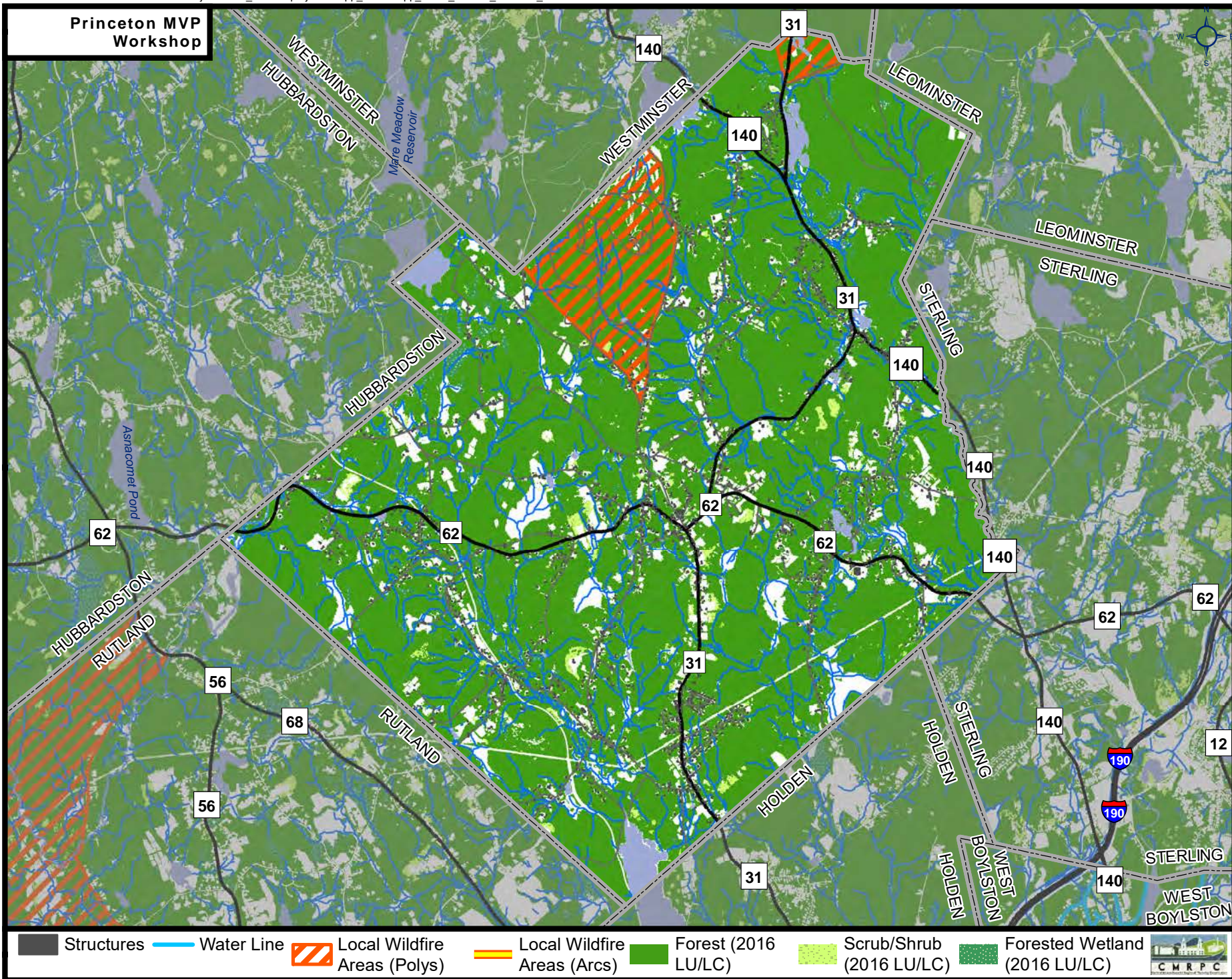


# Princeton MVP Workshop



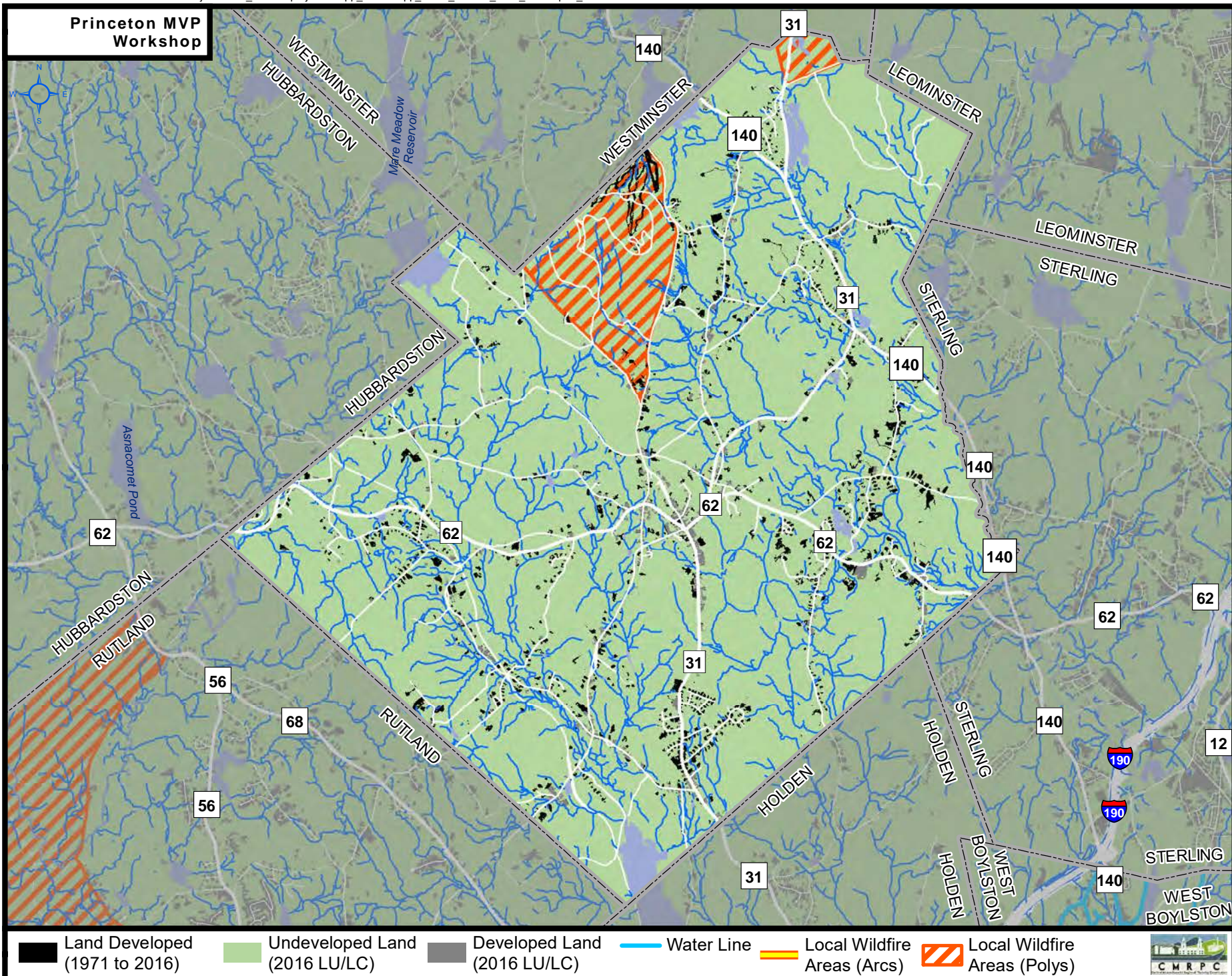


# Princeton MVP Workshop



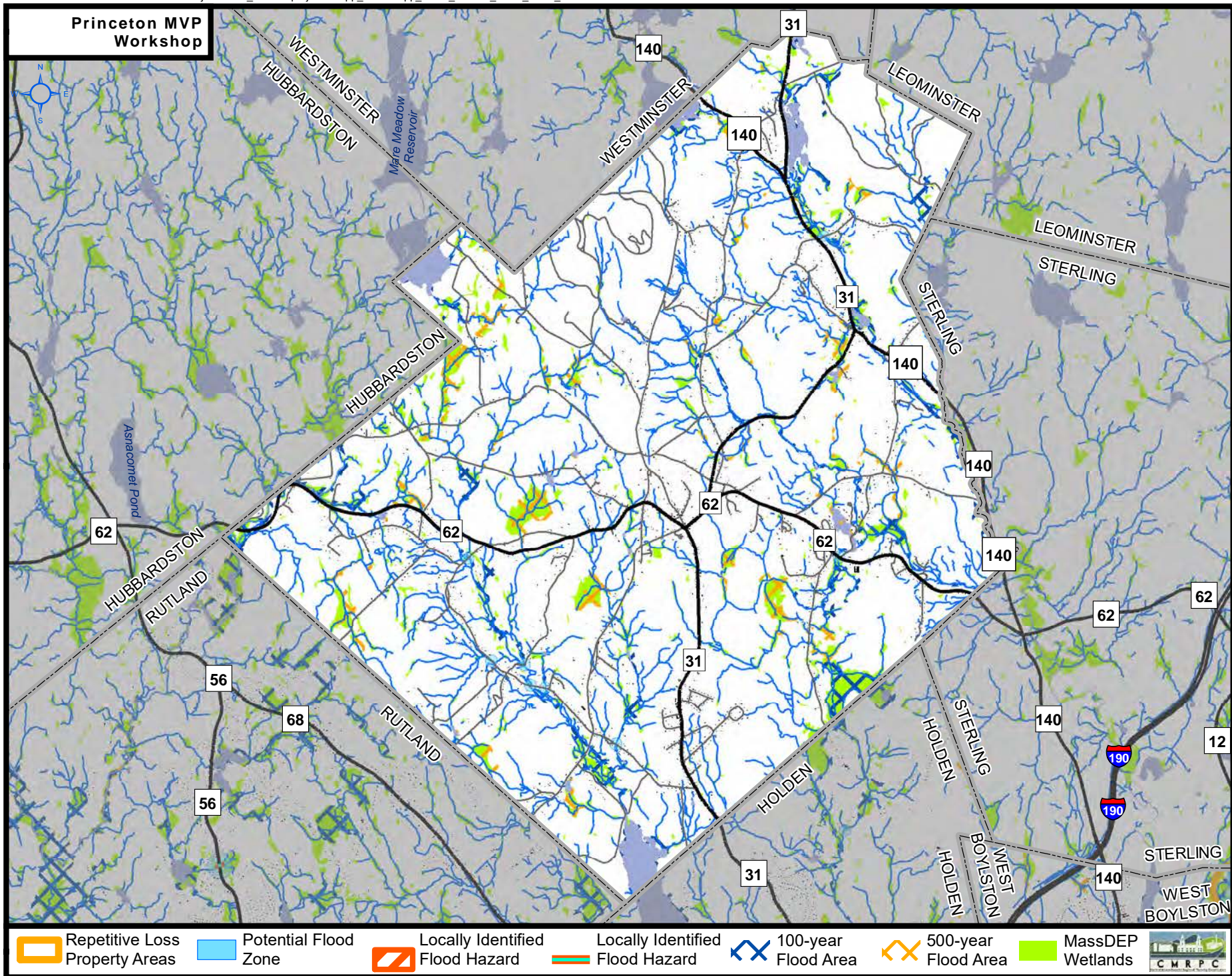


# Princeton MVP Workshop



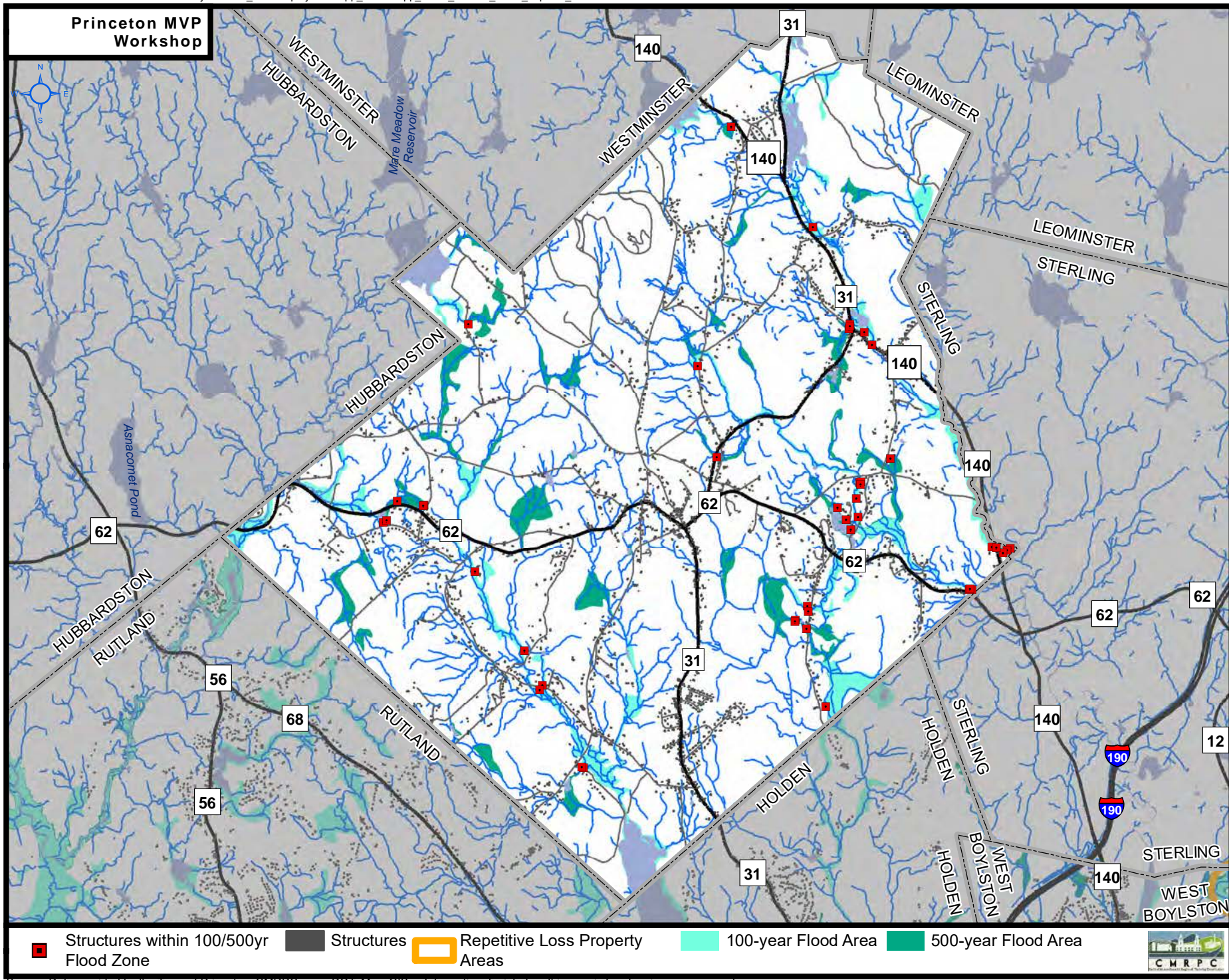


# Princeton MVP Workshop



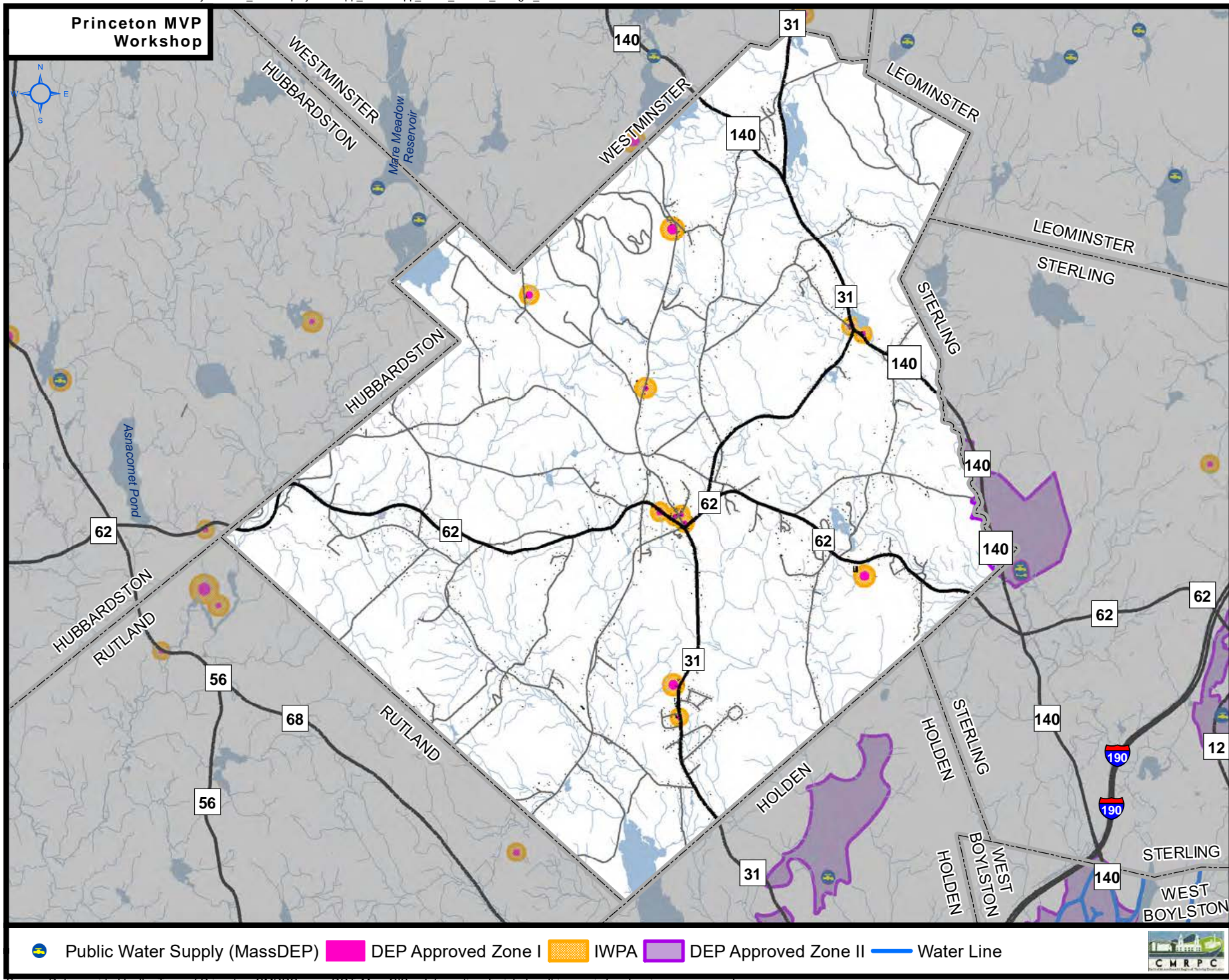


# Princeton MVP Workshop



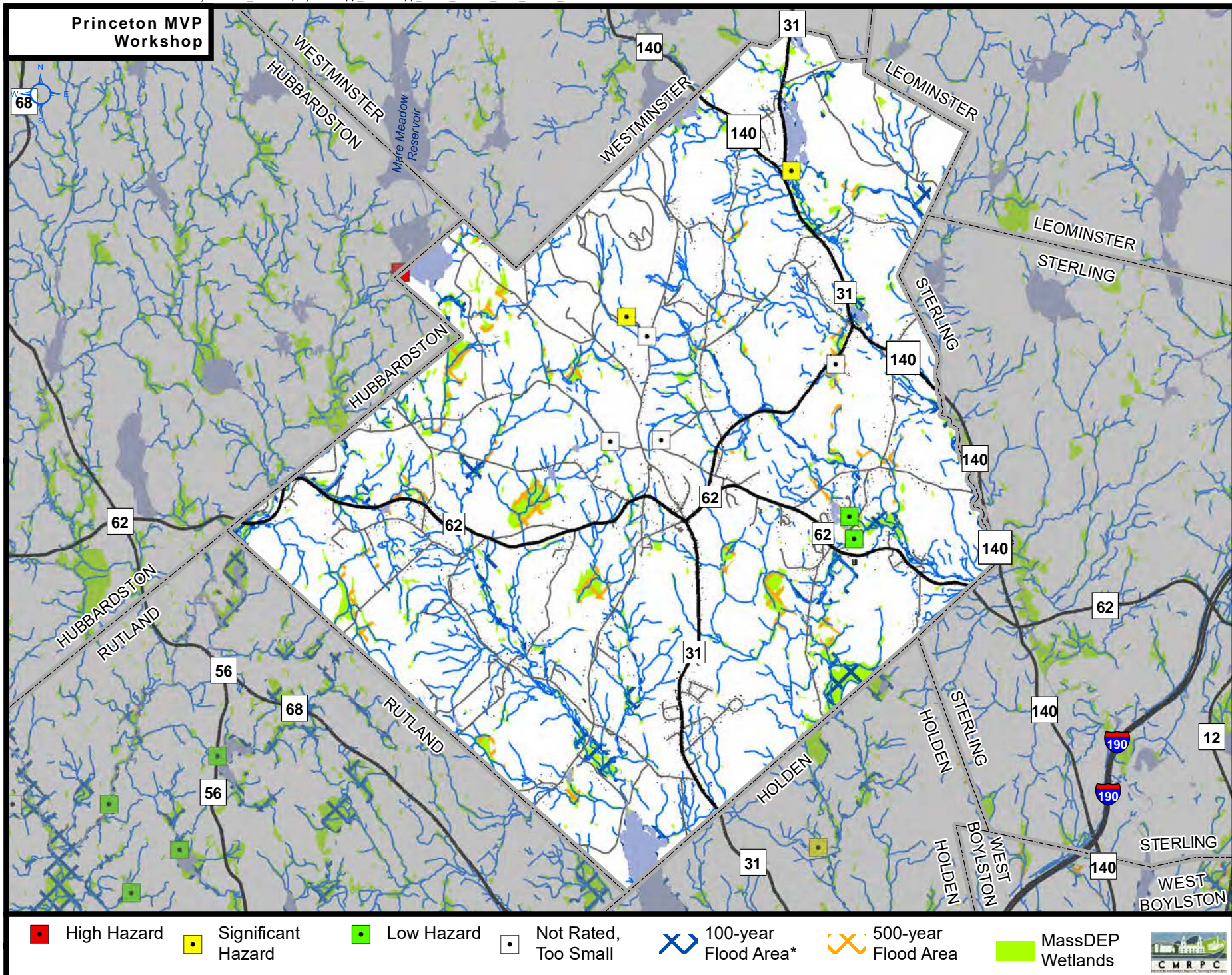


# Princeton MVP Workshop





# Princeton MVP Workshop





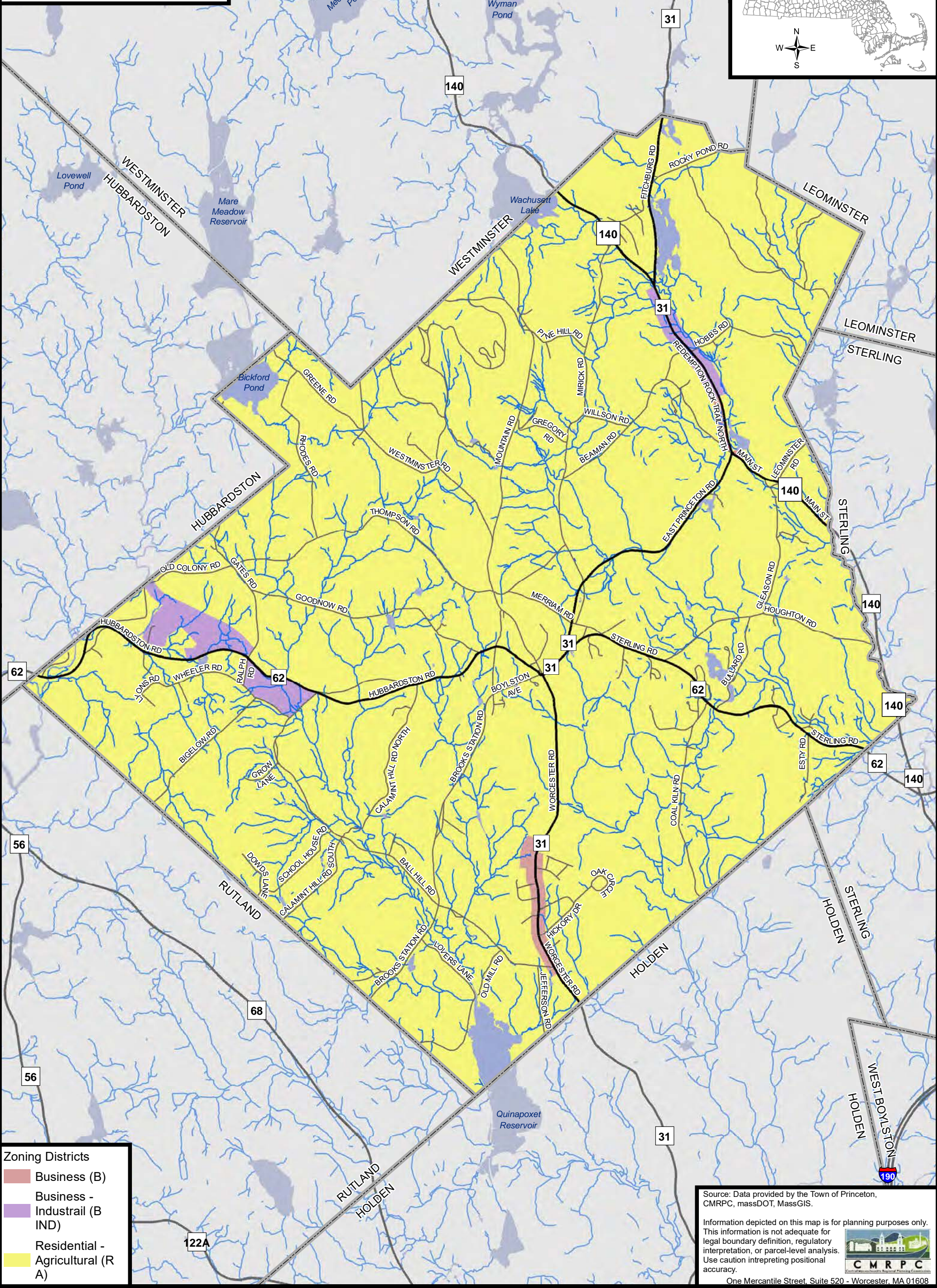
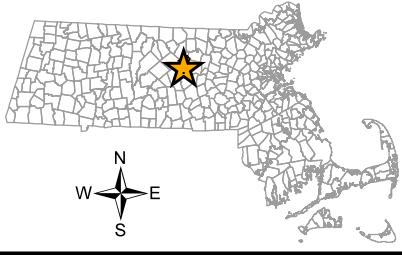
# Reference Map: Zoning

## Town of Princeton, Massachusetts

### Legend

- Town Boundary
- Water Bodies
- Major Road
- Local Road

Miles  
0.3 0.15 0 0.3



- ### Zoning Districts
- Business (B)
  - Business - Industrial (B IND)
  - Residential - Agricultural (R A)

Source: Data provided by the Town of Princeton, CMRPC, massDOT, MassGIS.

Information depicted on this map is for planning purposes only. This information is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analysis. Use caution interpreting positional accuracy.

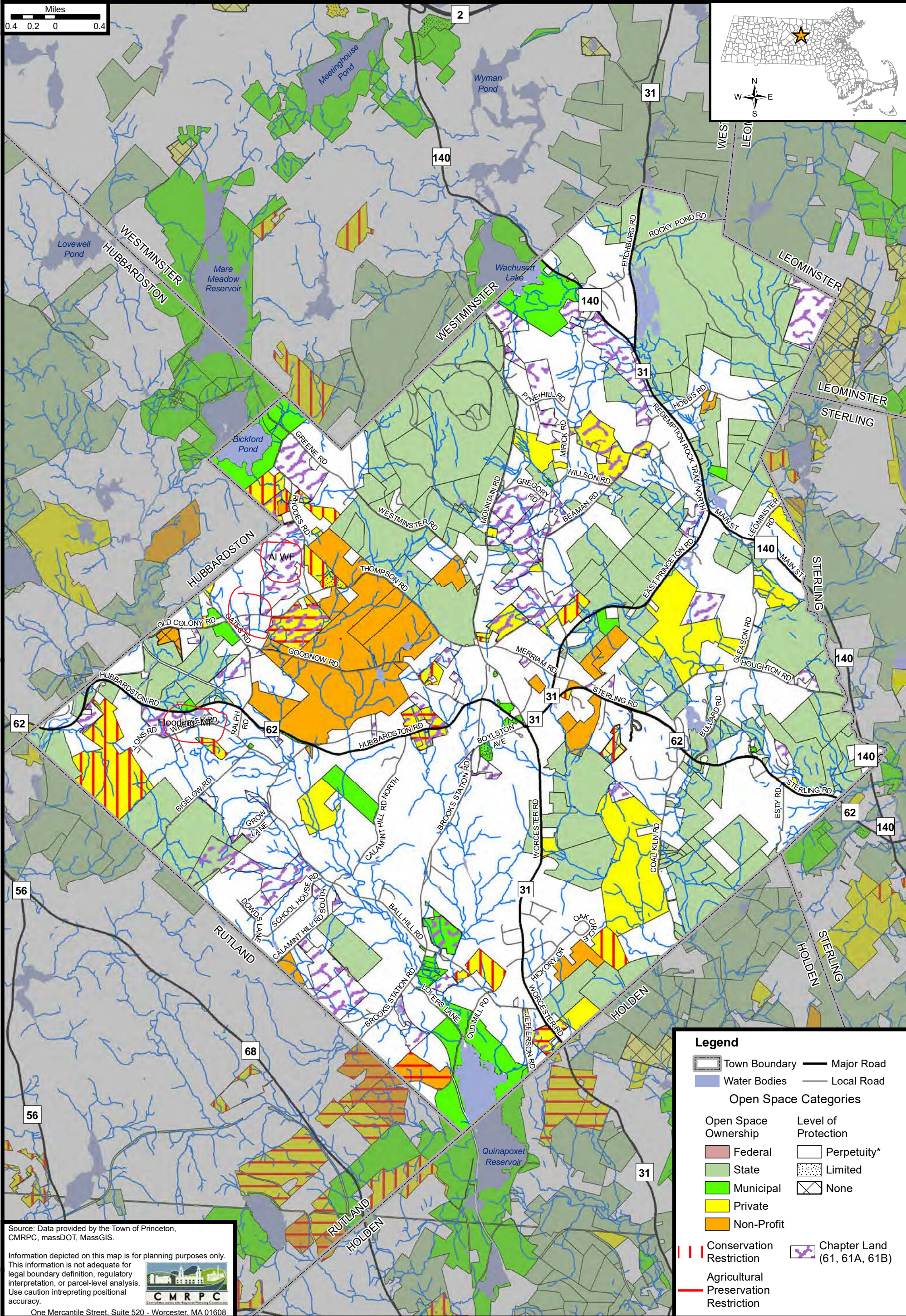
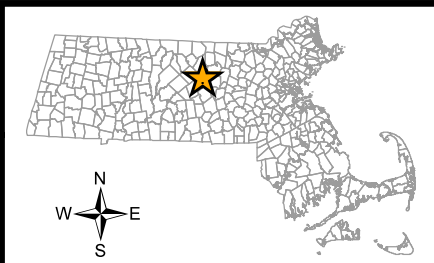
One Mercantile Street, Suite 520 - Worcester, MA 01608

# Municipal Vulnerability Preparedness (MVP) Workshop



# Reference Map: Open Space

## Town of Princeton, Massachusetts



Source: Data provided by the Town of Princeton, CMRPC, massDOT, MassGIS.

Information depicted on this map is for planning purposes only. This information is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analysis. Use caution interpreting positional accuracy.

**CMRPC**  
Central Massachusetts Regional Planning Commission

One Mercantile Street, Suite 520 - Worcester, MA 01608

**Legend**

Town Boundary

Water Bodies

Major Road

Local Road

**Open Space Categories**

**Open Space Ownership**

Federal

State

Municipal

Private

Non-Profit

**Level of Protection**

Perpetuity\*

Limited

None

Conservation Restriction

Agricultural Preservation Restriction

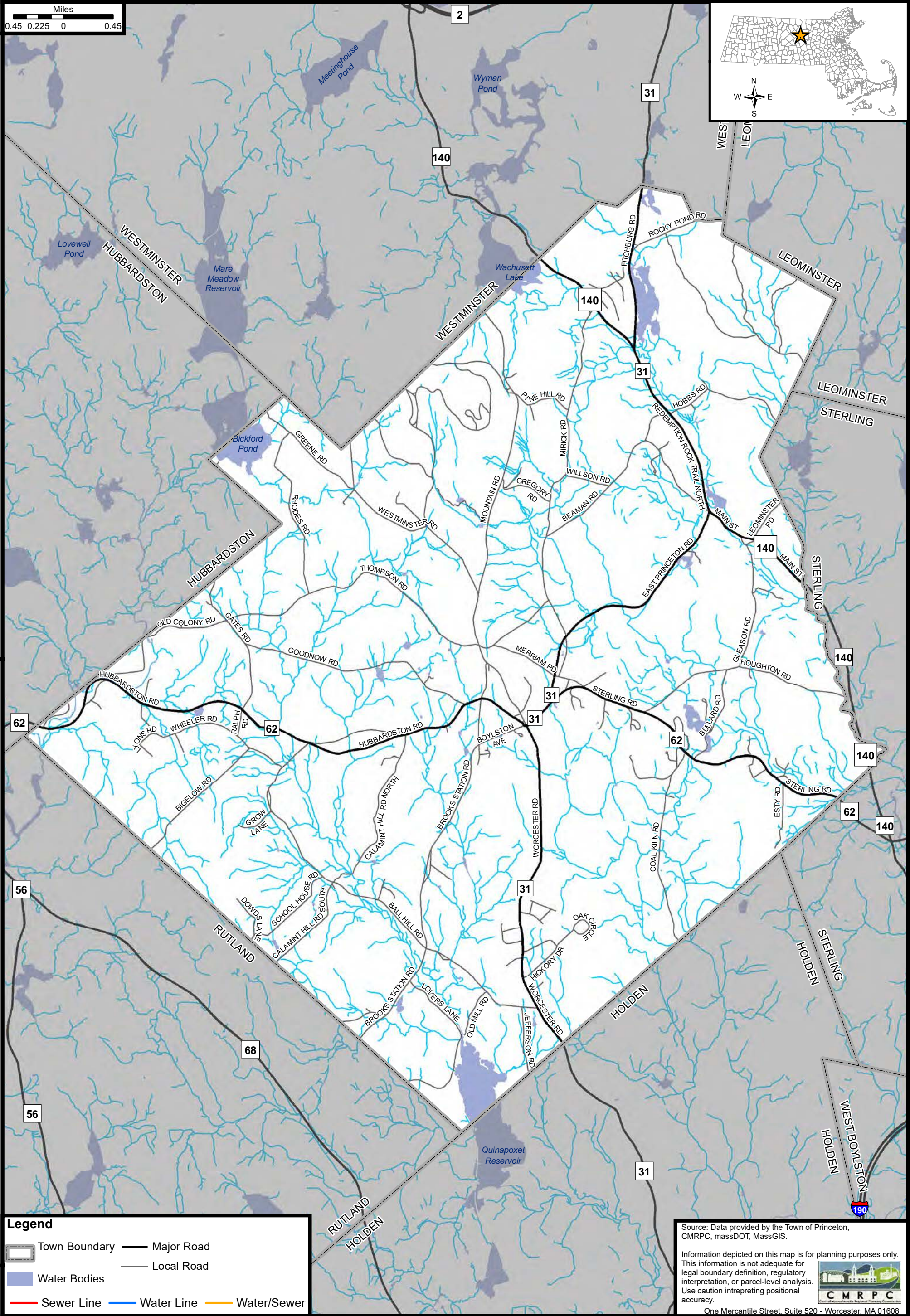
Chapter Land (61, 61A, 61B)

# Municipal Vulnerability Preparedness (MVP) Workshop



# Reference Map: Utility Infrastructure

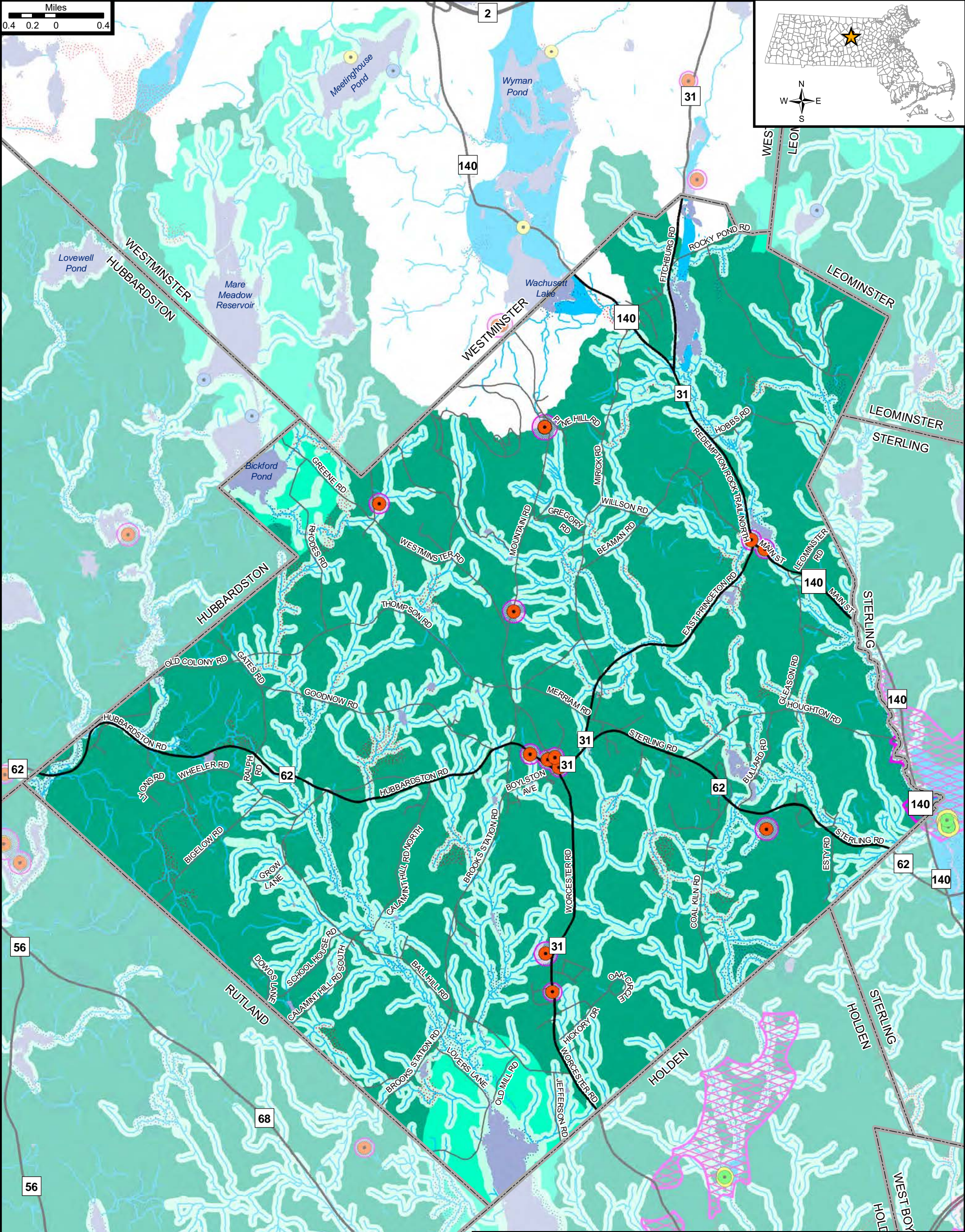
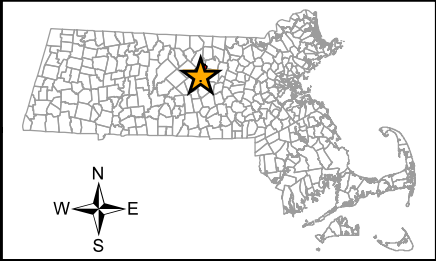
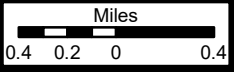
## Town of Princeton, Massachusetts





# Reference Map: Water Resources

## Town of Princeton, Massachusetts



Source: Data provided by the Town of Princeton, CMRPC, massDOT, MassGIS.

Information depicted on this map is for planning purposes only. This information is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analysis. Use caution interpreting positional accuracy.

**CMRPC**  
Central Massachusetts Regional Planning Commission

One Mercantile Street, Suite 520 - Worcester, MA 01608

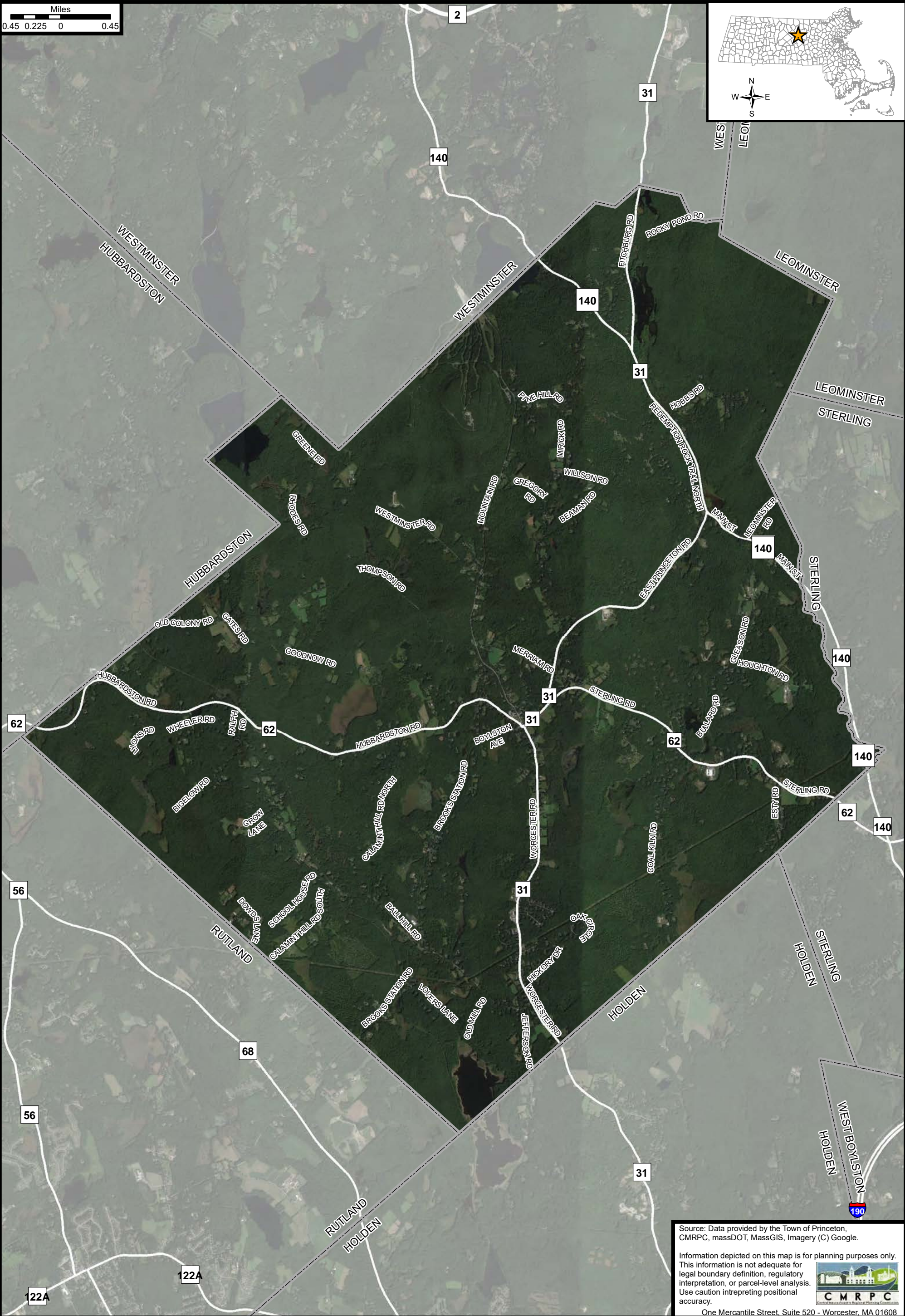
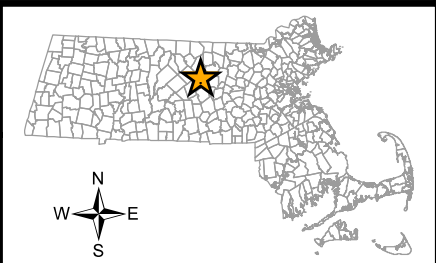
- |                                  |  |  |                                      |
|----------------------------------|--|--|--------------------------------------|
| Community Groundwater Source     | DEP Approved Zone I                          | FEMA National Flood Hazard Layer (DFIRM Data) or FEMA Q3 Flood Zones (Pre-DFIRM) | Surface Water Supply Protection Area |
| Surface Water Intake             | Approved Wellhead Protection Areas (Zone II) | 100-year Flood Area  | Zone A                               |
| Non-Community Groundwater Source | Interim Wellhead Protection Areas            | 500-year Flood Area  | Zone B                               |
| Emergency Surface Water          | Aquifer                                      | Stormwater Inlets  | Zone C                               |

# Municipal Vulnerability Preparedness (MVP) Workshop




# Reference Map: Orthophoto (2017)

## Town of Princeton, Massachusetts



Source: Data provided by the Town of Princeton, CMRPC, massDOT, MassGIS, Imagery (C) Google.

Information depicted on this map is for planning purposes only. This information is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analysis. Use caution interpreting positional accuracy.



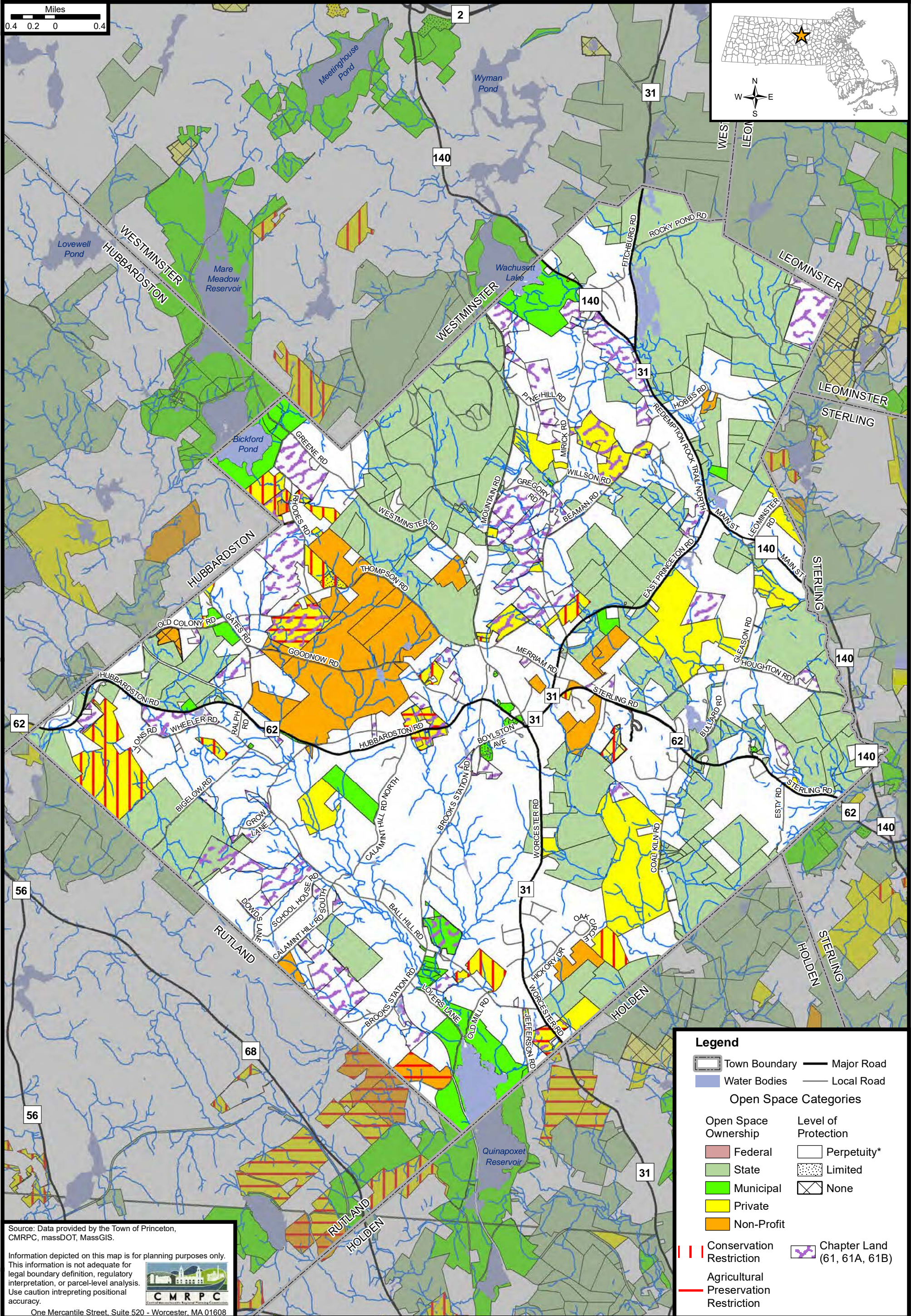
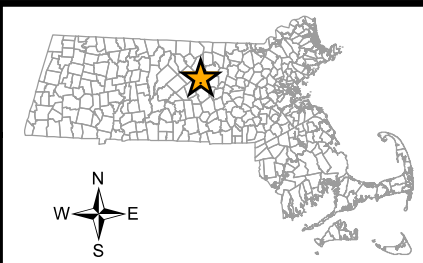
One Mercantile Street, Suite 520 - Worcester, MA 01608

# Municipal Vulnerability Preparedness (MVP) Workshop



# Reference Map: Open Space

## Town of Princeton, Massachusetts



Source: Data provided by the Town of Princeton, CMRPC, massDOT, MassGIS.

Information depicted on this map is for planning purposes only. This information is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analysis. Use caution interpreting positional accuracy.

**CMRPC**  
Central Massachusetts Regional Planning Commission

One Mercantile Street, Suite 520 - Worcester, MA 01608

**Legend**

Town Boundary

Water Bodies

Major Road

Local Road

**Open Space Categories**

**Open Space Ownership**

Federal

State

Municipal

Private

Non-Profit

**Level of Protection**

Perpetuity\*

Limited

None

Conservation Restriction

Agricultural Preservation Restriction

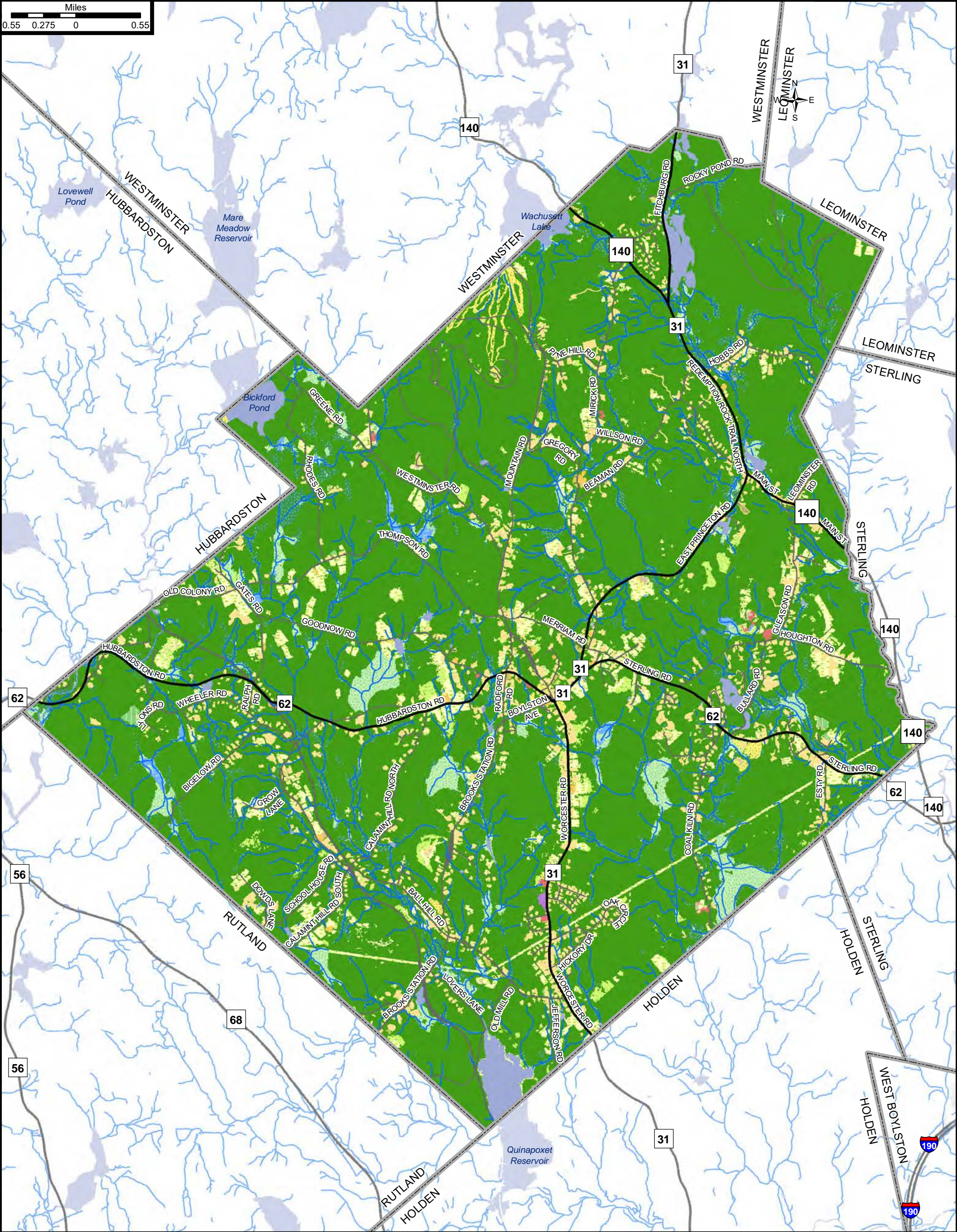
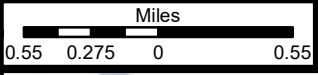
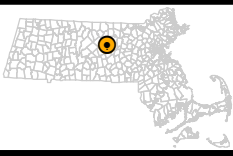
Chapter Land (61, 61A, 61B)

# Municipal Vulnerability Preparedness (MVP) Workshop



# Reference Map: Land Use (2016)

## Town of Princeton, Massachusetts



Residential

Residential - Multi-Family

Commercial

Industrial

Mixed Use - Other

Urban Public/Insti...

Pasture/Hay

Cultivated

Forest

Scrub/Shrub

Bare Land

Forested Wetland

Non-forested Wetland

Saltwater Wetland

Water

Unconsolida... Shore

Aquatic Bed

Other Impervious

Developed Open Space

Right-of-way

Cranberry bog


Orchard

Nursery

Misc

Source: Data provided by the Town of Princeton, CMRPC, massDOT, MassGIS.

Information depicted on this map is for planning purposes only. This information is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analysis. Use caution interpreting positional accuracy.



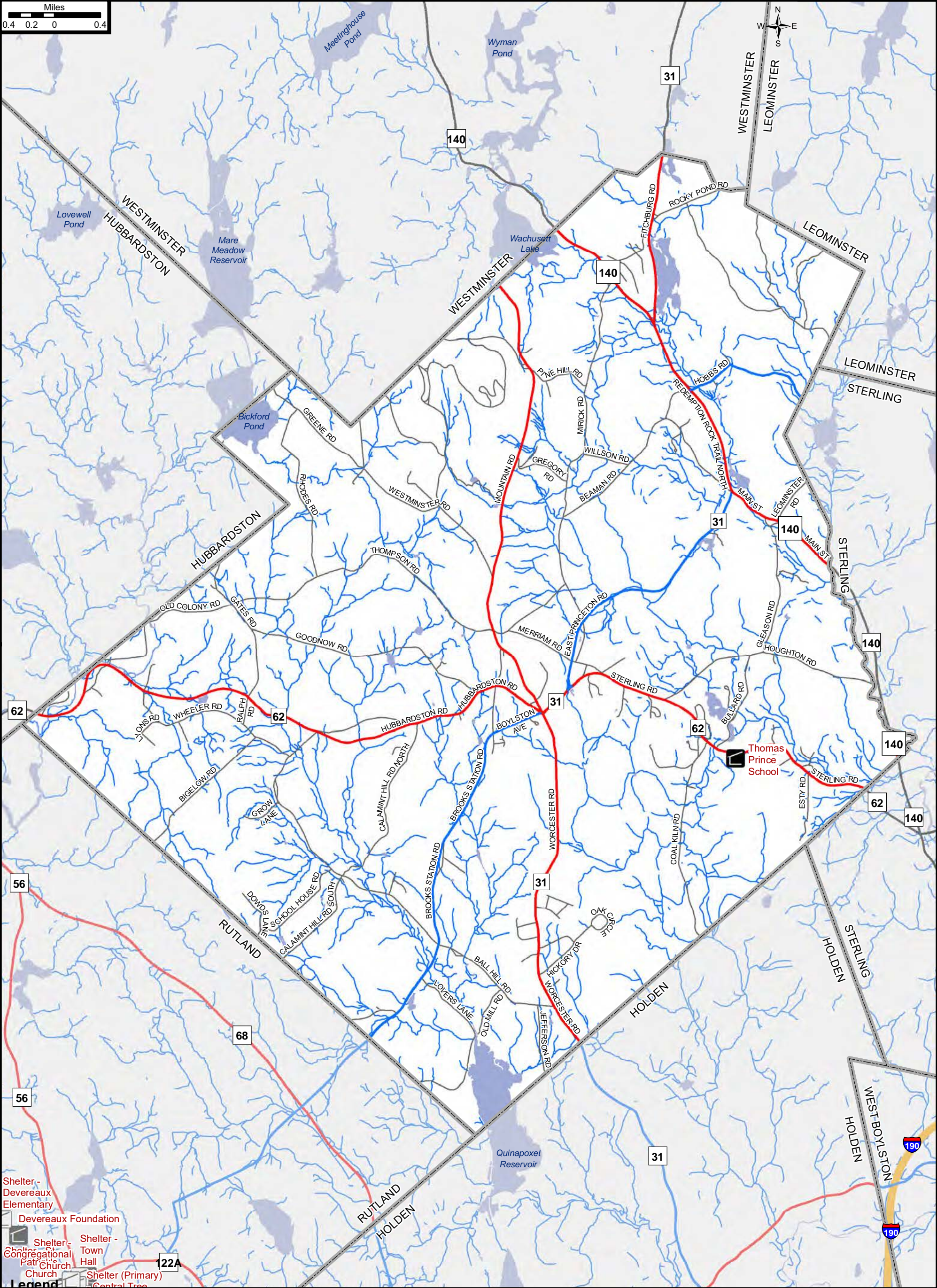
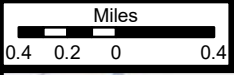
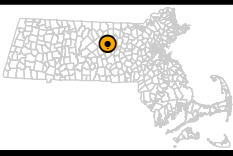
One Mercantile Street, Suite 520 • Worcester, MA 01608

# Municipal Vulnerability Preparedness (MVP) Workshop



# Reference Map: Evacuation Routes & Shelters

## Town of Princeton, Massachusetts

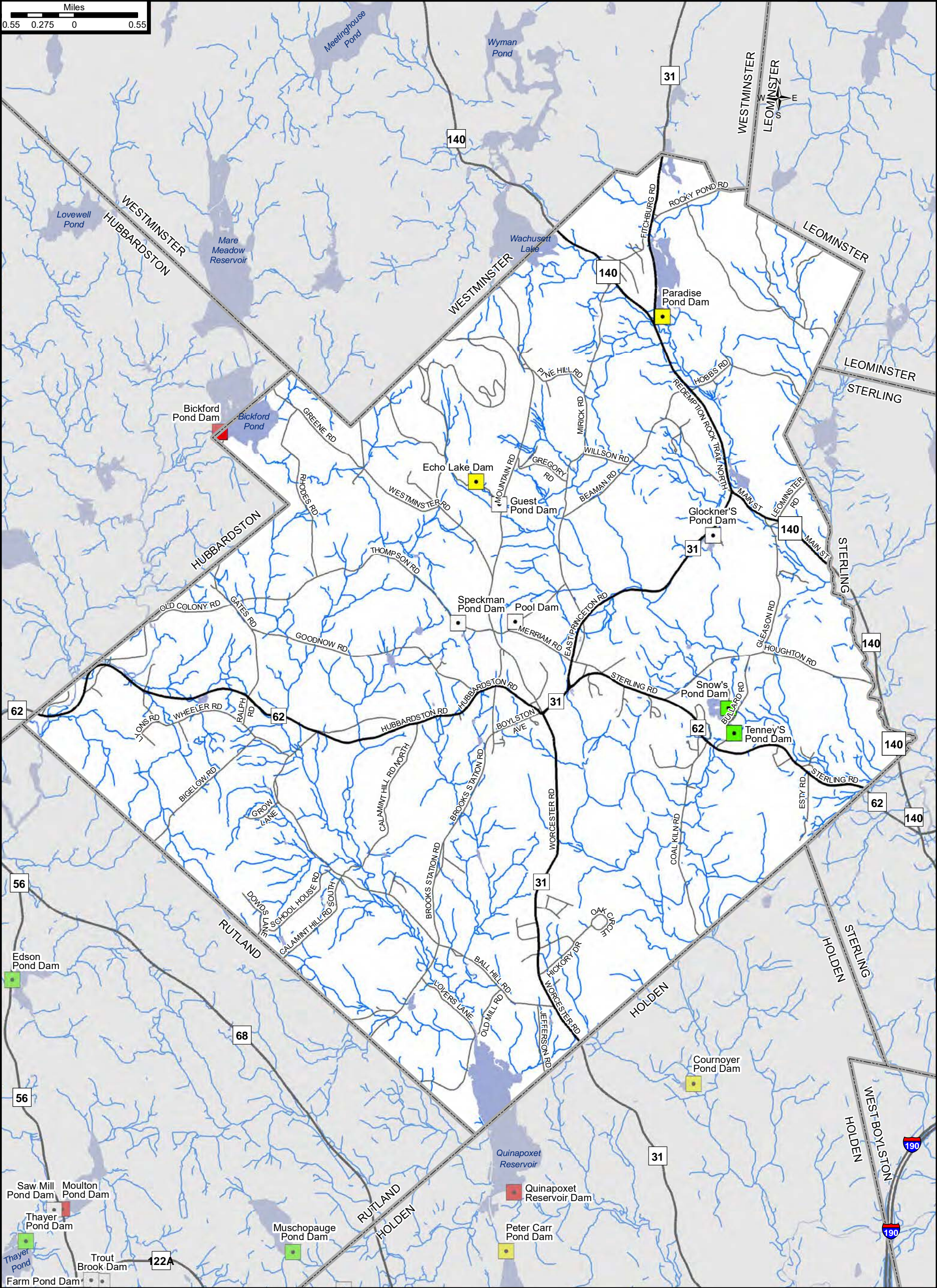
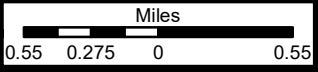


# Municipal Vulnerability Preparedness (MVP) Workshop



# Reference Map: Dams

## Town of Princeton, Massachusetts



**Legend**

- Town Boundary
- Water Bodies
- Major Road
- Local Road

**Dams**

- High Hazard
- Significant Hazard
- Low Hazard
- Not Rated, Too Small

Source: Data provided by the Town of Princeton, CMRPC, massDOT, MassGIS.

Information depicted on this map is for planning purposes only. This information is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analysis. Use caution interpreting positional accuracy.

One Mercantile Street, Suite 520 - Worcester, MA 01608

# Municipal Vulnerability Preparedness (MVP) Workshop



# Community Resilience Building Risk Matrix



www.CommunityResilienceBuilding.org

## Princeton Table 1

**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, etc.)

H-M-L priority for action over the Short or Long term (and Ongoing) V = Vulnerability S = Strength					Winter Storm	Flooding	Wind Events	Draught	Priority	Time
									H - M - L	Short Long Ongoing
Features	Location	Ownership	V or S	Description						
Infrastructural										
Fire Roads and Trail Access	Various	DCR, TOWN, PVT	V	Not enough access to large wooded areas	Opening and clearing of access roads in case of fire or emergency, map and identify vulnerable areas. Access to equipment from neighboring towns or town inventory.					
Fire Pond	Various	Town	V	Access to Fire Ponds, Maintenance	Could we harvest storm water for fire use.					
Cable/Fiber Optic	Town Wide	Charter								
Power	Town Wide	PMLD	V	Storm damage, Single point of entry, not insulated three phase line	Vegetation and Forest management, study of tree inventory to find compromised trees beyond street line. Study to address single entry point of power and solutions, feasibility and engineering					
Communication (Landlines, Cell Phone Towers)	Town Wide	Verizon	V	Dead spots in cell services, No single way to communicate to all residents,	Vegetation and Forest management, study of tree inventory to find compromised trees beyond street line.					
Culverts/Bridges	Town Wide	Town, Private	V	Many culverts in town are in need of replacing	Town is working towards replacing vulnerable culverts with environmentally friendly culverts. Learn about additional funding options, hire a outside company to improve plan and funding					
Railroad	Ball Hill Rd, Calamint, Gates	Railroad Company	V	Proper maintenance of track to prevent fires from sparks	Keeping tracks clear to prevent potential for fires in summer. Keeping tracks clear of ice and snow. Holding company accountable.					
Dam					Making sure Dams are strong and able to withstand capacity. Making sure the Dams are evaluated. High Hazard Dam may be misnamed. Plan to contact private Dam owners.					
Flat Roof buildings										
Steep Roads	Gregory Hill Rd, Pine Hill Rd,		V	Perennial Icing	Safety study, flashing stop signs mountain rd. and Worcester rd. study on ice management, other treatment options for steep hill areas.					
Dirt Roads	Town Wide	Town	V	Problems with wash out and thawing, highway dept. frequently repairing roads						
Private Wells/ Community Water / Sewer	Town Wide	Private	V	Lack of community water and treatment facility	encouraging residents to use rain runoff for lawn and garden use, tie into irrigation use					
Public Safety Building	Center of Town	Town	V							
Steep Roofs	Various, Fire Station	Town	V	Snow/Ice falling from roofs, blocking ambulance, danger to pedestrians						
Emergency Response	Fire, EMT	Town	V	Lack of full time emergency response staff, longer response time in emergency's	Public safety building, increase in employment					
Societal										
Tourists	Various		V	Emergency Response, Fire risks increased	Better signage on trails, GPS coordinates on trails. Partner with surrounding towns and DCR, leominster state forest, mutual aid. Shorten emergency response time.					
Tourists	Various		S	Visitors allow maintenance of recreational areas,						
Wachusett House	Boylston Ave		V	Vulnerable population	Back up generator					
School	Thomas Prince	Town	V	Vulnerable population, school children for emergency evacuation						
Seniors living at home alone	Various	Private	V	Senior citizens living independently throughout town	Making sure there is a contact list in an emergency power outage. Community network for seniors, senior advocate, contractor list approved for distribution. Check Uxbridge helps.					
Community Awareness	Town Wide		S	Close knit community, resiliency						
School Closures	District/town	District	V	School closings from winter storms, man power to clear the roads						
Communication	Town Wide	Town	V	Lacking town wide communication	Encourage sign up for code red, learn more about how the code red system works, create different levels of interaction with citizens. Mail distribution, coordinating with other towns and what they					

Environmental							
Forests	Various	Town, State, Private, NGO	S	Soil protection, water resource, Carbon safety	Targeted land protection, conservation easements, preventing development		
Forests	Various	Town, State, Private, NGO	V	Fires, Invasive Species, Power Line Clearance	Use of downed trees for potential fuel use, limit fire permit, have an access plan to large forest areas, ensuring fire dept. has proper equipment to access fires		
Storm Water Flow	Various	Town	V	Flood events could move harmful substances into ground water	Consider reviewing bylaws for new developments, encourage homeowners to schedule regular well testing, find water quality vendor for in town testing. Construction of new culverts and their		
Invasive Pests	Town Wide		V	Increasing number of tick species carrying disease, mosquito illness, Emerald Ash	Keeping sidewalks and pathways cleared to decrease tick habitat, public education, look into mosquito project, control measures for invasive plants, EAC education for residents		
Fire Pond	Various	Town		Invasive species make fire ponds potentially inaccessible and could spread species	Are fire ponds in the right place with urban development, are they maintained and useful. Budget for maintenance or for another solution such as water tanks. Grant possibilities. Storm water		
PCB Transformers	Town Wide	PMLD	V	Correct disposal and updating of PCB transformers	Sample transformers for PCBs, find potential for grant funds, locate and replace highest risk transformers		

# Community Resilience Building Risk Matrix



www.CommunityResilienceBuilding.org

## Princeton Table 2.

**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, etc.)

H-M-L priority for action over the Short or Long term (and Ongoing) V = Vulnerability S = Strength					Winter Storms (Ice)	Flooding	Drought/Wildfire/E xtreme Heat	Wind Events	Priority	Time
Features	Location	Ownership	V or S	Description					H - M - L	Short Long Ongoing
Infrastructural										
Roads	Town wide	Mostly public, some	S	7-8 miles of gravel road that are very susceptible to erosion and ice, and the						
Culverts	Town wide			Some 200 culverts, many old and crumbling	Study culverts to determine which are causing issues. Research new designs for culverts & work with the highway department & roads committee to make them aware of other options and ways to improve culverts.			High		Ongoing
Bridges	Town wide			Some bridges are undersized, a couple made of wood						
Dams				Not clear who would be impacted should the dams failed. Some local dams have						
Fire Ponds	Hicory Drive, Worcester Road area,	Public	V/S	Overgrown and over silted but there's not a set schedule for who maintains them	Create a maintenance plan to keep up ponds (esp in times of drought).			High		Short & Ongoing
Rail Lines		Private	V	What to do if a train derails in the winter when the tracks expand	Confirm that there is a maintenance schedule for brush and trees around rail lines.			Medium		Long & Ongoing
Windmills	Mount Wachusett		V/S	Located on the mountain						
Sanding Operations	Town-wide	Public	S/V	When it gets into the wetlands it can cause damage and can clog catch basins and other infrastructure						
Shelters					Some seniors have been unwilling to leave their pets when needed to go to emergency shelters - is there somewhere that pets can shelter in an emergency? Inventory of who is able to take in what pets in emergencies (Audubon could take sheep, are there volunteers that could take other pets). Look into the need for an agreement/contract/liability issues with using churches or other civic spaces as shelters.			Medium		Short
Societal										
Highway Department Staff	Town wide	Public	S	During storms there can be staffing and equipment shortages. Can treat roads in 2-3 hours depends on conditions.	Don't currently have sidewalk clearing equipment but are looking into purchasing one.			Medium		Short
Senior Population	Town wide	Public	V	Many live in their old homes, individuals and there's opportunity for further coordination to get services to them should something happen	Look into creating a Buddy system/phone tree/adopt a senior program to check in on folks. In coordination with first responders and Monochusett Regional Transit Authority so they can respond adequately to seniors with mobility issues etc. in the event of emergencies.			Medium		Long
Wachusett House		Private non profit		Income eligible residents with varying needs of support	Check in to see how they manage communication with residents and with the town.			Medium		Long
Churches			S	Three major churches	Develop a shelter plan with churches and town (generators? Heat? AC?)			Medium		Short
NEADS				Seeing eye dog center	Look into using this space or dog training center across from community shelter for a pet shelter during emergencies.			Medium		Short
Mass Audubon				Wachusett Meadow	Always looking to acquire more green/open space (LOW). Strength - current meeting space, first floor is ADA compliant. Look into building serving as a shelter and getting a generator (MEDIUM). Could pond be used as a fire pond? (HIGH) Barns are stable but not compliant for public use (lack fire suppression, ADA compliance, restrooms).			Various		Short/Medium
Tourism	Northern Princeton	State	V	Wachusett Meadow, Mt Wachusett Skiing						
Education	Town	All	S	There needs to be some resident education on winter storm reactions and care						

Education & Communication around Drought	Town wise				Need a system to communicate drought and proper water uses during drought. Making a more robust town communication system - expand Code Red?	Medium+	Ongoing
<b>Environmental</b>							
Salt Operations	Town-wide	Public	V/S	Salt levels are rising dramatically in the tributaries and can be found in summer dry streams. Currently using sand and salt, using more salt this year. Some towns use a brine mix but their equipment isn't set up for this method.	Partner with DCR to explore alternative treatments. Would like to find a cheaper way. Is there a regional program/effort?		
Fire Ponds	Hicory Drive, Worcester Road area, Sharon Drive,	Public	V/S	Overgrown and over silted but there's not a set schedule for who maintains them	Develop a maintenance schedule to keep up fire ponds. Or create an adopt-a-pond program/volunteer day where neighbors take care of their ponds per fire department regulations.		
Beaver Dams	Town-wide	Public/Private	V	Big problem in town	Trapping is allowed during trapping season (nov-jan). Have used beaver deceivers in the past with success but they don't last long term. Town could look into different types that would have more longevity and would be more storm resistant. Could consult DCR biologist for guidance.		
Tree Removal	Town-wide	Public	S	Reduces salt use where sunlight can hit the road from tree removal, sometimes focused around streetlight side. There are a lot of dead trees on the side of the road	Building program for tree removal, trimming.		
Sanding Operations	Town-wide	Public	S/V	When it gets into the wetlands it can cause damage and can clog catch basins and other infrastructure			
Water supply					Encourage people to collect water at their residences and businesses and at civic buildings. Educate residents to know that their well water is not just theirs. Can the town offer discounted rain barrels? Great American Rain Barrel Company out of Boston. Consider investing in a purifier supply or other water treatment to be able to treat water (ponds, streams, springs) when there is no power and people can't get water from their wells. Drought will make this more challenging. See if WPI/Tech high school could map water supply and test for quality. High school has an Envirothon team that could do this project for their spring project.		
PFAS			V	Forever chemical. In water supply, can be somewhat filtered out. Is costing the town a lot of money	Purchasing filters for vulnerable residents		Ongoing

# Community Resilience Building Risk Matrix



www.CommunityResilienceBuilding.org

## Princeton Table 3

**H-M-L** priority for action over the **S**hort or **L**ong term (and **U**ngoing)

**V** = Vulnerability **S** = Strength

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

H-M-L priority for action over the Short or Long term (and Ongoing) V = Vulnerability S = Strength					Drought/Wild Fire/Heat	Wind	Flood	Winter Storms (Snow/Ice)	Priority	Time
Features	Location	Ownership	V or S	Description					H · M · L	Short Long Ongoing
Infrastructural										
Landscape Management			V	Native and Invasive Species, Storm Water Management	Adopt landscape manual & policy for all town owned land. Planting of native species that are drought resistant. Complete Streets implementation of nature based solutions in design. DCR owns land partner for best management of water shed. Explore land acquisition to protect watershed. Develop Landscape Manual and Adopt Policy for all town owned properties, Planting of drought resistant native species. Complete Streets, implementation of nature based solutions in design. Explore land acquisition opportunities to protect water shed. Partner with DCR for Best Management Practices					
Winter Road Policy			V	Sand and Salt on Roads, Impact to wells, Alternate treatements to explore	Reduce sand and salt usage. Explore environmentally friendly options. Adopt Winter Maintenance Road Plan. Partner with DCR and MWRA. Purchase equipment to use brine vs. salt					
Pest Policy			V	No pest management plan. Pests can damage trees, putting them at risk for falling	Adopt an integrated pest control plan. Add monitoring of pests to Tree Warden job description. Educate residents in identification of pests.					
Tree & Limb Maintenance Plan			S	Trim tree limbs periodically as preventative measure	Focus on wires vs. roads. Management of trees on opposite side othe road. Coordinate effort Town and PMLD. Develop a committee.					
Housing for Elderly			V	No Generator, vulnerable to losing power	Explore additional senior housing. Explore alernative energy sources. Purchase generators					
Generator at PSC			V	No Generator	Purchase generators					
One Power line Westminster to Princeton (Municipal Power Supply)			V	If line goes down whole town no power	Options for redundancy. Conduct a feasibility study to explore options.	H				
School as Emergency Shelter	Thomas Prince School		S/V	Have emergency shelter with backup generators; but can not hold whole town. Capacity issue; roads flood nearby - limits access to shelter	Explore options for other locations. Post Office Place, churches, etc. Develop an agreement (MOU) to formalize arrangement.					
Transportation/Elderly	Boylston St.		V	? Availability during emergencies	Research to determine if transporation is available. Develop a list of locations where assistance is needed.	H				
Drainage/Culverts	Town Wide, Sterling Rd, Thompson Rd, East Princeton Rd, Worcester Rd, Merriam Rd,	TPS/ Rt. 62	V	major roads have flooding and drainage issues	Perform analysis of culverts for appropriatenss of design for nature based solutions. Map locations. Adopt a policy for maintenace of culverts.					
Clogged Storm drains create flooding and icing	Mirick Rd		V	access risk to emergency shelter, icing on the sides of roads	Educate residents on best practices. Create an Adopt a Storm Drain Program, Partner with DCR for assiastance, Beaver Control	H				
Dams	Paradise Pond		V	Flood risk to 140/Emergency Evacuation Route; Echo Lake Dam also a significant hazard	Ensure regular inspections are being conducted					
Public Wells	Town Campus,		V	Only public water supply is on the town campus; PFAS Contamination; wells have become contaminated, flooding issues, vulnerable to power outages (pumps not working)						
Private Wells	Town Wide		V	PFAS Contamination; runoff risks, contamination risks, can't drink water, vulnerable to power outages (pumps not working)						
Bridge	Town-wide		V	One bridge in town was reconstructed, unsure of status of other bridges, needs to be investigated	Town wide bridge analysis	H				
Police Department (communication system)	Wachusett Mountain		S	improved radio system - ultra high frequency; have repeater on Wachusett Mountain; good relationship with DCR						



Public Safety Building			S	Has backup generator		
Internet	Town-wide		S	Mostly operational		
<b>Societal</b>						
Update Elderly/Vulnerable Population List CoA			V		Develop an updated list of elderly residents	
Handicapped Residents			V		Town has applied for funding to develop and ADA Transition Plan. Town has received funding for development of a Complete Streets Prioritization Plan, which will help address handicapped access.	
Increasing Senior Population			V	more housing to accommodate future	Town has applied for funding to develop and ADA Transition Plan. Town has received funding for development of a Complete Streets Prioritization Plan, which will help address handicapped access.	
Low Income Housing			V	none at this time	Town is assessing community needs. Town is sending a survey to residents. Develop a Housing Production Plan	
Non-English Speaking			S/V	9-1-1 Can Translate; do not have any other non-English communication capabilities	Signage in in different languages. What is need? What is language? Tourist areas?	
Identification of Vulnerable Populations			S	Police have list	Work with COA to merge lists. Develop one list	
Code Red			S	In Place	Ongoing outreach to encourage residents to sign up	
Food Accessibility			S	Community Gardens and Fruit trees in Future; large number of people in town grow their own foods	Work with other community organizations on identifying a location for a community garden. Implement. Share food during power outages. Develop emergency plan for food sharing. Community potluck	
Senior Center Newsletter			S	Communication to Elderly	Increase engagement in newsletter as a resource	
Group Homes/Mentally & Physically Disabled			S/V	2 in town	Ensure that they are prepared. Do they have the right tools in place for evacuation? Open communication with town.	
Zoning bylaws			S	Zoning bylaws in town aid in preserving the resources and character of the town	Analysis of existing bylaws. Update regularly to address needs of the town.	
Open Space Residential Design Bylaw			S	Requires certain amount of open space in development designs		
Rural Preservation Overlay Bylaw			S	Decreases the amount of tree removal for new developments/construction		
Earth Removal Zoning Bylaw			S	Aids in regulating grading and de-vegetation		
Senior Housing			S/V	Have one Senior Housing facility in Town; Vans visit the facility to provide transportation around town to seniors.  Will need more housing to accommodate increasing aging population; Unsure if transportation plan is in place during times of emergency	Transportation plan for evacuation	
Council on Aging			S	Have list of senior members in Town that may need assistance during emergencies; monthly newsletter		
New Resident Form			S	Helps to identify the needs/vulnerabilities of new residents moving into Town. Can flag in the Police Department system for assistance during emergencies	Develop a fillable PDF	
Boards and Committee in Town	Road Advisory; Open Space Committee; Environmental Action Committee		S/V	Proactive; have good communication that has improved in the last few years; room for improvement; need periodic check-in meetings	Encourage communication lines, Selectboard hosts a boards, committee, commission, chair breakfast. Update contact information on website for boards, committees.	
Social Media			S/V	a blessing and a curse- Town's use of social media for communication has been successful, residents often look to social media pages for town information; Also a lot of misinformation out there on Next Door or other non-Town affiliated social media pages	twitter, facebook alerts	

Municipal Light Plant			S	developing a power outage identification/notification system		
<b>Environmental</b>						
Tree Limb Maintenance Plan			S		Opportunity to reuse limbs as fuel	
Drainage			V			
Wetlands Protection Bylaw			V	Do not have a Wetlands Protection Bylaw; leaves some resources under protected	Assess need for a Wetlands Protection Bylaw	
Dead Wood			V	lots of deadwood and leaf litter from past ice storms; wildfire risk	Forest Management Plan/Communication with DCR.	
Wildlife Corridors			V	a lot of open space but not a lot of connected corridors; segregates wildlife habitat	Assess need for adoption wildlife corridor or overlay district	
Water Use and Reduction Policy/Conservation Plan			V	no water use or reduction policy; drought risks	Educate residents on water conservation and contamination. Benefits of conserving water. Adopt water usage policy. No power no water, Is surface water potable? Gregory Springs	
Vulnerability of Undeveloped Properties			V		Identify properties that may have vulnerability if developed. Analysis of undeveloped properties and potential impact.	
Snow Drift	Mountain Road, Worcester Road		V	safety and maintenance issues; limits visibility and increases snow accumulation on roadways		
Tree Removal and Replacement Plan			V		Remove dead and dying trees and replace with trees that are pest and drought resistant. Organize a tree planting community event.	
Health Impacts, Pollen, Mosquitos, Ticks			V		Adopt policy addressing how town will treat landscape management. Importance of pollinators	
Invasive Species			V	lack of pest management plan; can contribute to leaf debris and increase wildfire risks	Education campaign for private landowners. How to manage. Town Pest Management Plan	
Wachusett Mountain			S/V	recreation/tourism source, increased wildfire risk, impact on emergency services		
Beaver Dams	Hubbardston Rd, Wheeler Rd.		V		Beaver Deceiver, explore options to deter activity near culverts	
Forests			S/V	amount of forests is a positive and negative. Positive - wildlife habitat, recreation opportunity; Negative - no forestry management plans, wildfire risks	Develop a maintenance plan for ponds and removal of dead wood. Develop a Forest Management Plan for high risk areas. Improve communication with railroad.	
Mosquitos/Ticks			V	Town does not have tick or mosquito control plan (does not spray); residents hire independent contractors to spray homes; parks and rec proposed spraying fields for an event but did not have support of the town		
Wetlands			V	impacted by invasive species; reduced water quality concerns		
Public Knowledge/Awareness of Environmental Issues			V	Lack of knowledge or awareness regarding water conservation, drought, wildfire, pest management risks and dangers. In need of public education campaign to strengthen resident knowledge/buy-in	Youth engagement in educational campaigns/TPS/ Wachusett/Vocational Schools	

# Community Resilience Building Risk Matrix



www.CommunityResilienceBuilding.org

## Princeton Table 4.

**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, etc.)

					Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, etc.)				Priority	Time	
					Drought (wild fire/extreme heat)	Wind Events	Flooding	Winter Storms	H - M - L	Short Long Ongoing	
Features	Location	Ownership	V or S	Description							
Infrastructural											
Culverts	Numerous		V		Culvert replacements utilizing nature based solutions. Larger culverts and allowing free movement of water.						
Stormwater management					Use locations of runoff to create parklike areas with water features and also provide flood water storage. Consider stormwater management bylaw.						
Dams	Numerous	Town and State	V & S	Tenny's Pond							
Water Supply - Wells	Town wide	Private & Town	V & S	PFAS has poluted some wells, cost the town lots of money. Issues with flouride, arsenic, iron as well.	Retention wells, tanks or ponds utilizing runoff. Use filtration, reverse osmosis, other technologies to provide backup source of clean drinking water.						
Emergency Communications (Code Red)		Town	S		Good coverage but need to get more people signed up. Education and outreach. Send pamphlet with town census. Include information on how to use it.						
Broad Band		Spectrum/Town	S	Excellent WIFI now							
Town Buildings	Town Hall, Library, TPS, Fire, Police	Town	V & S	Building are old, but beautiful. Many of them are in need of repair	Update master plan, look at zoning, land use and growth, increasing tax base.						
Transportation	None		V	There is no public transportation in town, effects the senior population	Shuttle buses that could be used to transport people in emergencies. Explore regional partnerships for providing emergency response. Communication with Leominster specifically.						
Senior Housing	Boylston Ave	Town	S	Small units (16?)							
Lack of sidewalks	Throughout town		V	Not always safe walking on roads	Replace street lighting with LED for safety walking at night. Additional sidewalks, walking paths in center of town. Bike paths, multi- use paths on main roads, 140, 31, Sterling Rd.						
Thomas Prince School K-8		Town	V	Not adequate as a shelter, not accessible to all areas of town	Possibly have Watchusett Mountain Lodge act as a shelter						
Library		Town	S/V	Prone to flooding in the basement	Explore improving drainage. Pipes used to feed into cistern, could redig lines from library and town hall to feed into newly dug cistern. Put in a 50,000-100,000 gallon tank.						
Public Safety Building			V	Not up to OSHA standards, prone to flooding	Replace building, plans in works for new PSB in center of Town.						
Water Supply for Fire			V	No pressurized water, retention ponds filled up and not enough available water	Create pressurized system using gravity to bring water from Echo Lake to different areas of town and to get water to wildfires on the mountain. Improvements in existing retention ponds for recapturing rural water supply resources. Digital mapping for fire ponds/ water supply.						
Heritage Bible church		Private	S	Backup shelter	Need to set up agreements and logistics. See if they have a generator and if not need to aquire one.						

Community Para Medicine		Town	S	Paramedics can act as visiting nurses	In emergency situations paramedics can provide medical services to seniors.		
Electrical Grid	Town Wide	PMLD	V	Single line, vulnerable to damage			
Societal							
Senior Population			V &S		Provide medical services at home with Community Para Medicine. Need to pursue payroll funding to continue. Provide shuttle bus (trolley) to transport seniors around town or to neighboring towns. Could operate through propane.		
Church Congregations and Buildings	Mountain Rd & Gregory Hill Rd	Churches	S	Used for community events/gatherings			
Tourists/visitors			V &S		Purchase trolleys that could be used to transport people to Watchusett Mtn. Not enough parking on Green, Westminster and Mountain Rd. so parking on side of roads. Widen road for pull off parking on Westminster by trail access. Seek funding to build these pull off areas.		
					Zip line type thing to be able to rescue people from mountain and state parks/forests. Also geo mapping to assist with rescues.		
Parks and Outdoor Recreation		Town	S and V		Increased use of parks and outdoor recreation with Covid. Town needs a paid position and budget to manage this. Add more facilities and programs. Improve outreach and education about recreational opportunities. Seek state funding for improving facilites, mapping trails, and improving signage. Possibly have CMRPC do trail mapping with DLTA funds.		
Environmental							
Streets Lined with Trees	Town wide		V	Streets lined with huge, old trees could be an issue during a storm	PMLD does some trimming but more is needed. More comprehensive vegetation management. Best thing would be to bury lines.		
Forests	Town wide	Town, DCR	V/S	Vulnerable to wildfires	Better management of forests on west side and parts of east side of Town, need more fire roads. Be more proactive. Need building for fire fighting equipment.		
Farms/agriculture			S	Farming friendly, chickens and other animals allowed in residential areas	Encourage more local agriculture and local businesses.		
Run off from mountain			S and V				
Insects			V				
Wetlands					Continued and possibly expanded protection of wetlands. Consider a wetlands protection bylaw.		



## **Princeton Municipal Vulnerability Preparedness Program**

### **Top Priority Actions Survey**

Thank you for participating in Princeton's MVP Virtual Workshop! All of the presentations, background information, and the matrix that you helped to fill out during the workshop can be accessed at the following link:

[https://www.dropbox.com/sh/ca781kksibadu9/AAB\\_JQjuj5Qz40yYjYgtOr7qa?dl=0](https://www.dropbox.com/sh/ca781kksibadu9/AAB_JQjuj5Qz40yYjYgtOr7qa?dl=0)

Based on the action items that you came up with during the workshop, we have developed the survey below. This survey will help us identify the top priority actions that Princeton should take in order to become more resilient. Please take some time to review those materials in the link above and complete the survey by Sunday, November 22, 2020. The results of this survey will be described in the report and discussed during the listening session.

Thank you in advance for your help with this next step!



1. Please Rank the following hazards in order from most concern (1) to least concern (4):



Flooding



Drought



Wind



Winter Storms

2. Please vote on whether the following actions are High, Medium, or Low priorities. High priority actions are necessary to meet existing requirements or are needed to help prepare for/prevent a potential hazard. Low priority action items will help the town build resilience, but are not immediately necessary. Medium priority actions are somewhere in between.

High

Medium

Low

Power Redundancy Feasibility Study to determine the possibility of constructing additional power lines or utilizing alternative energy sources.



	High	Medium	Low
Stormwater, Flooding, and Drainage Assessment that addresses culverts, dams, and bridges. Map culverts, identify those that need to be replaced or upgraded, utilize environmentally friendly options, and adopt a maintenance policy. Evaluate dams and bridges to maintain safety, and contact private dam owners to ensure compliance.			
Town-wide Vulnerability Assessment to map and identify vulnerable areas and analyze potential impacts to undeveloped properties. Evaluate ice management and road safety. Locate and replace highest risk transformers.			

Acquire generators or alternative power supplies for buildings and infrastructure most vulnerable to power outages, such as at the senior housing facilities or the Wachusett House.

High




Medium

Low



	High	Medium	Low
Perform a Town-wide Water Assessment. Explore options for a backup source of clean drinking water, utilizing retention wells, tanks, and filtration strategies. Identify locations where runoff could be used to create parklike areas with water features and floodwater storage for firefighting. Map fire ponds and water supply features, and develop plans to improve existing retention ponds through an Adopt-A-Fire Pond program. Create a pressurized system using gravity to bring water from Echo Lake to other areas of town. And partner with schools and colleges nearby to develop pond management plans to improve water and habitat quality of ponds in Town.			



	High	Medium	Low
Establish a series of educational campaigns to improve public knowledge and awareness of the following topics: 1) Stormwater Management; 2) Rainwater Collection and Storage; 3) Well Maintenance and Upkeep; 4) Tick and Mosquito Risks; 5) Invasive Species Control; 6) Water Conservation and Contamination; 7) CodeRED; and 8) Drought and Wildfire Risks/Prevention. Utilize partnerships with schools and youth engagement to advance these education campaigns.			



	High	Medium	Low
Form a Railroad Coalition with other communities along the Providence-Worcester railroad line to encourage regular maintenance of brush and trees along the rail lines in order to prevent fire.	<div></div>	<div></div>	<div></div>
Develop a Tree Maintenance Committee to coordinate the efforts of the Town and the Princeton Municipal Light Department (PMLD) in tree trimming and wire protection.	<div></div>	<div></div>	<div></div>

Improve the preparedness of Princeton's senior residents through 1) coordinating with the Council on Aging to maintain a list of senior residents in town and their needs; 2) establishing an Adopt-A-Senior Program to encourage engagement with the senior community; 3) utilizing the Senior Center Newsletter and other community organizations as a network of information sharing for senior residents; and 4) coordinating with first responders and the Montachusett Regional Transit Authority to respond to and provide medical care to seniors with mobility issues.

High

Medium

Low







	High	Medium	Low
Improve access and use of the CodeRED system. Encourage residents to sign up by sending a pamphlet with information on how to sign up and use the system in town-wide mailings, such as the census. Expand language options and different levels of interactions that residents using the system can use.			
Establish a transportation plan for emergencies to move vulnerable populations (senior/disabled residents) to shelters via shuttle busses. Explore purchasing trolleys to provide additional transit options.			

	High	Medium	Low
Improve food access by identifying a location for a community garden and developing a strategy tp share food/bring food to shelters during evacuation events.	<div></div>	<div></div>	<div></div>
Analyze existing bylaws and plans, and update regularly. Develop a Housing Production Plan to address the needs for senior housing in town. Update the Master Plan focusing on zoning, land use, and tax base.	<div></div>	<div></div>	<div></div>



	High	Medium	Low
Improve communication town-wide. Encourage communication lines between different boards and committees, and update contact information on Town website as needed. Establish a contact list or phone tree for power outage notification. Transform the Police Department's "New Resident" form into a fillable PDF and encourage residents to fill it out to identify their needs.			
Tree Inventory Assessment to identify compromised trees in the street line and beyond. Establish a Tree Removal and Replacement Program that utilizes the planting of understory trees that are drought and pest resistant. Utilize downed trees or branches as fuel.			

	High	Medium	Low
Assess the need for additional natural resource protections and consider adopting the following: 1) Stormwater Management Bylaw; 2) Wetlands Protection Bylaw; and 3) Wildlife Corridor or Overlay District.			
Adopt a series of policies to address environmental and safety issues that will establish a standard for residents to follow such as: 1) A Landscape Manual and Policy for all Town-owned lands that emphasizes native, drought resistant plants and nature based solutions; 2) Integrated Pest Control Plan to aid in the identification and management of invasive pests and plants throughout Town; 3) Water Usage Policy to encourage water			



conservation during periods of drought; and 4) Winter Maintenance Road Plan to reduce sand and salt usage in vulnerable environmental areas. Utilize the assistance of DCR, MWRA, and other professionals to develop these environmentally friendly policies.

High

Medium

Low

Research sustainable solutions to limit beaver activity in areas of town that are vulnerable to flooding (beaver deceivers). Consult a DCR biologist for guidance with this.



Develop Forest Access Plans and secure appropriate fire management equipment to aid in the clearing of access roads.



	High	Medium	Low
Improve access and knowledge of recreation opportunities in Town by: 1) establishing a paid recreation position with the town; 2) adding more facilities and programs; 3) improving outreach and education; 4) seeking state grant funding; and 5) having CMRPC map trails.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establish partnership with DCR to coordinate forest management plan of Wachusett Mountain and develop best management practices within watershed for salt, sand, and pesticide usage. Install a zip line on Wachusett Mountain for recreation and to aid in rescue.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. Please vote on whether the following actions are Short, Long, or Ongoing projects. Short term projects are straightforward and can be completed within two years. Long term projects take a longer time to complete, may require initial studies or public engagement strategies, and tend to be more complex. Ongoing projects are never truly completed. They require continuous action from year to year in order to maintain resilience.



	Short	Long	Ongoing
Power Redundancy Feasibility Study to determine the possibility of constructing additional power lines or utilizing alternative energy sources.	●	●	●

Stormwater, Flooding, and Drainage Assessment that addresses culverts, dams, and bridges. Map culverts, identify those that need to be replaced or upgraded, utilize environmentally friendly options, and adopt a maintenance policy. Evaluate dams and bridges to maintain safety, and contact private dam owners to ensure compliance.



	Short	Long	Ongoing
Town-wide Vulnerability Assessment to map and identify vulnerable areas and analyze potential impacts to undeveloped properties. Evaluate ice management and road safety. Locate and replace highest risk transformers.			
Acquire generators or alternative power supplies for buildings and infrastructure most vulnerable to power outages, such as at the senior housing facilities or the Wachusett House.			



Short	Long	Ongoing
<p data-bbox="170 176 418 1940">Perform a Town-wide Water Assessment. Explore options for a backup source of clean drinking water, utilizing retention wells, tanks, and filtration strategies. Identify locations where runoff could be used to create parklike areas with water features and floodwater storage for firefighting. Map fire ponds and water supply features, and develop plans to improve existing retention ponds through an Adopt-A-Fire Pond program. Create a pressurized system using gravity to bring water from Echo Lake to other areas of town. And partner with schools and colleges nearby to develop pond management plans to improve water and habitat quality of ponds in Town.</p>		

Improve sheltering options in town. Explore options for alternate shelter locations (Post Office Place, churches, Wachusett Mountain Lodge, the Mass Audubon Wachusett Meadow Wildlife Sanctuary, etc.). Develop an agreement with these alternative shelter locations to formalize arrangement. Identify potential pet shelter locations (NEADS) and perform an inventory analysis of pets and needs of residents in town.




Short

Long

Ongoing





	Short	Long	Ongoing
Establish a series of educational campaigns to improve public knowledge and awareness of the following topics: 1) Stormwater Management; 2) Rainwater Collection and Storage; 3) Well Maintenance and Upkeep; 4) Tick and Mosquito Risks; 5) Invasive Species Control; 6) Water Conservation and Contamination; 7) CodeRED; and 8) Drought and Wildfire Risks/Prevention. Utilize partnerships with schools and youth engagement to advance these education campaigns.			

	Short	Long	Ongoing
Form a Railroad Coalition with other communities along the Providence-Worcester railroad line to encourage regular maintenance of brush and trees along the rail lines in order to prevent fire.	<div></div>	<div></div>	<div></div>
Develop a Tree Maintenance Committee to coordinate the efforts of the Town and the Princeton Municipal Light Department (PMLD) in tree trimming and wire protection.	<div></div>	<div></div>	<div></div>



	Short	Long	Ongoing
Improve the preparedness of Princeton's senior residents through 1) coordinating with the Council on Aging to maintain a list of senior residents in town and their needs; 2) establishing an Adopt-A-Senior Program to encourage engagement with the senior community; 3) utilizing the Senior Center Newsletter and other community organizations as a network of information sharing for senior residents; and 4) coordinating with first responders and the Montachusett Regional Transit Authority to respond to and provide medical care to seniors with mobility issues.	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>

	Short	Long	Ongoing
Improve access and use of the CodeRED system. Encourage residents to sign up by sending a pamphlet with information on how to sign up and use the system in town-wide mailings, such as the census. Expand language options and different levels of interactions that residents using the system can use.			
Establish a transportation plan for emergencies to move vulnerable populations (senior/disabled residents) to shelters via shuttle busses. Explore purchasing trolleys to provide additional transit options.			



	Short	Long	Ongoing
Improve food access by identifying a location for a community garden and developing a strategy tp share food/bring food to shelters during evacuation events.	<div></div>	<div></div>	<div></div>
Analyze existing bylaws and plans, and update regularly. Develop a Housing Production Plan to address the needs for senior housing in town. Update the Master Plan focusing on zoning, land use, and tax base.	<div></div>	<div></div>	<div></div>

				Short	Long	Ongoing
Improve communication town-wide. Encourage communication lines between different boards and committees, and update contact information on Town website as needed. Establish a contact list or phone tree for power outage notification. Transform the Police Department's "New Resident" form into a fillable PDF and encourage residents to fill it out to identify their needs.				<div></div>	<div></div>	<div></div>



	Short	Long	Ongoing
Tree Inventory Assessment to identify compromised trees in the street line and beyond. Establish a Tree Removal and Replacement Program that utilizes the planting of understory trees that are drought and pest resistant. Utilize downed trees or branches as fuel.			
Assess the need for additional natural resource protections and consider adopting the following: 1) Stormwater Management Bylaw; 2) Wetlands Protection Bylaw; and 3) Wildlife Corridor or Overlay District.			
Adopt a series of policies to address environmental and safety issues that will establish a standard for residents to follow such as: 1) A Landscape			

Manual and Policy for all Town-owned lands that emphasizes native, drought resistant plants and nature based solutions; 2) Integrated Pest Control Plan to aid in the identification and management of invasive pests and plants throughout Town; 3) Water Usage Policy to encourage water conservation during periods of drought; and 4) Winter Maintenance Road Plan to reduce sand and salt usage in vulnerable environmental areas. Utilize the assistance of DCR, MWRA, and other professionals to develop these environmentally friendly policies.

Short

Long

Ongoing





	Short	Long	Ongoing
Research sustainable solutions to limit beaver activity in areas of town that are vulnerable to flooding (beaver deceivers). Consult a DCR biologist for guidance with this.			
Develop Forest Access Plans and secure appropriate fire management equipment to aid in the clearing of access roads.			
Improve access and knowledge of recreation opportunities in Town by: 1) establishing a paid recreation position with the town; 2) adding more facilities and programs; 3) improving outreach and education; 4) seeking state grant funding; and 5) having CMRPC map trails.			

	Short	Long	Ongoing
Establish partnership with DCR to coordinate forest management plan of Wachusett Mountain and develop best management practices within watershed for salt, sand, and pesticide usage. Install a zip line on Wachusett Mountain for recreation and to aid in rescue.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. Please vote for what you believe is the top priority **INFRASTRUCTURAL** action from the list below.

- ☐ Power Redundancy Feasibility Study to determine the possibility of constructing additional power lines or utilizing alternative energy sources.
- ☐ Acquire generators or alternative power supplies for buildings and infrastructure most vulnerable to power outages, such as at the senior housing facilities or the Wachusett House.
- ☐ Stormwater, Flooding, and Drainage Assessment that addresses culverts, dams, and bridges. Map culverts, identify those that need to be replaced or upgraded, utilize environmentally friendly options, and adopt a maintenance policy. Evaluate dams and bridges to maintain safety, and contact private dam owners to ensure compliance.



- Town-wide Vulnerability Assessment to map and identify vulnerable areas and analyze potential impacts to undeveloped properties. Evaluate ice management and road safety. Locate and replace highest risk transformers.
- Perform a Town-wide Water Assessment. Explore options for a backup source of clean drinking water, utilizing retention wells, tanks, and filtration strategies. Identify locations where runoff could be used to create parklike areas with water features and floodwater storage for firefighting. Map fire ponds and water supply features, and develop plans to improve existing retention ponds through an Adopt-A-Fire Pond program. Create a pressurized system using gravity to bring water from Echo Lake to other areas of town. And partner with schools and colleges nearby to develop pond management plans to improve water and habitat quality of ponds in Town.
- Improve sheltering options in town. Explore options for alternate shelter locations (Post Office Place, churches, Wachusett Mountain Lodge, the Mass Audubon Wachusett Meadow Wildlife Sanctuary, etc.). Develop an agreement with these alternative shelter locations to formalize arrangement. Identify potential pet shelter locations (NEADS) and perform an inventory analysis of pets and needs of residents in town.

5. Please vote for what you believe is the top priority SOCIETAL action from the list below:

- Establish a series of educational campaigns to improve public knowledge and awareness of the following topics: 1) Stormwater Management; 2) Rainwater Collection and Storage; 3) Well Maintenance and Upkeep; 4) Tick and Mosquito Risks; 5) Invasive Species Control; 6) Water Conservation and Contamination; 7) CodeRED; and 8) Drought and Wildfire Risks/Prevention. Utilize partnerships with schools and youth engagement to advance these education campaigns.
- Form a Railroad Coalition with other communities along the Providence-Worcester railroad line to encourage regular maintenance of brush and trees along the rail lines in order to prevent fire.
- Develop a Tree Maintenance Committee to coordinate the efforts of the Town and the Princeton Municipal Light Department (PMLD) in tree trimming and wire protection.
- Establish a transportation plan for emergencies to move vulnerable populations (senior/disabled residents) to shelters via shuttle busses. Explore purchasing trolleys to provide additional transit options.
- Improve food access by identifying a location for a community garden and developing a strategy to share food/bring food to shelters during evacuation events.
- Analyze existing bylaws and plans, and update regularly. Develop a Housing Production Plan to address the needs for senior housing in town. Update the Master Plan focusing on zoning, land use, and tax base.
- Improve communication town-wide. Encourage communication lines between different boards and committees, and update contact information on Town website as needed. Establish a contact list or phone tree for power outage notification. Transform the Police Department's "New Resident" form into a fillable PDF and encourage residents to fill it out to identify their needs.



- Improve the preparedness of Princeton's senior residents through 1) coordinating with the Council on Aging to maintain a list of senior residents in town and their needs; 2) establishing an Adopt-A-Senior Program to encourage engagement with the senior community; 3) utilizing the Senior Center Newsletter and other community organizations as a network of information sharing for senior residents; and 4) coordinating with first responders and the Montachusett Regional Transit Authority to respond to and provide medical care to seniors with mobility issues.
- Improve access and use of the CodeRED system. Encourage residents to sign up by sending a pamphlet with information on how to sign up and use the system in town-wide mailings, such as the census. Expand language options and different levels of interactions that residents using the system can use.

6. Please vote for what you believe is the top priority ENVIRONMENTAL action from the list below:

- Tree Inventory Assessment to identify compromised trees in the street line and beyond. Establish a Tree Removal and Replacement Program that utilizes the planting of understory trees that are drought and pest resistant. Utilize downed trees or branches as fuel.
- Develop Forest Access Plans and secure appropriate fire management equipment to aid in the clearing of access roads.

- Assess the need for additional natural resource protections and consider adopting the following: 1) Stormwater Management Bylaw; 2) Wetlands Protection Bylaw; and 3) Wildlife Corridor or Overlay District.
- Adopt a series of policies to address environmental and safety issues that will establish a standard for residents to follow such as: 1) A Landscape Manual and Policy for all Town-owned lands that emphasizes native, drought resistant plants and nature based solutions; 2) Integrated Pest Control Plan to aid in the identification and management of invasive pests and plants throughout Town; 3) Water Usage Policy to encourage water conservation during periods of drought; and 4) Winter Maintenance Road Plan to reduce sand and salt usage in vulnerable environmental areas. Utilize the assistance of DCR, MWRA, and other professionals to develop these environmentally friendly policies.
- Research sustainable solutions to limit beaver activity in areas of town that are vulnerable to flooding (beaver deceivers). Consult a DCR biologist for guidance with this.
- Improve access and knowledge of recreation opportunities in Town by: 1) establishing a paid recreation position with the town; 2) adding more facilities and programs; 3) improving outreach and education; 4) seeking state grant funding; and 5) having CMRPC map trails.
- Establish partnership with DCR to coordinate forest management plan of Wachusett Mountain and develop best management practices within watershed for salt, sand, and pesticide usage. Install a zip line on Wachusett Mountain for recreation and to aid in rescue.

7. Please vote for TWO additional top priority actions that you believe Princeton should complete in order to build resilience. You may select actions from any category (Infrastructural, Societal, and Environmental), but do not select any actions that you already selected in the previous questions.



Vote 1

Vote 2

Power  
Redundancy  
Feasibility Study  
to determine the  
possibility of  
constructing  
additional power  
lines or utilizing  
alternative  
energy sources.



Stormwater,  
Flooding, and  
Drainage  
Assessment that  
addresses  
culverts, dams,  
and bridges. Map  
culverts, identify  
those that need  
to be replaced or  
upgraded, utilize  
environmentally  
friendly options,  
and adopt a  
maintenance  
policy. Evaluate  
dams and bridges  
to maintain  
safety, and  
contact private  
dam owners to  
ensure  
compliance.



Vote 1

Vote 2

Town-wide  
Vulnerability  
Assessment to  
map and identify  
vulnerable areas  
and analyze  
potential impacts  
to undeveloped  
properties.  
Evaluate ice  
management and  
road safety.  
Locate and  
replace highest  
risk  
transformers.



Acquire  
generators or  
alternative power  
supplies for  
buildings and  
infrastructure  
most vulnerable  
to power  
outages, such as  
at the senior  
housing facilities  
or the Wachusett  
House.





Vote 1

Vote 2

Perform a Town-wide Water Assessment. Explore options for a backup source of clean drinking water, utilizing retention wells, tanks, and filtration strategies. Identify locations where runoff could be used to create parklike areas with water features and floodwater storage for firefighting. Map fire ponds and water supply features, and develop plans to improve existing retention ponds through an Adopt-A-Fire Pond program. Create a pressurized system using gravity to bring water from Echo Lake to other areas of town. And partner with schools and colleges nearby to develop pond management plans to improve water and habitat quality of ponds in Town.

Vote 1

Vote 2

Improve  
sheltering  
options in town.  
Explore options  
for alternate  
shelter locations  
(Post Office  
Place, churches,  
Wachusett  
Mountain Lodge,  
the Mass  
Audubon  
Wachusett  
Meadow Wildlife  
Sanctuary, etc.).  
Develop an  
agreement with  
these alternative  
shelter locations  
to formalize  
arrangement.  
Identify potential  
pet shelter  
locations  
(NEADS) and  
perform an  
inventory  
analysis of pets  
and needs of  
residents in  
town.





Vote 1

Vote 2

Establish a series of educational campaigns to improve public knowledge and awareness of the following topics:

1) Stormwater Management; 2) Rainwater Collection and Storage; 3) Well Maintenance and Upkeep; 4) Tick and Mosquito Risks; 5) Invasive Species Control; 6) Water Conservation and Contamination; 7) CodeRED; and 8) Drought and Wildfire Risks/Prevention. Utilize partnerships with schools and youth engagement to advance these education campaigns.

Vote 1

Vote 2

Form a Railroad Coalition with other communities along the Providence-Worcester railroad line to encourage regular maintenance of brush and trees along the rail lines in order to prevent fire.



Develop a Tree Maintenance Committee to coordinate the efforts of the Town and the Princeton Municipal Light Department (PMLD) in tree trimming and wire protection.





Vote 1

Vote 2

Improve the preparedness of Princeton's senior residents through 1) coordinating with the Council on Aging to maintain a list of senior residents in town and their needs; 2) establishing an Adopt-A-Senior Program to encourage engagement with the senior community; 3) utilizing the Senior Center Newsletter and other community organizations as a network of information sharing for senior residents; and 4) coordinating with first responders and the Montachusett Regional Transit Authority to respond to and provide medical care to seniors with mobility issues.

Vote 1

Vote 2

Improve access and use of the CodeRED system. Encourage residents to sign up by sending a pamphlet with information on how to sign up and use the system in town-wide mailings, such as the census. Expand language options and different levels of interactions that residents using the system can use.



Establish a transportation plan for emergencies to move vulnerable populations (senior/disabled residents) to shelters via shuttle busses. Explore purchasing trolleys to provide additional transit options.





Vote 1

Vote 2

Improve food access by identifying a location for a community garden and developing a strategy to share food/bring food to shelters during evacuation events.



Analyze existing bylaws and plans, and update regularly. Develop a Housing Production Plan to address the needs for senior housing in town. Update the Master Plan focusing on zoning, land use, and tax base.



Vote 1

Vote 2

Improve communication town-wide. Encourage communication lines between different boards and committees, and update contact information on Town website as needed. Establish a contact list or phone tree for power outage notification. Transform the Police Department's "New Resident" form into a fillable PDF and encourage residents to fill it out to identify their needs.



Vote 1

Vote 2

Tree Inventory Assessment to identify compromised trees in the street line and beyond. Establish a Tree Removal and Replacement Program that utilizes the planting of understory trees that are drought and pest resistant. Utilize downed trees or branches as fuel.



Assess the need for additional natural resource protections and consider adopting the following: 1) Stormwater Management Bylaw; 2) Wetlands Protection Bylaw; and 3) Wildlife Corridor or Overlay District.



Adopt a series of policies to address environmental and safety issues that will establish a standard for residents to follow such as: 1) A Landscape

Manual and Policy for all Town-owned lands that emphasizes native, drought resistant plants and nature based solutions; 2) Integrated Pest Control Plan to aid in the identification and management of invasive pests and plants throughout Town; 3) Water Usage Policy to encourage water conservation during periods of drought; and 4) Winter Maintenance Road Plan to reduce sand and salt usage in vulnerable environmental areas. Utilize the assistance of DCR, MWRA, and other professionals to develop these environmentally friendly policies.

Vote 1

Vote 2



Vote 1

Vote 2

Research sustainable solutions to limit beaver activity in areas of town that are vulnerable to flooding (beaver deceivers). Consult a DCR biologist for guidance with this.



Develop Forest Access Plans and secure appropriate fire management equipment to aid in the clearing of access roads.



Improve access and knowledge of recreation opportunities in Town by: 1) establishing a paid recreation position with the town; 2) adding more facilities and programs; 3) improving outreach and education; 4) seeking state grant funding; and 5) having CMRPC map trails.





Vote 1

Vote 2

Establish partnership with DCR to coordinate forest management plan of Wachusett Mountain and develop best management practices within watershed for salt, sand, and pesticide usage. Install a zip line on Wachusett Mountain for recreation and to aid in rescue.



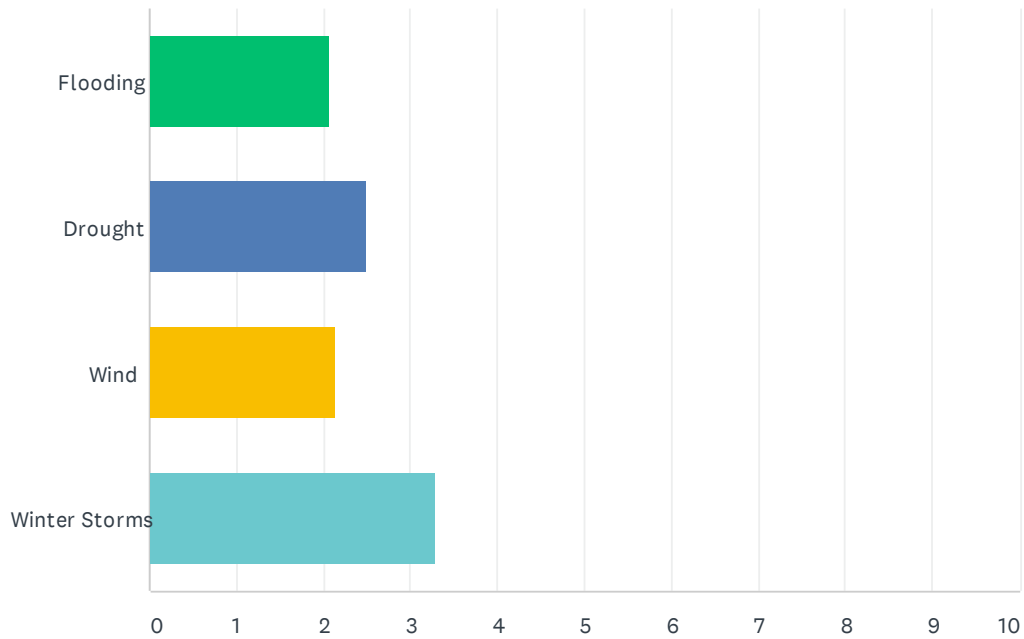
8. Please describe any other actions that were not listed in this survey that the town should take to improve resilience.

A rectangular text box with a dark red background and a thin white border, intended for the user to provide additional suggestions for improving resilience.

Thank you for participating in Princeton's MVP Workshop and for taking the time to answer this survey!

## Q1 Please Rank the following hazards in order from most concern (1) to least concern (4):

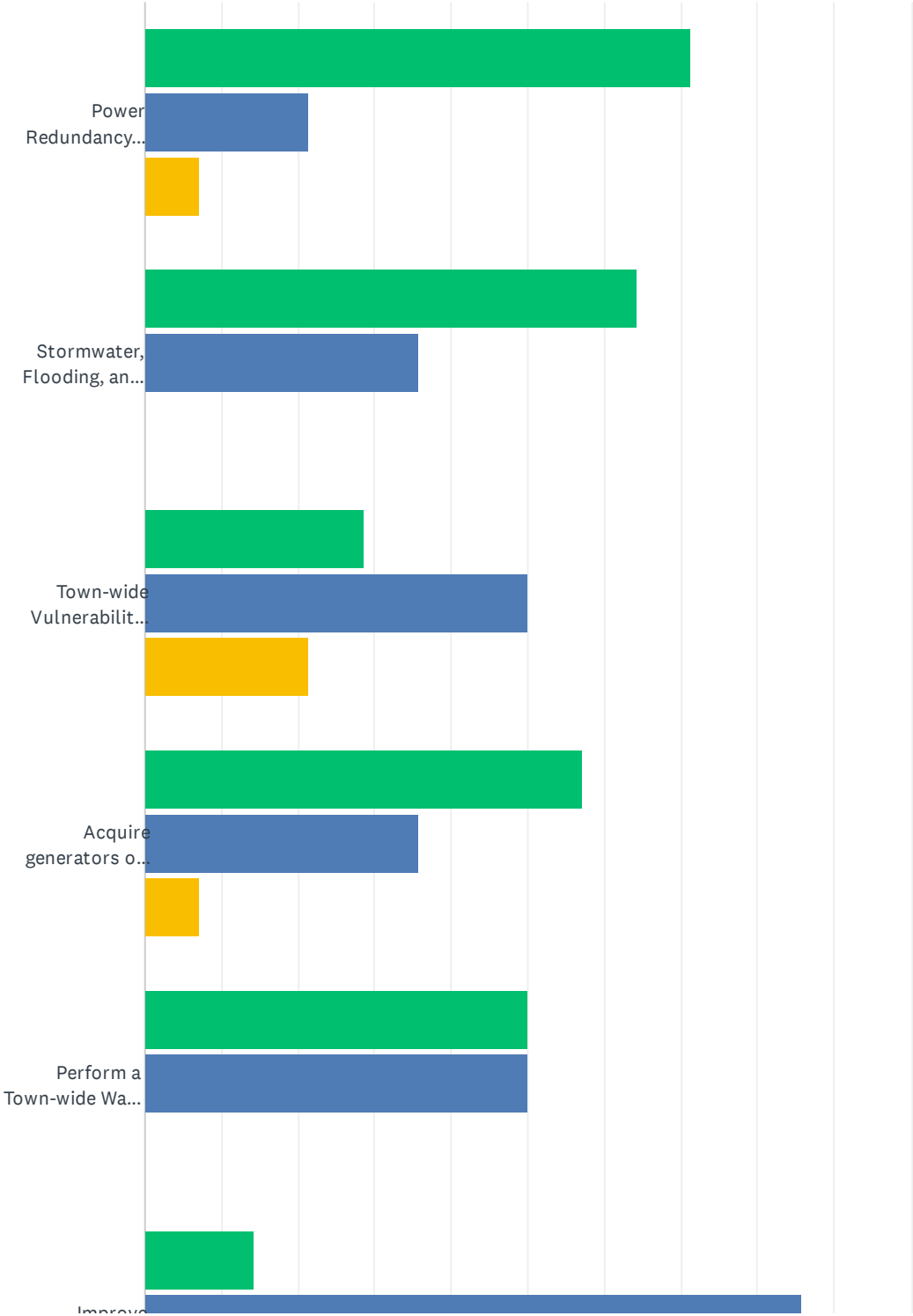
Answered: 14   Skipped: 0



	1	2	3	4	TOTAL	SCORE
Flooding	7.14% 1	28.57% 4	28.57% 4	35.71% 5	14	2.07
Drought	28.57% 4	28.57% 4	7.14% 1	35.71% 5	14	2.50
Wind	7.14% 1	21.43% 3	50.00% 7	21.43% 3	14	2.14
Winter Storms	57.14% 8	21.43% 3	14.29% 2	7.14% 1	14	3.29

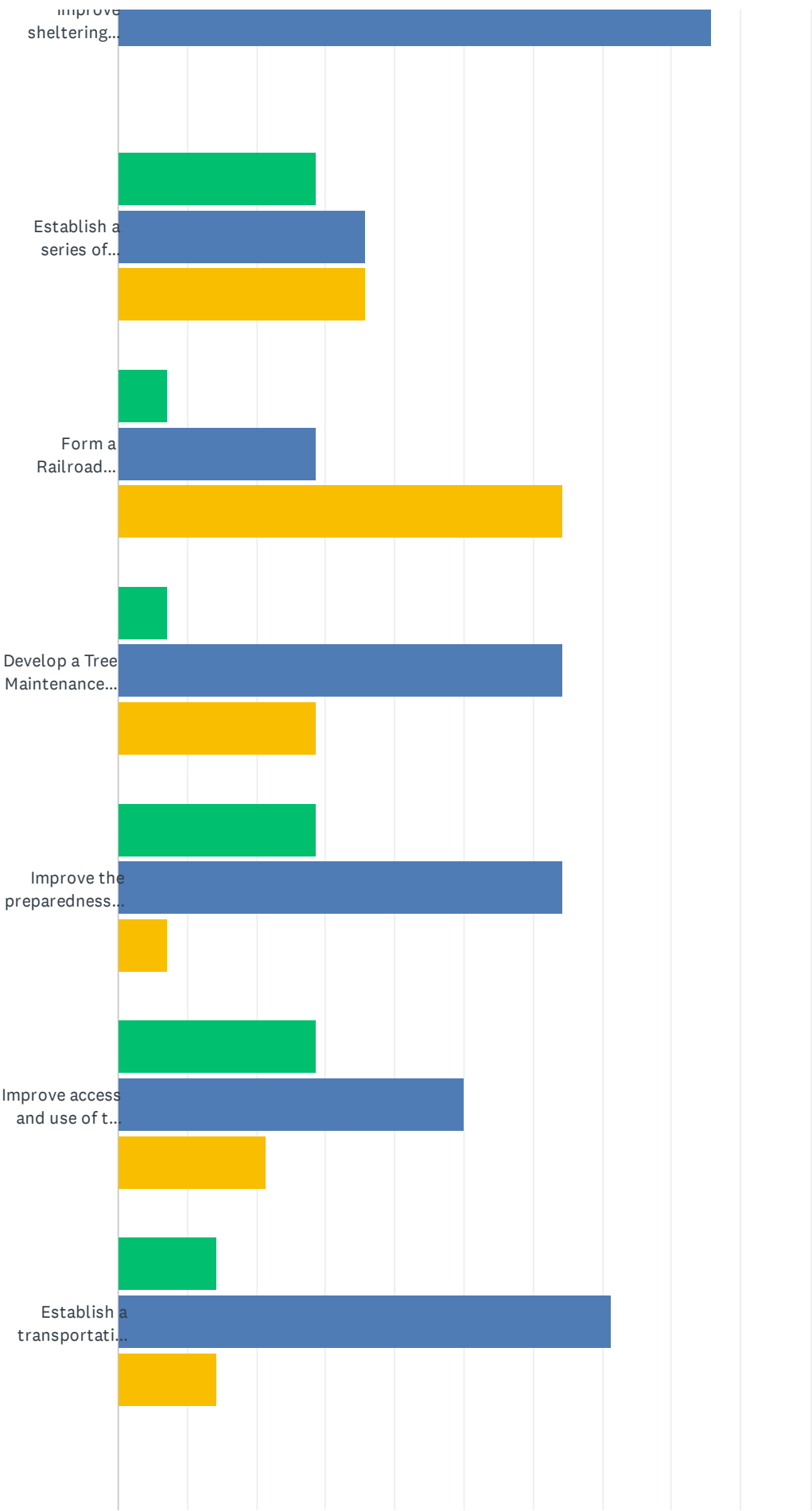
Q2 Please vote on whether the following actions are High, Medium, or Low priorities. High priority actions are necessary to meet existing requirements or are needed to help prepare for/prevent a potential hazard. Low priority action items will help the town build resilience, but are not immediately necessary. Medium priority actions are somewhere in between.

Answered: 14    Skipped: 0

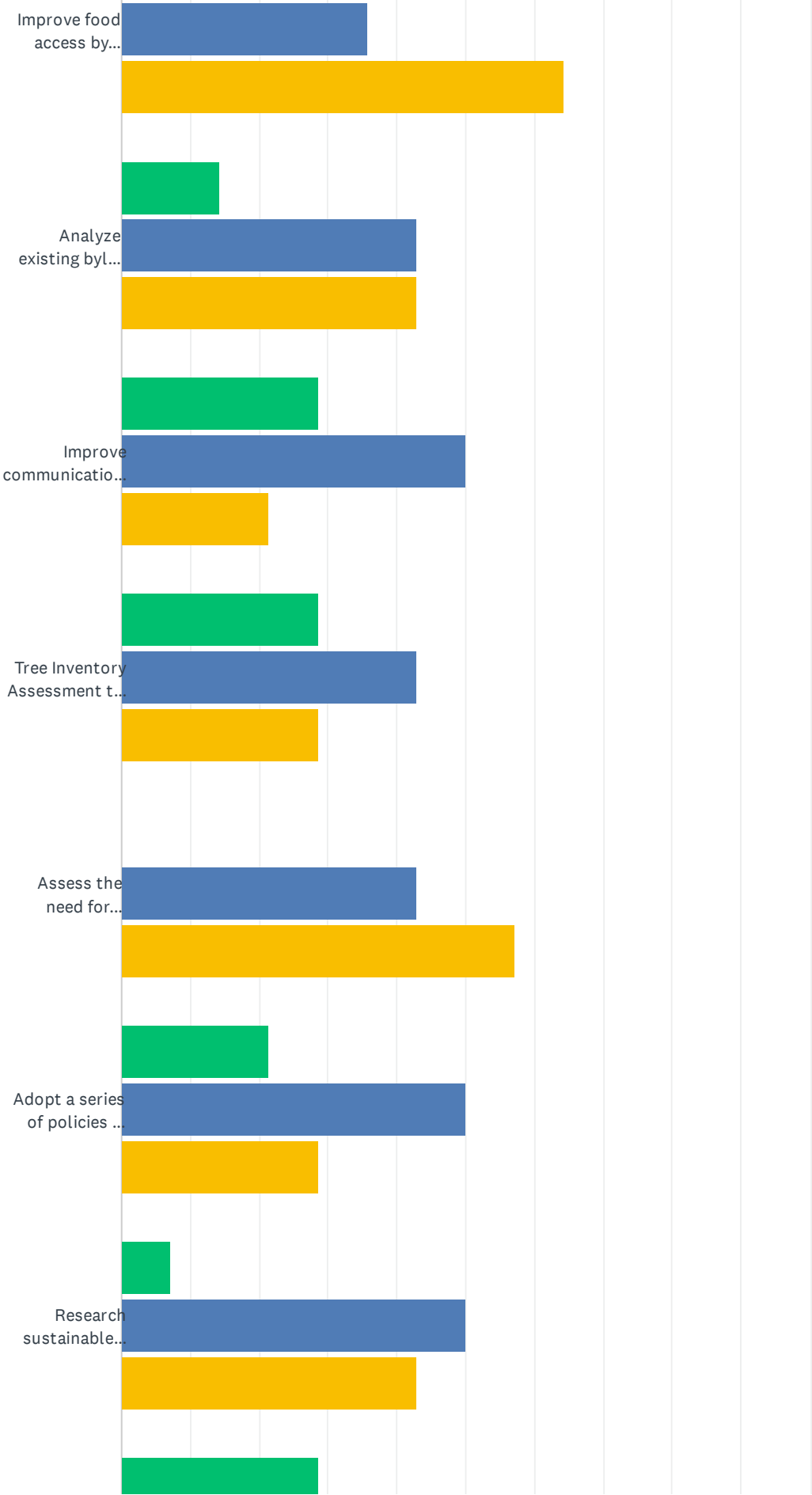




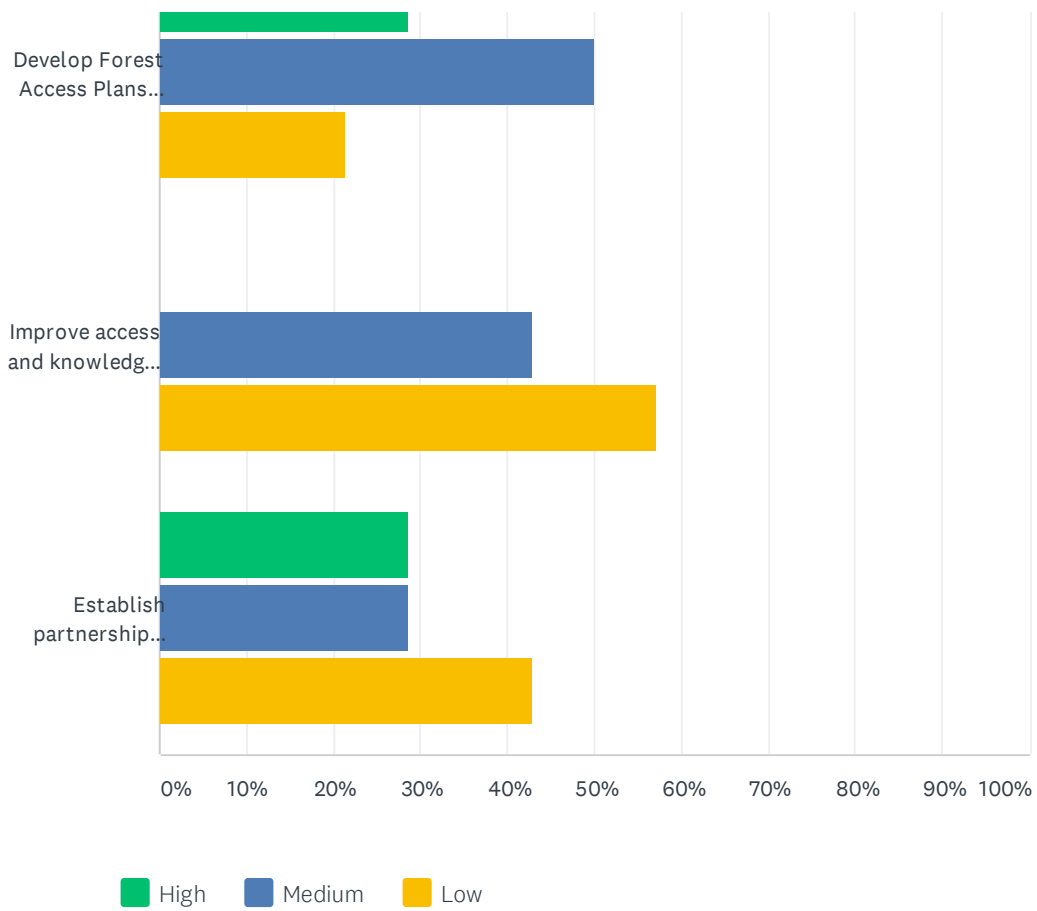
Princeton Municipal Vulnerability Preparedness Program



Princeton Municipal Vulnerability Preparedness Program



## Princeton Municipal Vulnerability Preparedness Program





## Princeton Municipal Vulnerability Preparedness Program

	HIGH	MEDIUM	LOW	TOTAL
Power Redundancy Feasibility Study to determine the possibility of constructing additional power lines or utilizing alternative energy sources.	71.43% 10	21.43% 3	7.14% 1	14
Stormwater, Flooding, and Drainage Assessment that addresses culverts, dams, and bridges. Map culverts, identify those that need to be replaced or upgraded, utilize environmentally friendly options, and adopt a maintenance policy. Evaluate dams and bridges to maintain safety, and contact private dam owners to ensure compliance.	64.29% 9	35.71% 5	0.00% 0	14
Town-wide Vulnerability Assessment to map and identify vulnerable areas and analyze potential impacts to undeveloped properties. Evaluate ice management and road safety. Locate and replace highest risk transformers.	28.57% 4	50.00% 7	21.43% 3	14
Acquire generators or alternative power supplies for buildings and infrastructure most vulnerable to power outages, such as at the senior housing facilities or the Wachusett House.	57.14% 8	35.71% 5	7.14% 1	14
Perform a Town-wide Water Assessment. Explore options for a backup source of clean drinking water, utilizing retention wells, tanks, and filtration strategies. Identify locations where runoff could be used to create parklike areas with water features and floodwater storage for firefighting. Map fire ponds and water supply features, and develop plans to improve existing retention ponds through an Adopt-A-Fire Pond program. Create a pressurized system using gravity to bring water from Echo Lake to other areas of town. And partner with schools and colleges nearby to develop pond management plans to improve water and habitat quality of ponds in Town.	50.00% 7	50.00% 7	0.00% 0	14
Improve sheltering options in town. Explore options for alternate shelter locations (Post Office Place, churches, Wachusett Mountain Lodge, the Mass Audubon Wachusett Meadow Wildlife Sanctuary, etc.). Develop an agreement with these alternative shelter locations to formalize arrangement. Identify potential pet shelter locations (NEADS) and perform an inventory analysis of pets and needs of residents in town.	14.29% 2	85.71% 12	0.00% 0	14
Establish a series of educational campaigns to improve public knowledge and awareness of the following topics: 1) Stormwater Management; 2) Rainwater Collection and Storage; 3) Well Maintenance and Upkeep; 4) Tick and Mosquito Risks; 5) Invasive Species Control; 6) Water Conservation and Contamination; 7) CodeRED; and 8) Drought and Wildfire Risks/Prevention. Utilize partnerships with schools and youth engagement to advance these education campaigns.	28.57% 4	35.71% 5	35.71% 5	14
Form a Railroad Coalition with other communities along the Providence-Worcester railroad line to encourage regular maintenance of brush and trees along the rail lines in order to prevent fire.	7.14% 1	28.57% 4	64.29% 9	14
Develop a Tree Maintenance Committee to coordinate the efforts of the Town and the Princeton Municipal Light Department (PMLD) in tree trimming and wire protection.	7.14% 1	64.29% 9	28.57% 4	14
Improve the preparedness of Princeton's senior residents through 1) coordinating with the Council on Aging to maintain a list of senior residents in town and their needs; 2) establishing an Adopt-A-Senior Program to encourage engagement with the senior community; 3) utilizing the Senior Center Newsletter and other community organizations as a network of information sharing for senior residents; and 4) coordinating with first responders and the Montachusett Regional Transit Authority to respond to and provide medical care to seniors with mobility issues.	28.57% 4	64.29% 9	7.14% 1	14
Improve access and use of the CodeRED system. Encourage residents to sign up by sending a pamphlet with information on how to sign up and use the system in town-wide mailings, such as the census. Expand language options and different levels of interactions that residents using the system can use.	28.57% 4	50.00% 7	21.43% 3	14
Establish a transportation plan for emergencies to move vulnerable populations (senior/disabled residents) to shelters via shuttle busses. Explore purchasing trolleys to provide additional transit options.	14.29% 2	71.43% 10	14.29% 2	14
Improve food access by identifying a location for a community garden and developing a strategy to share food/bring food to shelters during evacuation events.	0.00% 0	35.71% 5	64.29% 9	14
Analyze existing bylaws and plans, and update regularly. Develop a Housing Production Plan to address the needs for senior housing in town. Update the Master Plan focusing on	14.29% 2	42.86% 6	42.86% 6	14

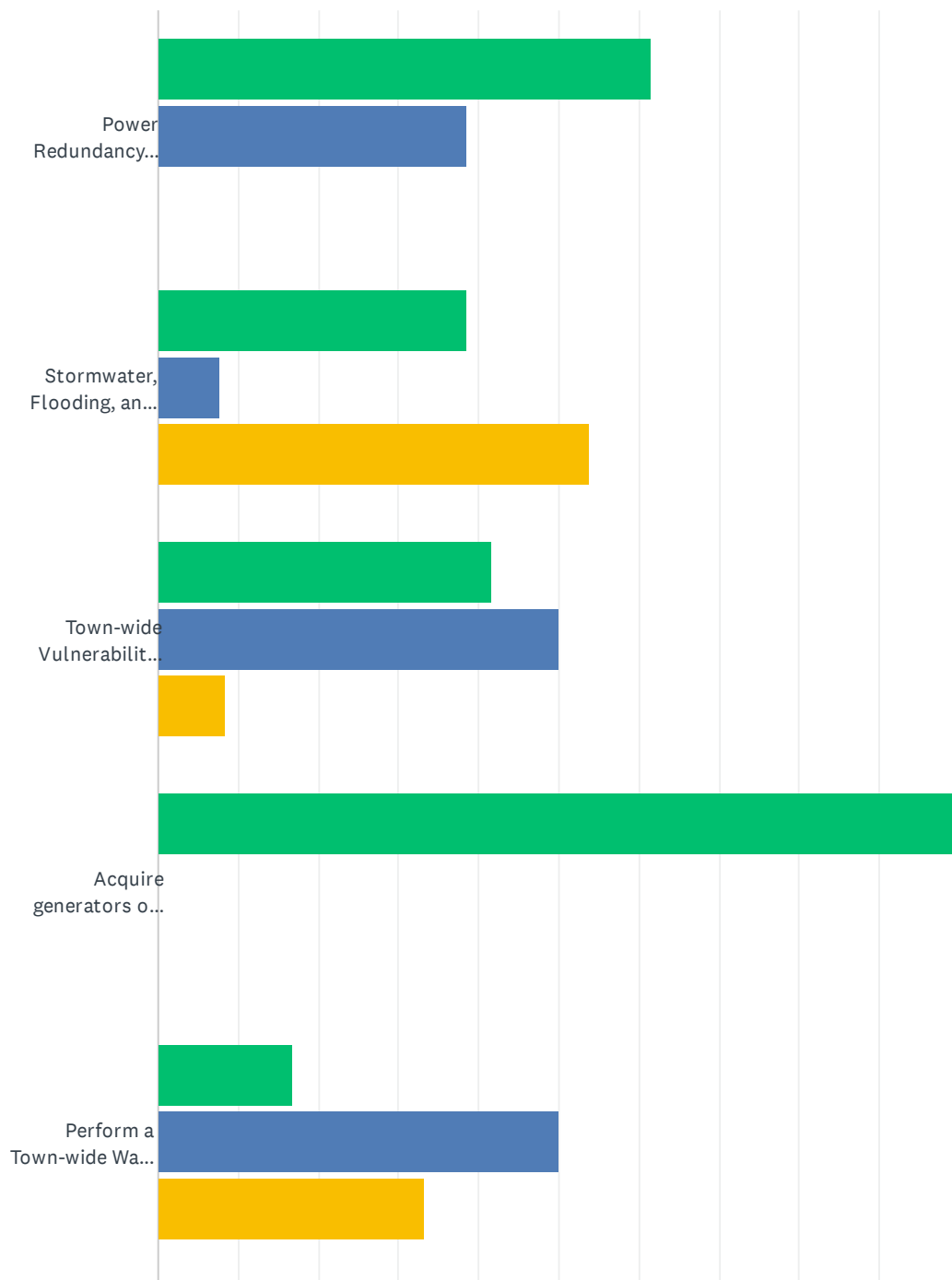
## Princeton Municipal Vulnerability Preparedness Program

zoning, land use, and tax base.

Improve communication town-wide. Encourage communication lines between different boards and committees, and update contact information on Town website as needed. Establish a contact list or phone tree for power outage notification. Transform the Police Department's "New Resident" form into a fillable PDF and encourage residents to fill it out to identify their needs.	28.57% 4	50.00% 7	21.43% 3	14
Tree Inventory Assessment to identify compromised trees in the street line and beyond. Establish a Tree Removal and Replacement Program that utilizes the planting of understory trees that are drought and pest resistant. Utilize downed trees or branches as fuel.	28.57% 4	42.86% 6	28.57% 4	14
Assess the need for additional natural resource protections and consider adopting the following: 1) Stormwater Management Bylaw; 2) Wetlands Protection Bylaw; and 3) Wildlife Corridor or Overlay District.	0.00% 0	42.86% 6	57.14% 8	14
Adopt a series of policies to address environmental and safety issues that will establish a standard for residents to follow such as: 1) A Landscape Manual and Policy for all Town-owned lands that emphasizes native, drought resistant plants and nature based solutions; 2) Integrated Pest Control Plan to aid in the identification and management of invasive pests and plants throughout Town; 3) Water Usage Policy to encourage water conservation during periods of drought; and 4) Winter Maintenance Road Plan to reduce sand and salt usage in vulnerable environmental areas. Utilize the assistance of DCR, MWRA, and other professionals to develop these environmentally friendly policies.	21.43% 3	50.00% 7	28.57% 4	14
Research sustainable solutions to limit beaver activity in areas of town that are vulnerable to flooding (beaver deceivers). Consult a DCR biologist for guidance with this.	7.14% 1	50.00% 7	42.86% 6	14
Develop Forest Access Plans and secure appropriate fire management equipment to aid in the clearing of access roads.	28.57% 4	50.00% 7	21.43% 3	14
Improve access and knowledge of recreation opportunities in Town by: 1) establishing a paid recreation position with the town; 2) adding more facilities and programs; 3) improving outreach and education; 4) seeking state grant funding; and 5) having CMRPC map trails.	0.00% 0	42.86% 6	57.14% 8	14
Establish partnership with DCR to coordinate forest management plan of Wachusett Mountain and develop best management practices within watershed for salt, sand, and pesticide usage. Install a zip line on Wachusett Mountain for recreation and to aid in rescue.	28.57% 4	28.57% 4	42.86% 6	14

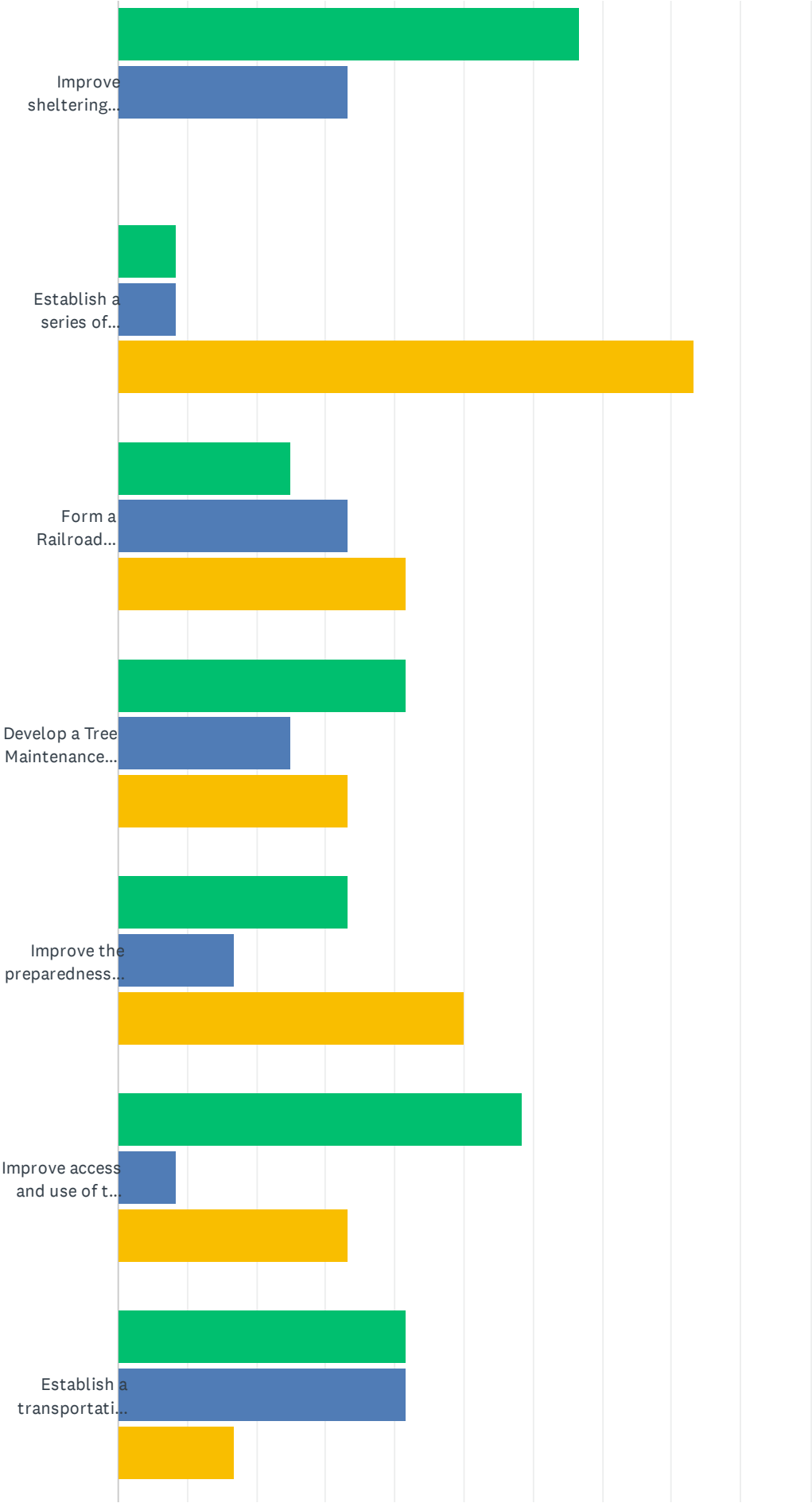
Q3 Please vote on whether the following actions are Short, Long, or Ongoing projects. Short term projects are straightforward and can be completed within two years. Long term projects take a longer time to complete, may require initial studies or public engagement strategies, and tend to be more complex. Ongoing projects are never truly completed. They require continuous action from year to year in order to maintain resilience.

Answered: 13 Skipped: 1

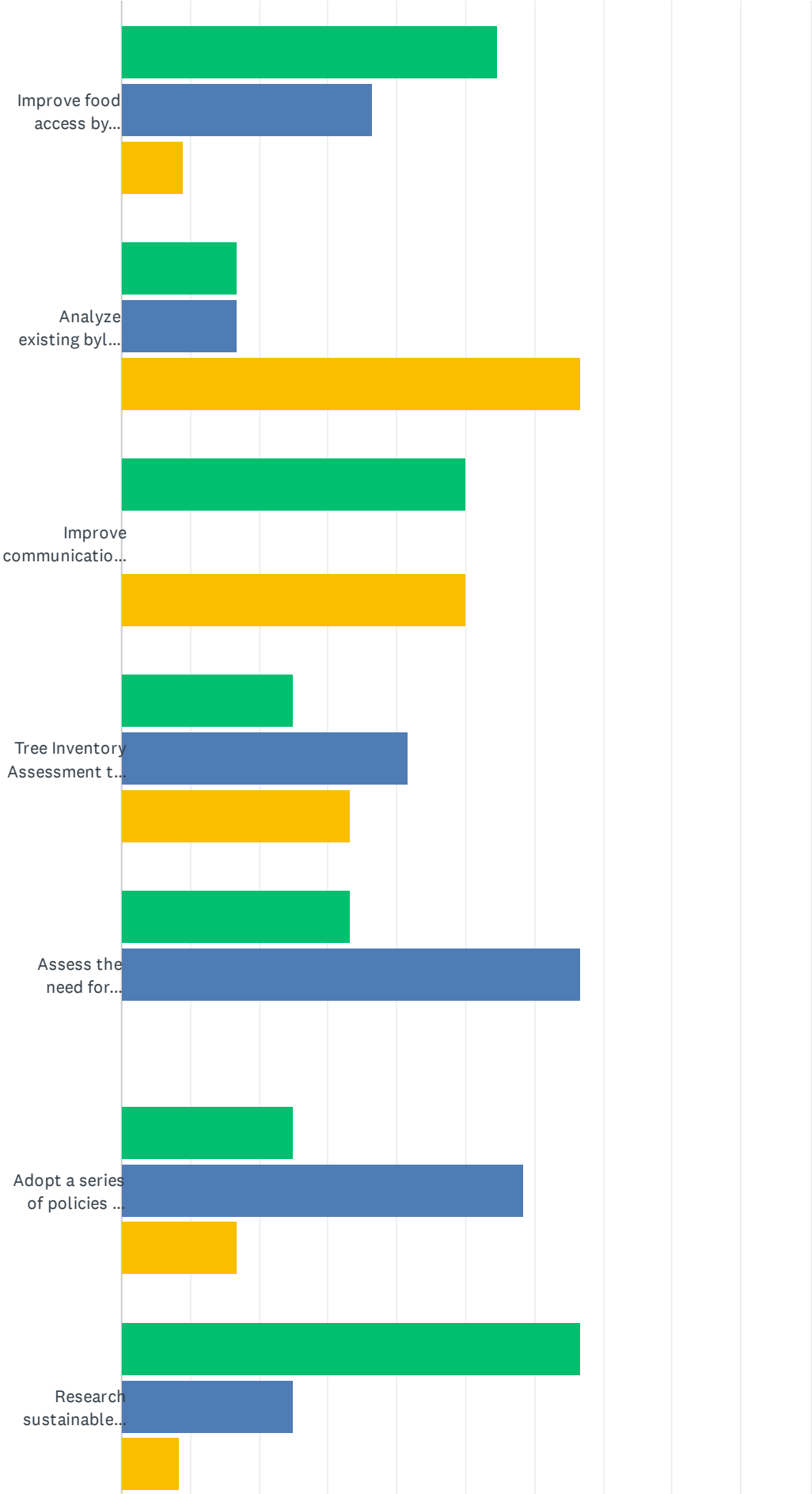




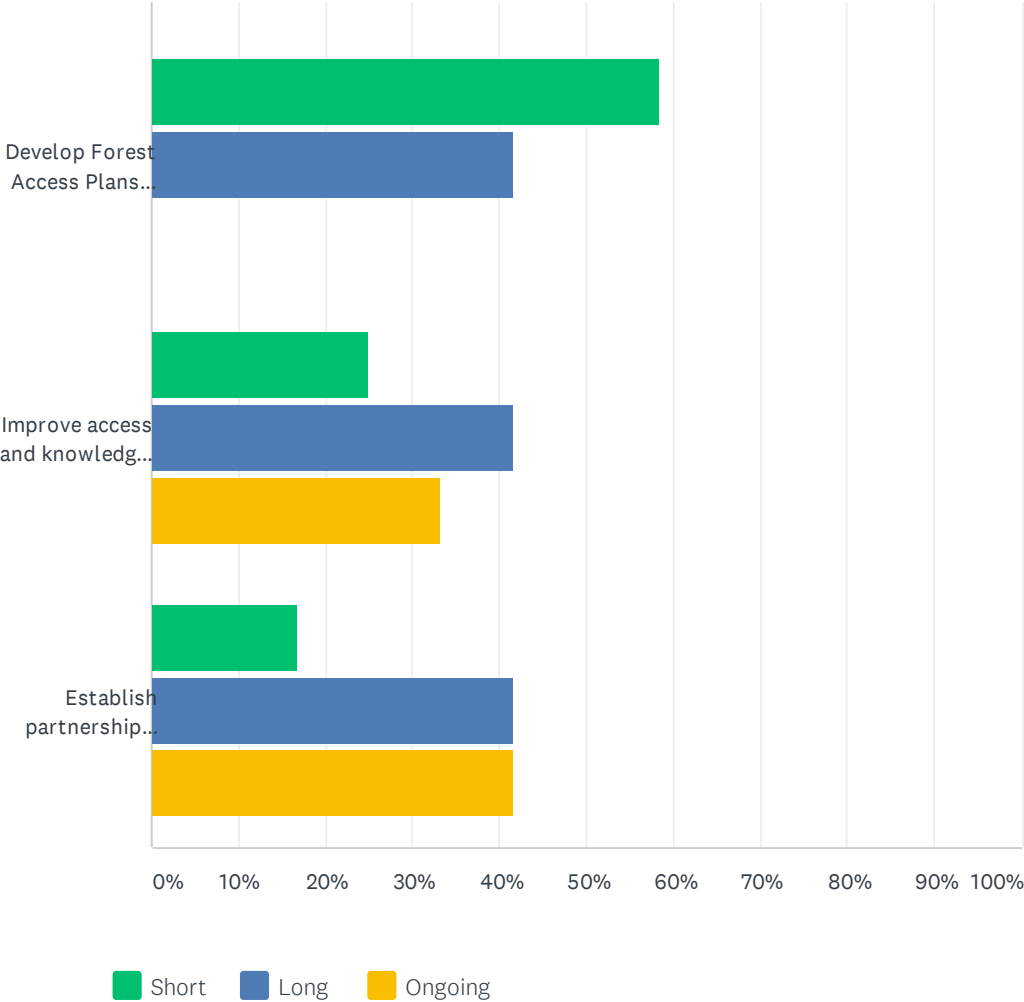
Princeton Municipal Vulnerability Preparedness Program



Princeton Municipal Vulnerability Preparedness Program



Princeton Municipal Vulnerability Preparedness Program





# Princeton Municipal Vulnerability Preparedness Program

	SHORT	LONG	ONGOING	TOTAL
Power Redundancy Feasibility Study to determine the possibility of constructing additional power lines or utilizing alternative energy sources.	61.54% 8	38.46% 5	0.00% 0	13
Stormwater, Flooding, and Drainage Assessment that addresses culverts, dams, and bridges. Map culverts, identify those that need to be replaced or upgraded, utilize environmentally friendly options, and adopt a maintenance policy. Evaluate dams and bridges to maintain safety, and contact private dam owners to ensure compliance.	38.46% 5	7.69% 1	53.85% 7	13
Town-wide Vulnerability Assessment to map and identify vulnerable areas and analyze potential impacts to undeveloped properties. Evaluate ice management and road safety. Locate and replace highest risk transformers.	41.67% 5	50.00% 6	8.33% 1	12
Acquire generators or alternative power supplies for buildings and infrastructure most vulnerable to power outages, such as at the senior housing facilities or the Wachusett House.	100.00% 12	0.00% 0	0.00% 0	12
Perform a Town-wide Water Assessment. Explore options for a backup source of clean drinking water, utilizing retention wells, tanks, and filtration strategies. Identify locations where runoff could be used to create parklike areas with water features and floodwater storage for firefighting. Map fire ponds and water supply features, and develop plans to improve existing retention ponds through an Adopt-A-Fire Pond program. Create a pressurized system using gravity to bring water from Echo Lake to other areas of town. And partner with schools and colleges nearby to develop pond management plans to improve water and habitat quality of ponds in Town.	16.67% 2	50.00% 6	33.33% 4	12
Improve sheltering options in town. Explore options for alternate shelter locations (Post Office Place, churches, Wachusett Mountain Lodge, the Mass Audubon Wachusett Meadow Wildlife Sanctuary, etc.). Develop an agreement with these alternative shelter locations to formalize arrangement. Identify potential pet shelter locations (NEADS) and perform an inventory analysis of pets and needs of residents in town.	66.67% 8	33.33% 4	0.00% 0	12
Establish a series of educational campaigns to improve public knowledge and awareness of the following topics: 1) Stormwater Management; 2) Rainwater Collection and Storage; 3) Well Maintenance and Upkeep; 4) Tick and Mosquito Risks; 5) Invasive Species Control; 6) Water Conservation and Contamination; 7) CodeRED; and 8) Drought and Wildfire Risks/Prevention. Utilize partnerships with schools and youth engagement to advance these education campaigns.	8.33% 1	8.33% 1	83.33% 10	12
Form a Railroad Coalition with other communities along the Providence-Worcester railroad line to encourage regular maintenance of brush and trees along the rail lines in order to prevent fire.	25.00% 3	33.33% 4	41.67% 5	12
Develop a Tree Maintenance Committee to coordinate the efforts of the Town and the Princeton Municipal Light Department (PMLD) in tree trimming and wire protection.	41.67% 5	25.00% 3	33.33% 4	12
Improve the preparedness of Princeton's senior residents through 1) coordinating with the Council on Aging to maintain a list of senior residents in town and their needs; 2) establishing an Adopt-A-Senior Program to encourage engagement with the senior community; 3) utilizing the Senior Center Newsletter and other community organizations as a network of information sharing for senior residents; and 4) coordinating with first responders and the Montachusett Regional Transit Authority to respond to and provide medical care to seniors with mobility issues.	33.33% 4	16.67% 2	50.00% 6	12
Improve access and use of the CodeRED system. Encourage residents to sign up by sending a pamphlet with information on how to sign up and use the system in town-wide mailings, such as the census. Expand language options and different levels of interactions that residents using the system can use.	58.33% 7	8.33% 1	33.33% 4	12
Establish a transportation plan for emergencies to move vulnerable populations (senior/disabled residents) to shelters via shuttle busses. Explore purchasing trolleys to provide additional transit options.	41.67% 5	41.67% 5	16.67% 2	12
Improve food access by identifying a location for a community garden and developing a strategy to share food/bring food to shelters during evacuation events.	54.55% 6	36.36% 4	9.09% 1	11
Analyze existing bylaws and plans, and update regularly. Develop a Housing Production Plan to address the needs for senior housing in town. Update the Master Plan focusing	16.67% 2	16.67% 2	66.67% 8	12

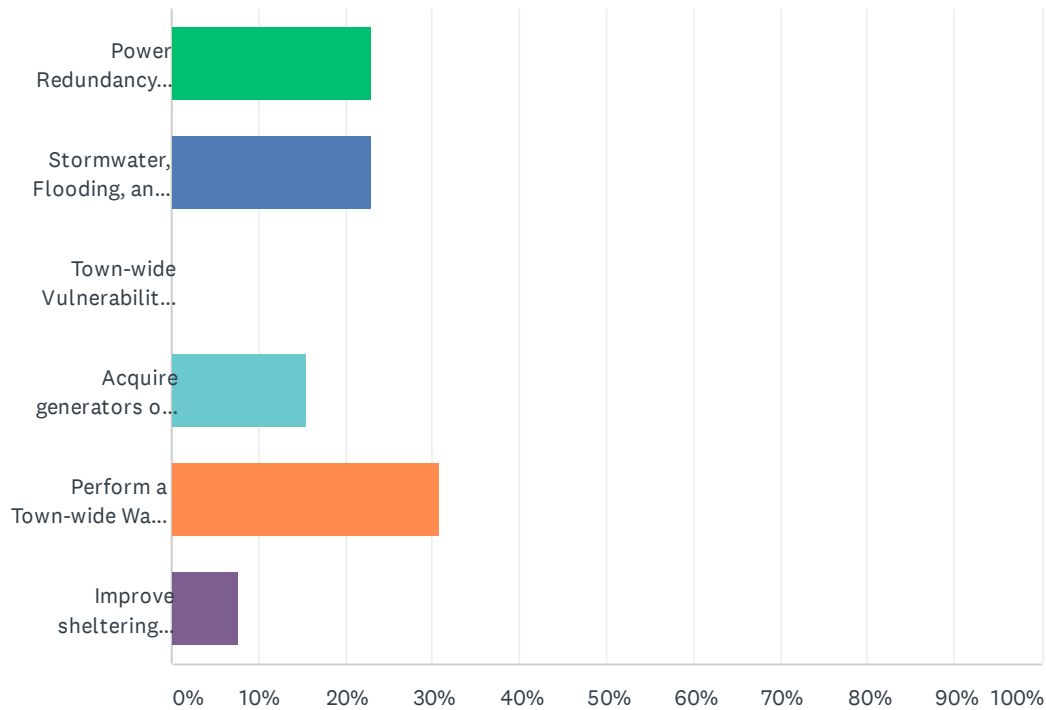
## Princeton Municipal Vulnerability Preparedness Program

on zoning, land use, and tax base.

Improve communication town-wide. Encourage communication lines between different boards and committees, and update contact information on Town website as needed. Establish a contact list or phone tree for power outage notification. Transform the Police Department's "New Resident" form into a fillable PDF and encourage residents to fill it out to identify their needs.	50.00% 6	0.00% 0	50.00% 6	12
Tree Inventory Assessment to identify compromised trees in the street line and beyond. Establish a Tree Removal and Replacement Program that utilizes the planting of understory trees that are drought and pest resistant. Utilize downed trees or branches as fuel.	25.00% 3	41.67% 5	33.33% 4	12
Assess the need for additional natural resource protections and consider adopting the following: 1) Stormwater Management Bylaw; 2) Wetlands Protection Bylaw; and 3) Wildlife Corridor or Overlay District.	33.33% 4	66.67% 8	0.00% 0	12
Adopt a series of policies to address environmental and safety issues that will establish a standard for residents to follow such as: 1) A Landscape Manual and Policy for all Town-owned lands that emphasizes native, drought resistant plants and nature based solutions; 2) Integrated Pest Control Plan to aid in the identification and management of invasive pests and plants throughout Town; 3) Water Usage Policy to encourage water conservation during periods of drought; and 4) Winter Maintenance Road Plan to reduce sand and salt usage in vulnerable environmental areas. Utilize the assistance of DCR, MWRA, and other professionals to develop these environmentally friendly policies.	25.00% 3	58.33% 7	16.67% 2	12
Research sustainable solutions to limit beaver activity in areas of town that are vulnerable to flooding (beaver deceivers). Consult a DCR biologist for guidance with this.	66.67% 8	25.00% 3	8.33% 1	12
Develop Forest Access Plans and secure appropriate fire management equipment to aid in the clearing of access roads.	58.33% 7	41.67% 5	0.00% 0	12
Improve access and knowledge of recreation opportunities in Town by: 1) establishing a paid recreation position with the town; 2) adding more facilities and programs; 3) improving outreach and education; 4) seeking state grant funding; and 5) having CMRPC map trails.	25.00% 3	41.67% 5	33.33% 4	12
Establish partnership with DCR to coordinate forest management plan of Wachusett Mountain and develop best management practices within watershed for salt, sand, and pesticide usage. Install a zip line on Wachusett Mountain for recreation and to aid in rescue.	16.67% 2	41.67% 5	41.67% 5	12

## Q4 Please vote for what you believe is the top priority INFRASTRUCTURAL action from the list below.

Answered: 13    Skipped: 1

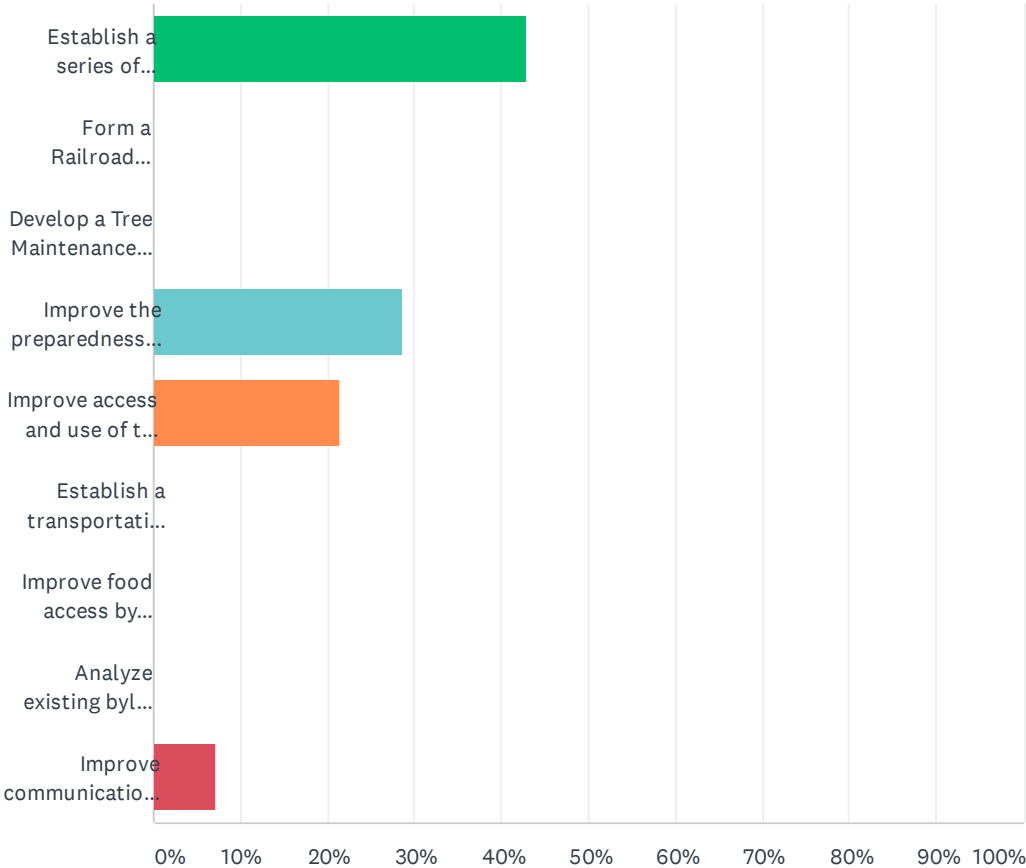


ANSWER CHOICES	RESPONSES	
Power Redundancy Feasibility Study to determine the possibility of constructing additional power lines or utilizing alternative energy sources.	23.08%	3
Stormwater, Flooding, and Drainage Assessment that addresses culverts, dams, and bridges. Map culverts, identify those that need to be replaced or upgraded, utilize environmentally friendly options, and adopt a maintenance policy. Evaluate dams and bridges to maintain safety, and contact private dam owners to ensure compliance.	23.08%	3
Town-wide Vulnerability Assessment to map and identify vulnerable areas and analyze potential impacts to undeveloped properties. Evaluate ice management and road safety. Locate and replace highest risk transformers.	0.00%	0
Acquire generators or alternative power supplies for buildings and infrastructure most vulnerable to power outages, such as at the senior housing facilities or the Wachusett House.	15.38%	2
Perform a Town-wide Water Assessment. Explore options for a backup source of clean drinking water, utilizing retention wells, tanks, and filtration strategies. Identify locations where runoff could be used to create parklike areas with water features and floodwater storage for firefighting. Map fire ponds and water supply features, and develop plans to improve existing retention ponds through an Adopt-A-Fire Pond program. Create a pressurized system using gravity to bring water from Echo Lake to other areas of town. And partner with schools and colleges nearby to develop pond management plans to improve water and habitat quality of ponds in Town.	30.77%	4
Improve sheltering options in town. Explore options for alternate shelter locations (Post Office Place, churches, Wachusett Mountain Lodge, the Mass Audubon Wachusett Meadow Wildlife Sanctuary, etc.). Develop an agreement with these alternative shelter locations to formalize arrangement. Identify potential pet shelter locations (NEADS) and perform an inventory analysis of pets and needs of residents in town.	7.69%	1
<b>TOTAL</b>		<b>13</b>



Q5 Please vote for what you believe is the top priority SOCIETAL action from the list below:

Answered: 14 Skipped: 0

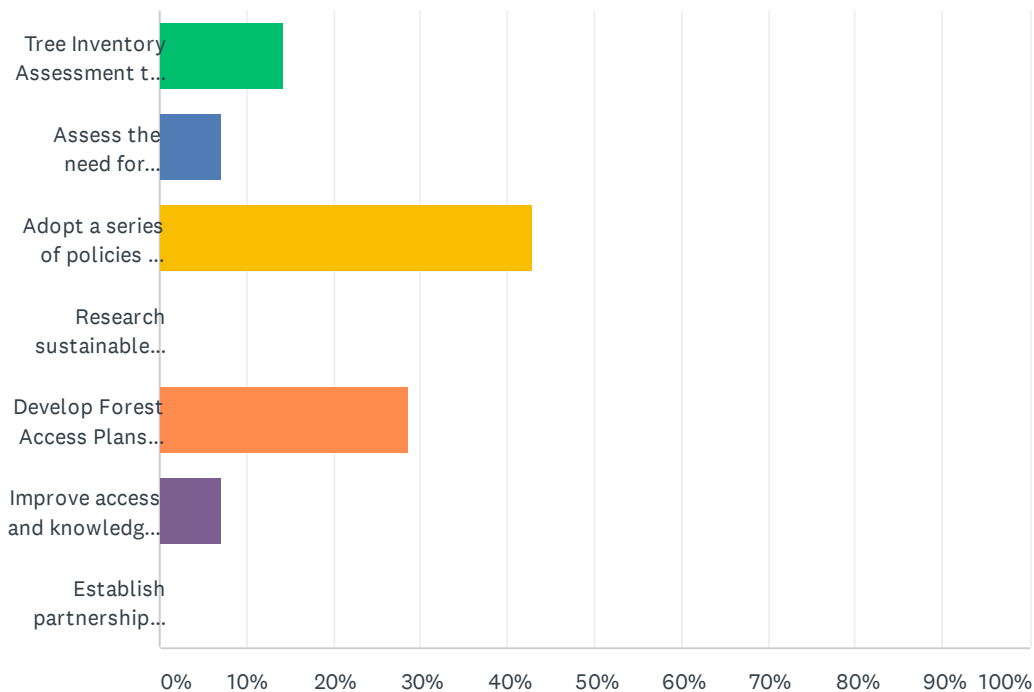


## Princeton Municipal Vulnerability Preparedness Program

ANSWER CHOICES	RESPONSES	
Establish a series of educational campaigns to improve public knowledge and awareness of the following topics: 1) Stormwater Management; 2) Rainwater Collection and Storage; 3) Well Maintenance and Upkeep; 4) Tick and Mosquito Risks; 5) Invasive Species Control; 6) Water Conservation and Contamination; 7) CodeRED; and 8) Drought and Wildfire Risks/Prevention. Utilize partnerships with schools and youth engagement to advance these education campaigns.	42.86%	6
Form a Railroad Coalition with other communities along the Providence-Worcester railroad line to encourage regular maintenance of brush and trees along the rail lines in order to prevent fire.	0.00%	0
Develop a Tree Maintenance Committee to coordinate the efforts of the Town and the Princeton Municipal Light Department (PMLD) in tree trimming and wire protection.	0.00%	0
Improve the preparedness of Princeton's senior residents through 1) coordinating with the Council on Aging to maintain a list of senior residents in town and their needs; 2) establishing an Adopt-A-Senior Program to encourage engagement with the senior community; 3) utilizing the Senior Center Newsletter and other community organizations as a network of information sharing for senior residents; and 4) coordinating with first responders and the Montachusett Regional Transit Authority to respond to and provide medical care to seniors with mobility issues.	28.57%	4
Improve access and use of the CodeRED system. Encourage residents to sign up by sending a pamphlet with information on how to sign up and use the system in town-wide mailings, such as the census. Expand language options and different levels of interactions that residents using the system can use.	21.43%	3
Establish a transportation plan for emergencies to move vulnerable populations (senior/disabled residents) to shelters via shuttle busses. Explore purchasing trolleys to provide additional transit options.	0.00%	0
Improve food access by identifying a location for a community garden and developing a strategy to share food/bring food to shelters during evacuation events.	0.00%	0
Analyze existing bylaws and plans, and update regularly. Develop a Housing Production Plan to address the needs for senior housing in town. Update the Master Plan focusing on zoning, land use, and tax base.	0.00%	0
Improve communication town-wide. Encourage communication lines between different boards and committees, and update contact information on Town website as needed. Establish a contact list or phone tree for power outage notification. Transform the Police Department's "New Resident" form into a fillable PDF and encourage residents to fill it out to identify their needs.	7.14%	1
<b>TOTAL</b>		<b>14</b>

## Q6 Please vote for what you believe is the top priority ENVIRONMENTAL action from the list below:

Answered: 14 Skipped: 0

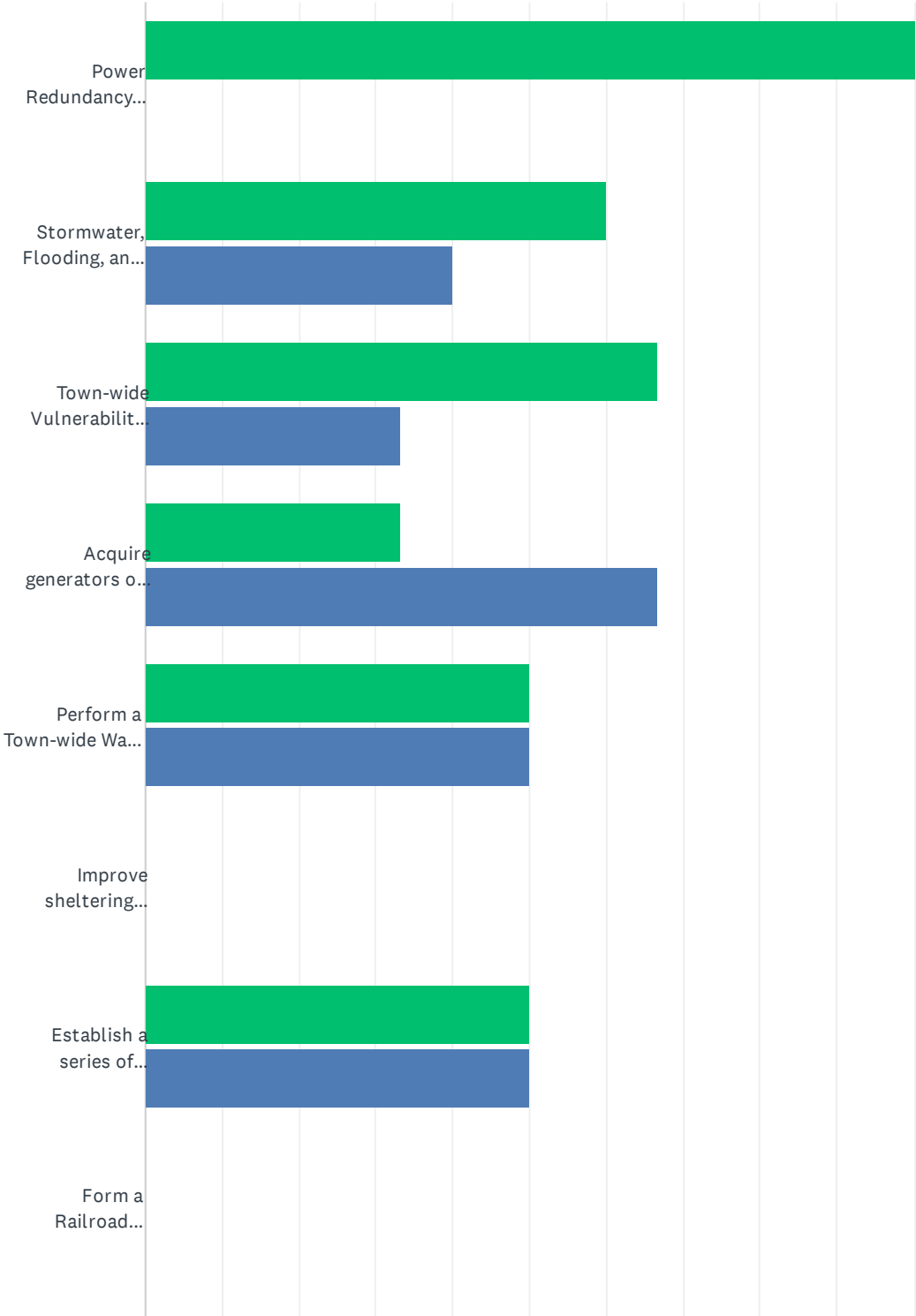


ANSWER CHOICES	RESPONSES	
Tree Inventory Assessment to identify compromised trees in the street line and beyond. Establish a Tree Removal and Replacement Program that utilizes the planting of understory trees that are drought and pest resistant. Utilize downed trees or branches as fuel.	14.29%	2
Assess the need for additional natural resource protections and consider adopting the following: 1) Stormwater Management Bylaw; 2) Wetlands Protection Bylaw; and 3) Wildlife Corridor or Overlay District.	7.14%	1
Adopt a series of policies to address environmental and safety issues that will establish a standard for residents to follow such as: 1) A Landscape Manual and Policy for all Town-owned lands that emphasizes native, drought resistant plants and nature based solutions; 2) Integrated Pest Control Plan to aid in the identification and management of invasive pests and plants throughout Town; 3) Water Usage Policy to encourage water conservation during periods of drought; and 4) Winter Maintenance Road Plan to reduce sand and salt usage in vulnerable environmental areas. Utilize the assistance of DCR, MWRA, and other professionals to develop these environmentally friendly policies.	42.86%	6
Research sustainable solutions to limit beaver activity in areas of town that are vulnerable to flooding (beaver deceivers). Consult a DCR biologist for guidance with this.	0.00%	0
Develop Forest Access Plans and secure appropriate fire management equipment to aid in the clearing of access roads.	28.57%	4
Improve access and knowledge of recreation opportunities in Town by: 1) establishing a paid recreation position with the town; 2) adding more facilities and programs; 3) improving outreach and education; 4) seeking state grant funding; and 5) having CMRPC map trails.	7.14%	1
Establish partnership with DCR to coordinate forest management plan of Wachusett Mountain and develop best management practices within watershed for salt, sand, and pesticide usage. Install a zip line on Wachusett Mountain for recreation and to aid in rescue.	0.00%	0
<b>TOTAL</b>		<b>14</b>



Q7 Please vote for TWO additional top priority actions that you believe Princeton should complete in order to build resilience. You may select actions from any category (Infrastructural, Societal, and Environmental), but do not select any actions that you already selected in the previous questions.

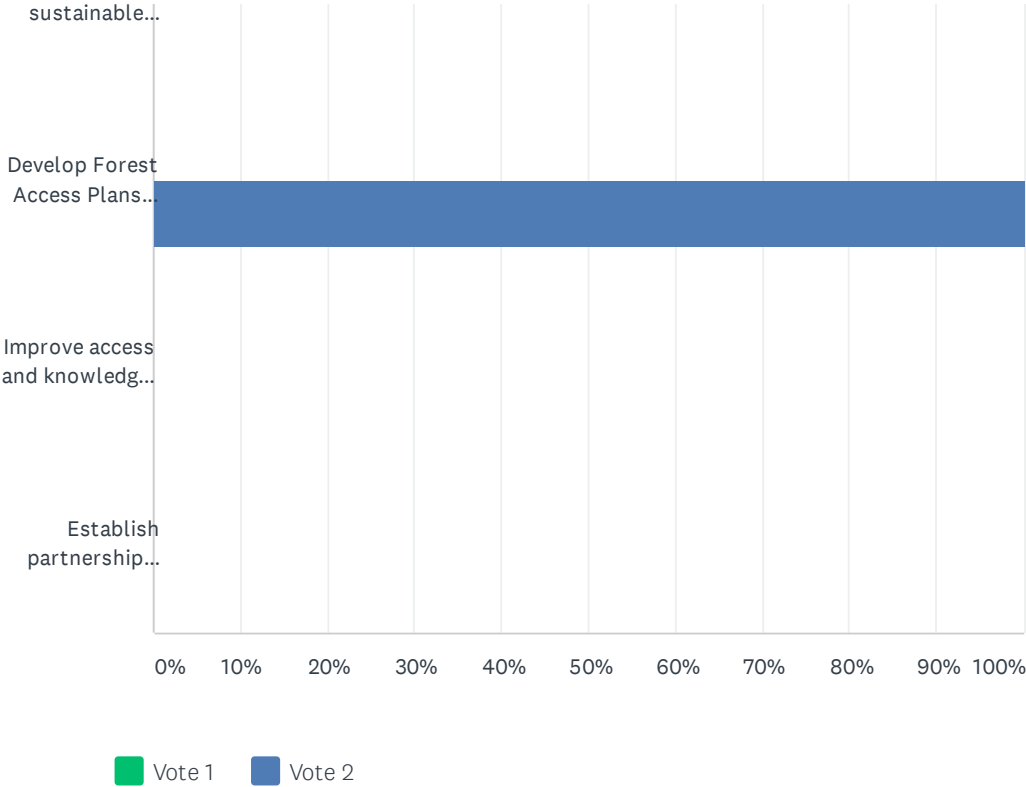
Answered: 14    Skipped: 0



Princeton Municipal Vulnerability Preparedness Program



Princeton Municipal Vulnerability Preparedness Program





## Princeton Municipal Vulnerability Preparedness Program

	VOTE 1	VOTE 2	TOTAL
Power Redundancy Feasibility Study to determine the possibility of constructing additional power lines or utilizing alternative energy sources.	100.00% 5	0.00% 0	5
Stormwater, Flooding, and Drainage Assessment that addresses culverts, dams, and bridges. Map culverts, identify those that need to be replaced or upgraded, utilize environmentally friendly options, and adopt a maintenance policy. Evaluate dams and bridges to maintain safety, and contact private dam owners to ensure compliance.	60.00% 3	40.00% 2	5
Town-wide Vulnerability Assessment to map and identify vulnerable areas and analyze potential impacts to undeveloped properties. Evaluate ice management and road safety. Locate and replace highest risk transformers.	66.67% 2	33.33% 1	3
Acquire generators or alternative power supplies for buildings and infrastructure most vulnerable to power outages, such as at the senior housing facilities or the Wachusett House.	33.33% 1	66.67% 2	3
Perform a Town-wide Water Assessment. Explore options for a backup source of clean drinking water, utilizing retention wells, tanks, and filtration strategies. Identify locations where runoff could be used to create parklike areas with water features and floodwater storage for firefighting. Map fire ponds and water supply features, and develop plans to improve existing retention ponds through an Adopt-A-Fire Pond program. Create a pressurized system using gravity to bring water from Echo Lake to other areas of town. And partner with schools and colleges nearby to develop pond management plans to improve water and habitat quality of ponds in Town.	50.00% 1	50.00% 1	2
Improve sheltering options in town. Explore options for alternate shelter locations (Post Office Place, churches, Wachusett Mountain Lodge, the Mass Audubon Wachusett Meadow Wildlife Sanctuary, etc.). Develop an agreement with these alternative shelter locations to formalize arrangement. Identify potential pet shelter locations (NEADS) and perform an inventory analysis of pets and needs of residents in town.	0.00% 0	0.00% 0	0
Establish a series of educational campaigns to improve public knowledge and awareness of the following topics: 1) Stormwater Management; 2) Rainwater Collection and Storage; 3) Well Maintenance and Upkeep; 4) Tick and Mosquito Risks; 5) Invasive Species Control; 6) Water Conservation and Contamination; 7) CodeRED; and 8) Drought and Wildfire Risks/Prevention. Utilize partnerships with schools and youth engagement to advance these education campaigns.	50.00% 1	50.00% 1	2
Form a Railroad Coalition with other communities along the Providence-Worcester railroad line to encourage regular maintenance of brush and trees along the rail lines in order to prevent fire.	0.00% 0	0.00% 0	0
Develop a Tree Maintenance Committee to coordinate the efforts of the Town and the Princeton Municipal Light Department (PMLD) in tree trimming and wire protection.	0.00% 0	100.00% 1	1
Improve the preparedness of Princeton's senior residents through 1) coordinating with the Council on Aging to maintain a list of senior residents in town and their needs; 2) establishing an Adopt-A-Senior Program to encourage engagement with the senior community; 3) utilizing the Senior Center Newsletter and other community organizations as a network of information sharing for senior residents; and 4) coordinating with first responders and the Montachusett Regional Transit Authority to respond to and provide medical care to seniors with mobility issues.	0.00% 0	100.00% 1	1
Improve access and use of the CodeRED system. Encourage residents to sign up by sending a pamphlet with information on how to sign up and use the system in town-wide mailings, such as the census. Expand language options and different levels of interactions that residents using the system can use.	100.00% 1	0.00% 0	1
Establish a transportation plan for emergencies to move vulnerable populations (senior/disabled residents) to shelters via shuttle busses. Explore purchasing trolleys to provide additional transit options.	0.00% 0	100.00% 1	1
Improve food access by identifying a location for a community garden and developing a strategy to share food/bring food to shelters during evacuation events.	0.00% 0	0.00% 0	0
Analyze existing bylaws and plans, and update regularly. Develop a Housing Production Plan to address the needs for senior housing in town. Update the Master Plan focusing on zoning, land use, and tax base.	0.00% 0	0.00% 0	0
Improve communication town-wide. Encourage communication lines between different boards and committees, and update contact information on Town website as needed. Establish a contact list or	0.00% 0	100.00% 1	1

## Princeton Municipal Vulnerability Preparedness Program

phone tree for power outage notification. Transform the Police Department's "New Resident" form into a fillable PDF and encourage residents to fill it out to identify their needs.

Tree Inventory Assessment to identify compromised trees in the street line and beyond. Establish a Tree Removal and Replacement Program that utilizes the planting of understory trees that are drought and pest resistant. Utilize downed trees or branches as fuel.	0.00% 0	0.00% 0	0
Assess the need for additional natural resource protections and consider adopting the following: 1) Stormwater Management Bylaw; 2) Wetlands Protection Bylaw; and 3) Wildlife Corridor or Overlay District.	0.00% 0	0.00% 0	0
Adopt a series of policies to address environmental and safety issues that will establish a standard for residents to follow such as: 1) A Landscape Manual and Policy for all Town-owned lands that emphasizes native, drought resistant plants and nature based solutions; 2) Integrated Pest Control Plan to aid in the identification and management of invasive pests and plants throughout Town; 3) Water Usage Policy to encourage water conservation during periods of drought; and 4) Winter Maintenance Road Plan to reduce sand and salt usage in vulnerable environmental areas. Utilize the assistance of DCR, MWRA, and other professionals to develop these environmentally friendly policies.	0.00% 0	0.00% 0	0
Research sustainable solutions to limit beaver activity in areas of town that are vulnerable to flooding (beaver deceivers). Consult a DCR biologist for guidance with this.	0.00% 0	0.00% 0	0
Develop Forest Access Plans and secure appropriate fire management equipment to aid in the clearing of access roads.	0.00% 0	100.00% 3	3
Improve access and knowledge of recreation opportunities in Town by: 1) establishing a paid recreation position with the town; 2) adding more facilities and programs; 3) improving outreach and education; 4) seeking state grant funding; and 5) having CMRPC map trails.	0.00% 0	0.00% 0	0
Establish partnership with DCR to coordinate forest management plan of Wachusett Mountain and develop best management practices within watershed for salt, sand, and pesticide usage. Install a zip line on Wachusett Mountain for recreation and to aid in rescue.	0.00% 0	0.00% 0	0

## Q8 Please describe any other actions that were not listed in this survey that the town should take to improve resilience.

Answered: 5   Skipped: 9

#	RESPONSES	DATE
1	MY sense is thta top two items are: 1) Find a way to communicate with All Residents when needed. Contact EVERYONE to get them on the list! CODE RED may or may notbe the best way to do this! 2) Prepare for drought with focus on water conservation/.education and alternatives and work on making fires easier to fight.	11/18/2020 4:46 PM
2	I think they did an excellent job focusing on the vulnerability and needs of the town.	11/18/2020 10:30 AM
3	nothing additional to list, great workshop and exciting times for Princeton in taking on this process	11/18/2020 10:27 AM
4	Explore options and/or developing a plan for taking care of animals on agricultural sites and farms in the event of long term power outage where water might not be available, flooding of fields, roads blocked and cannot get food, etc. (shelter, one farm as an emergency placement, volunteers)	11/18/2020 8:29 AM
5	Encourage solar systems on individual homes such that they can be a source of emergency power for the town.	11/17/2020 7:37 PM



# **TOWN OF PRINCETON**

**Municipal Vulnerability Preparedness (MVP)**

**Community Resilience Building**

**Virtual Workshop**

**October 22nd, 29th and November 5th**

**Day I October 22nd**



## Thank You for Your Participation in Princeton's Municipal Vulnerability Preparedness (MVP) Program!



The Town of Princeton is collaborating with EOEEA and CMRPC to offer a three-day virtual workshop on October 22<sup>nd</sup>, 29<sup>th</sup> and November 5<sup>th</sup> from 1PM - 3PM which will bring together community members to comprehensively identify and prioritize steps to reduce risk and improve resilience across Princeton. Follow the instructions below in order to help make your community more climate resilient! If you have any questions about the program, please contact Sherry Patch, Town Administrator, [townadministrator@town.princeton.ma.us](mailto:townadministrator@town.princeton.ma.us). We look forward to seeing you virtually at our workshop!

### Step 1. Discover Princeton's MVP Dropbox

The resources included in this invitation will help you learn more about the MVP program and prepare you for the upcoming workshop. All of these resources and more can be found in the following Dropbox link. If possible, you will want to have this Dropbox link open during the workshop so that you can easily access this information.

[Workshop Dropbox](#)

### Step 2. Review the Program Overview and Workshop Guide

The following two documents will give you an overview of the MVP program and will describe a typical Community Resiliency Building (CRB) workshop.

[MVP Program Overview](#)

[CRB Workbook](#)

### Step 3. Watch the MVP Presentations Prior to Workshop

The following link contains pre-recorded presentations that will help you be better prepared for the MVP workshop. The presentations include an overview of the program and the MVP process, climate projections and hazards that Princeton may face in the future. Please take some time to review each presentation before October 22nd

[MVP Program Overview](#)

[Climate Projections](#)

[Natural Hazards](#)

[Completing the Matrix](#)

### Step 4. Familiarize Yourself with the Matrix and Mapping Tools

During the virtual workshop, we will divide up into breakout groups to discuss strengths, vulnerabilities, and possible actions that the town can take. During this process, we will be filling out a matrix and marking up an online map with our ideas. The following three documents will show you an example of a completed matrix, will guide you through using the online mapping tool, and will give you a set of pre-made maps that already display various features, hazards, and resources in Princeton.

[Complete Matrix Example:](#)

[Online Mapping Tool](#)

[Reference Maps:](#)

### Step 5. Attend the Workshop!

The 3-day workshop will be held on October 22<sup>nd</sup>, 29<sup>th</sup> and November 5<sup>th</sup> from 1PM - 3PM. The agenda for each day as well as the Zoom meeting links are listed below. Please review the agenda for each day and use the meeting links to join the Zoom.

October 22, 2020	<a href="#">Agenda Day 1:</a>	<a href="#">Zoom Link Day 1:</a>
October 29, 2020	<a href="#">Agenda Day 2:</a>	<a href="#">Zoom Link Day 2:</a>
November 5, 2020	<a href="#">Agenda Day 3:</a>	<a href="#">Zoom Link Day 3:</a>

### Learn How to Zoom

New to Zoom? The following document contains a series of instructional videos to help guide you through Zoom from downloading the app to joining a meeting for the first time.

[Click here](#)





# Community Resiliency Building Workshop



Town of Princeton  
*Municipal Vulnerability Preparedness*  
Day 1- Thursday, October 22, 2020  
1 pm – 3 pm; Check-in at 12:45 am

**Meeting Link (Click to Join):**

<https://us02web.zoom.us/j/83709119070?pwd=Wks5dVRUaEIGN29xNWtNa3hGVTVmUT09>

**Meeting ID:** 837 0911 9070 **Passcode:** 905316

**Call in Number (if unable to join online):** 1-301-715-8592

**Workshop Materials:**

[https://www.dropbox.com/sh/ca781kktibadu9/AAB\\_JQiu5Qz40vYtYerQr7qa?dl=0](https://www.dropbox.com/sh/ca781kktibadu9/AAB_JQiu5Qz40vYtYerQr7qa?dl=0)

## Workshop Agenda

**12:45 am – 1 pm:**

- Login & Familiarize with Zoom

**1 pm – 1:30 pm:**

- Welcome & Overview
- Questions & Answers

**1 pm – 2:40 pm:**

- Breakout Groups
  - Identify Hazards & Local Features
  - Discuss Strengths & Vulnerabilities

**2:40 pm – 3 pm:**

- Reconvene as Large Group
- Quick Table Summary
- Closing Remarks & Wrap Up

## Day 1: Workshop Objectives

- Define extreme weather and climate related hazards;
- Identify current and future vulnerabilities and strengths;
- Edit online map with important hazards and features

## Homework

- Review Features, vulnerabilities, and strengths in matrix
- Brainstorm actions to address vulnerabilities

Thank you for participating in Princeton's Virtual Community Resilience Building Workshop!





# MUNICIPAL VULNERABILITY PREPAREDNESS (MVP)

- State grant program to support cities and towns to begin the process of planning for climate resiliency.
- MVP Planning Process includes CRB Workshop, Report, Listening Session and Annual Reporting
- Communities who complete the MVP Planning Process become certified as an MVP Community
- Designated communities become eligible for MVP Action Grant funding

**1. Engage  
Community**

**2. Identify CC  
Impacts &  
Hazards**

**3. Complete  
Assessment of  
Vulnerabilities  
& Strengths**

**4. Develop &  
Prioritize  
Actions**

**5. Take Action**

# CLIMATE RESILIENCE

- is defined as the ability of a community to address the needs of its built, social, and natural environment in order to anticipate, cope with, and rebound stronger from events and trends related to climate change hazards, including temperature changes, extreme weather, sea level rise, coastal and inland flooding, changes in precipitation, and other impacts.

# THE MATRIX

Community Resilience Building Risk Matrix				www.CommunityResilienceBuilding.com					
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.)				Priority	Time
Features	Location	Ownership	V or S					H, M, L	Short Long Ongoing
<b>Infrastructural</b>									
<b>Societal</b>									
<b>Environmental</b>									



## TABLE ROLES AND RESPONSIBILITIES

- Participants- All of you
- Table Facilitator
- Scribes filling in matrix
- CMRPC resource person
- Table spokesperson for Report Out (Day 3)

## BREAK OUT GROUP: FIRST MEETING

- Step 1- Fill in top 4 Natural Hazards
  - *Drought/ Wind Events/ Flooding/Winter Storms*
- Step 2- Identify key features
  - Infrastructure- Dams
  - Societal- Senior Housing
  - Environmental- Wetlands
- Where is the Feature Located
- Identify ownership (Public, Private...)
- Identify vulnerability, strength or both

# STEP ONE: HAZARD IDENTIFICATION



- **Flooding**
  - Riverine
  - Street



- **Landslides**
- **Mudslides**



- **Tornadoes**



- **Drought**
- **Dust Storms**



- **Tsunami**



- **Hurricanes/  
Nor'easters**



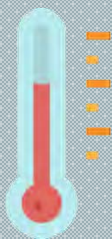
- **Wild Fires**



- **Winter Storms**
  - **Snow**
  - **Ice**



- **Earthquakes**




- **Extreme Temperatures**
  - **Heat**
  - **Cold**

Icons made by freepik, goodware, smashicons, those icons, icongeek26 and iconicar from Flaticon.com



# STEP TWO: WHAT, WHERE, WHO AND VULNERABILITIES

**Community Resilience Building Risk Matrix**  [www.CommunityResilienceBuilding.com](http://www.CommunityResilienceBuilding.com)

**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	Top 4 Hazards	H-M-L	Priority	Time	
							Short	Long
<b>Infrastructural</b>								
<b>Societal</b>								
<b>Environmental</b>								

## PRIMARY TOPIC AREAS



- Infrastructure




- Society



- Environment

# STEP TWO: WHAT, WHERE, WHO AND VULNERABILITIES



Community Resilience Building Risk Matrix

www.CommunityResilienceBuilding.com


H-M-L priority for action over the Short or Long term (and Ongoing)  
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Features	Location	Ownership	V or S	Top 4 Hazards				Priority	Time
								H-M-L	Short Long Ongoing
Infrastructural									
Dam									
Societal									
Environmental									



# STEP TWO: WHAT, WHERE, WHO AND VULNERABILITIES

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								H-M-L	Short Long Ongoing
<b>Infrastructural</b>									
Dam									
<b>Societal</b>									
Senior Housing									
<b>Environmental</b>									



# STEP TWO: WHAT, WHERE, WHO AND VULNERABILITIES

Community Resilience Building Risk Matrix  [www.CommunityResilienceBuilding.com](http://www.CommunityResilienceBuilding.com)


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	Top 4 Hazards				Priority	Time
								H-M-L	Short Long Ongoing
<b>Infrastructural</b>									
Dam									
<b>Societal</b>									
Senior Housing									
<b>Environmental</b>									
Wetlands									



# STEP TWO: WHAT, WHERE, WHO AND VULNERABILITIES

Community Resilience Building Risk Matrix  www.CommunityResilienceBuilding.com

H-M-L priority for action over the Short or Long term (e.g.)  
 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	Top 4 Hazards				Priority	Time
								H-M-L	Short Long Duration
<b>Infrastructural</b>									
Dam									
<b>Societal</b>									
Senior Housing									
<b>Environmental</b>									
Wetlands									

Estimated Location



# STEP TWO: WHAT, WHERE, WHO AND VULNERABILITIES

**Community Resilience Building Risk Matrix**  [www.CommunityResilienceBuilding.com](http://www.CommunityResilienceBuilding.com)

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	Top 4 Hazards				Priority	Time
								H-M-L	Short Long Ongoing
<b>Infrastructural</b>									
Dam									
<b>Societal</b>									
Senior Housing									
<b>Environmental</b>									
Wetlands									

**Public? Private? State?**

**Estimated Location**

# STEP TWO: WHAT, WHERE, WHO AND VULNERABILITIES

**Community Resilience Building Risk Matrix** [www.CommunityResilienceBuilding.com](http://www.CommunityResilienceBuilding.com)

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

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

Features	Location	Ownership	V or S	Top 4 Hazards	Priority	Time
					H-M-L	Short Long Ongoing
<b>Infrastructural</b>						
Dam						
<b>Societal</b>						
Senior Housing						
<b>Environmental</b>						
Wetlands						

**Vulnerability or Strength**

**Public? Private? State?**

**Estimated Location**

# QUESTIONS

[ppeloquin@cmrpc.org](mailto:ppeloquin@cmrpc.org)



# TIME TO GET TO WORK

# NEXT STEPS



# Community Resiliency Building Workshop



Town of Princeton  
Municipal Vulnerability Preparedness  
Day 2- Thursday, October 14, 2020  
1 pm – 3 pm; Check-in at 12:45 am

**Meeting Link (Click to Join):**

<https://us02web.zoom.us/j/85686218981?pwd=VzRGQTRBZUJONzVFSzE5NjU5TnRqUT09>

**Meeting ID:** 856 8621 8981 **Passcode:** 277095

**Call in Number (if unable to join online):** 1-646-558-8656

**Workshop Materials:**

[https://www.dropbox.com/sh/ca781kksibadu9/AAB\\_JQjuj5Qz40yYtOr7qa?dl=0](https://www.dropbox.com/sh/ca781kksibadu9/AAB_JQjuj5Qz40yYtOr7qa?dl=0)

## Workshop Agenda

**12:45 am – 1 pm:**

- Login & Familiarize with Zoom

**1 pm – 1:30 pm:**

- Welcome & Recap from Day 1
- Questions & Answers

**1 pm – 2:40 pm:**

- Breakout Groups
  - Identify Actions to Reduce Risks and Build Resilience
  - Prioritize Actions by Urgency and Timing

**2:40 pm – 3 pm pm**

- Reconvene as Large Group
- Table Reports
- Closing Remarks & Wrap Up

## Day 2: Workshop Objectives

- Review vulnerabilities and strengths identified on Day 1
- Develop and prioritize actions;
- Identify opportunities for the Town to advance actions and reduce risks to build resilience

## Homework

- Review actions to reduce risks and build resilience
- Brainstorm additional actions to address vulnerabilities
- Attend Day 3 Workshop

Thank you for participating in Princeton's Virtual Community Resilience Building Workshop!





# QUESTIONS

[ppeloquin@cmrpc.org](mailto:ppeloquin@cmrpc.org)

# **TOWN OF PRINCETON**

**Municipal Vulnerability Preparedness (MVP)**

**Community Resilience Building**

**Virtual Workshop**

**October 22nd, 29th and November 5th**

**Day Two October 29th**





# Community Resiliency Building Workshop



**Town of Princeton**  
**Municipal Vulnerability Preparedness**  
**Day 2- Thursday, October 14, 2020**  
1 pm – 3 pm; Check-in at 12:45 am

**Meeting Link (Click to Join):**

<https://us02web.zoom.us/j/85686218981?pwd=VzRGQTRZUTQ9VEFSEkRbUj5TbnRqUT09>

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Thank you for participating in Princeton's Virtual Community Resilience Building Workshop!

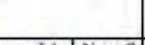




# THE MATRIX

[illegible]

## STEP THREE: ACTIONS, PRIORITY AND TIMELINE

**Community Resilience Building Risk Matrix**  [www.CommunityResilienceBuilding.com](http://www.CommunityResilienceBuilding.com)

**Top Priority Hazards** (tornado, flood, wildfire, hurricane, earthquake, drought, sea level rise, heat wave, etc.)

**Priority** **Time**

**H M L** **Short Long Ongoing**

**Features** **Location** **Ownership** **V or S**

**Infrastructure**

**Societal**

**Env**

**Completed**

**Nature Based Solutions**

# NATURE BASED SOLUTIONS

- Make use of natural systems
- Mimic the natural processes
- Actions to protect, sustainably manage and restore ecosystems
- Simultaneously providing well-being and biodiversity

International Union for Conservation of Nature (IUCN)

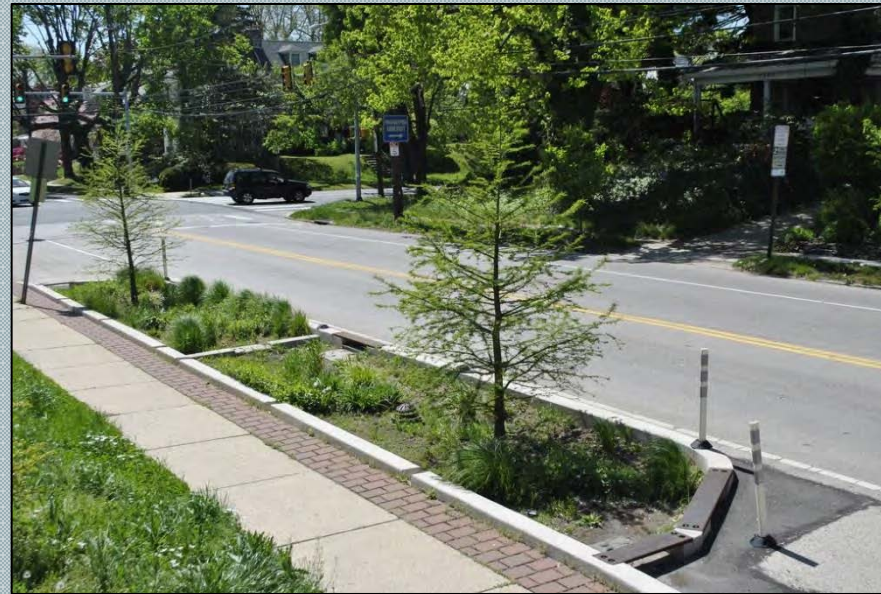


# NATURE BASED SOLUTIONS (LID)

- Natural systems mimic natural processes to absorb and slow runoff and stormwater, and also reduce heat islands.
- Low impact development (LID) designs can be integrated into new development at neighborhood scales and work with traditional approaches



**Bioswale between sidewalk and street**



**Contained bioswale or planter box**

# MORE EXAMPLES OF LOW IMPACT DEVELOPMENT AND GREEN INFRASTRUCTURE



**Green Parking Lots**



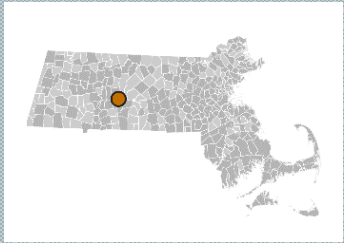
**Permeable Paving**



# Example Action Grant Projects

Nature-Based Flood Protection, Drought Mitigation, Water Quality, and Water Infiltration Techniques

## Belchertown



Designing and permitting for a replacement water storage tank that would increase storage capacity and resiliency to drought, and completing a feasibility/ concept design of a rainwater harvesting system at Belchertown High School to irrigate the athletic fields.



Nature-based solutions

Pilot potential



# INFRASTRUCTURE PROJECTS

**Traditional Culvert**



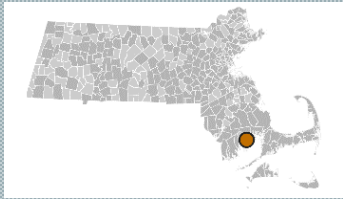
**Nature Based Culvert**



# Example Action Grant Projects

## Land Acquisition for Resilience

### Mattapoisett



Purchasing 120 acres of forest, streams, freshwater wetlands and coastal salt marsh as conservation land to prevent development in vulnerable areas



Data Utilization

Proactive



# BENEFITS OF GREEN INFRASTRUCTURE AND LID

- Cost Savings
  - Reduced development costs for infrastructure and maintenance
  - Reduced energy costs for residents
- Public Safety
  - Reduced flooding
  - Improved water quality
  - Increased climate change resiliency
  - Reduced urban heat island effect
- Quality of Life
  - Protect and restore natural features for improved aesthetics
- Value
  - Increased property values
- Regulatory
  - Assistance in meeting regulatory requirements





# STEP THREE: ACTIONS, PRIORITY AND TIMELINE

Community Resilience Building Risk Matrix  [www.communityresiliencebuilding.com](http://www.communityresiliencebuilding.com)

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

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

Features	Location	Ownership	V or S	Top 4 Hazards	H M L	Priority	Time
							Short Long Ongoing
Infrastructure							
Societal							
Environmental							

**Completed**

## STEP THREE: ACTIONS, PRIORITY AND TIMELINE

Community Resilience Building Risk Matrix

www.communityresiliencebuilding.com

Priority Hazards (tsunami, floods, wildfire, hurricanes, earthquake, drought, sea level rise, etc.)

Time

Top 4 Hazards

Completed

Features

Location

Ownership

V or S

Infrastructure

Societal

Environmental

Short Long Ongoing

## STEP THREE: ACTIONS, PRIORITY AND TIMELINE

Community Resilience Building Risk Matrix [www.communityresiliencebuilding.com](http://www.communityresiliencebuilding.com)

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

Priority Hazards (tsunami, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat waves)

Priority

Features Location Ownership V or S

Infrastructural

Societal

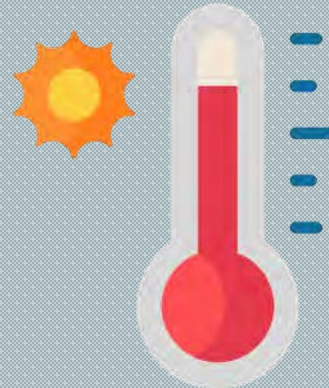
Environmental

Completed

Top 4 Hazards



# QUESTIONS



# TIME TO GET TO WORK

# **TOWN OF PRINCETON**

**Municipal Vulnerability Preparedness (MVP)**

**Community Resilience Building**

**Virtual Workshop**

**October 11nd, 28<sup>th</sup> and November 5, 2020**

**Day Three November 5th**





# Community Resiliency Building Workshop



Town of Princeton  
*Municipal Vulnerability Preparedness*  
Day 3- Thursday, November 5, 2020  
1 pm – 3 pm; Check-in at 12:45 am

**Meeting Link (Click to Join):**

<https://us02web.zoom.us/j/87547268213?pwd=TEVvb3hvWnNVVD0xNa0UraW50NU4zd09>

**Meeting ID:** 875 4726 8213 **Passcode:** 190513

**Call in Number (if unable to join online):** 1-646-558-8656

**Workshop Materials:**

[https://www.dropbox.com/sh/ca781kktsibadu9/AAB\\_JQjuj5Qz40vYiYgtOr7qa?dl=0](https://www.dropbox.com/sh/ca781kktsibadu9/AAB_JQjuj5Qz40vYiYgtOr7qa?dl=0)

## Workshop Agenda

**12:45 am – 1 pm:**

- Login & Familiarize with Zoom

**1 pm – 1:30 pm:**

- Welcome & Recap from Day 1 & 2
- Questions & Answers

**1 pm – 2:40 pm:**

- Breakout Groups
  - Identify Additional Strengths & Vulnerabilities
  - Identify Additional Actions to Reduce Risks and Build Resilience

**2:40 pm – 3 pm:**

- Reconvene as Large Group
- Table Remarks
- Closing Remarks & Wrap Up

## Day 3: Workshop Objectives

- Review vulnerabilities and strengths identified on Day 1
- Review potential actions identified on Day 2
- Develop and prioritize additional opportunities for the Town to reduce risks

## Homework

- Review actions to reduce risks and build resilience
- Vote for top priority actions via survey (link to be emailed)
- Attend Listening Session (Date TBD)

Thank you for participating in Princeton's Virtual Community Resilience Building Workshop!



# REPORT OUTS

**What did your table  
find?**

# SUMMARY DISCUSSION

- Areas of agreement
- Areas of unique perspectives



# TIME TO VOTE

- A survey will be created after the three meetings are completed
- You will be able to vote for your top five projects

# NEXT STEPS

- Vote in survey
- Report development
- Public “Listening” session with Members of the Public and Board of Selectmen Date TBD
- Develop resources and Implement actions through Action Grants

**I. Engage  
Community**

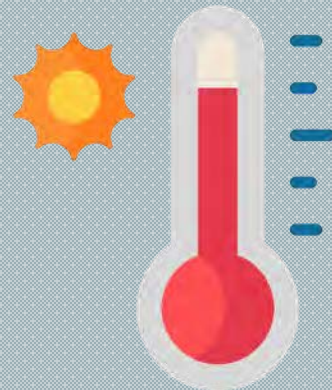
**2. Identify CC  
Impacts &  
Hazards**

**3. Complete  
Assessment of  
Vulnerabilities  
& Strengths**

**4. Develop &  
Prioritize  
Actions**

**5. Take Action**

# QUESTIONS





# CONTACT US

- Princeton Core Team Leader –
  - Sherry Patch, [townadministrator@town.princeton.ma.us](mailto:townadministrator@town.princeton.ma.us)
- CMRPC Project Leaders –
  - Peter Peloquin, [ppeloquin@cmrpc.org](mailto:ppeloquin@cmrpc.org)
  - Sarah Adams, [sadams@cmrpc.org](mailto:sadams@cmrpc.org)
- Executive Office of Energy and Environmental Affairs –
  - Hillary King, [hillary.king@state.ma.us](mailto:hillary.king@state.ma.us)

**THANK  
YOU**

# CLIMATE PROJECTIONS AND IMPACTS

**1. Engage  
Community**

**2. Identify CC  
Impacts &  
Hazards**

**3. Complete  
Assessment of  
Vulnerabilities  
& Strengths**

**4. Develop &  
Prioritize  
Actions**

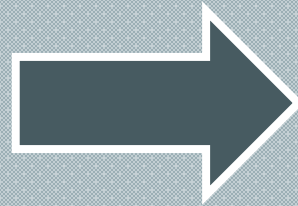
**5. Take Action**



# CLIMATE CHANGE PROJECTIONS

## Climate projections

- Precipitation
  - Annual
  - Large events
  - Changes in “\_\_\_ year storms”
  - Consecutive dry days
- Temperature



## Natural Hazards

- Winter Storms
- Heavy Rainfall and Flooding
- Drought, Wildfire, and Heat

# EXAMPLES OF IMPACTS OF CLIMATE CHANGE

## Infrastructure

- **Transportation** - Increased precipitation and flooding can disrupt traffic, delay construction, and wash out soil and culverts that support roads, tunnels, and bridges.
- **Energy** - Increase in summer peak electricity demand in most regions of the United States.

## Societal

- **Agriculture** - Impact on crops from more extreme temperature and precipitation
- **Human Health** - More frequent, extreme and longer heat waves will impact vulnerable populations.

## Environment

- **Ecosystems** - Impacts such as range shifts, habitat loss, more pests and more invasive species

# OUR CLIMATE IS ALREADY CHANGING

**Temperature:**



**3° F  
Since 1895**

**Growing Season:**



**11 Days  
Since 1895**

**Sea Level Rise:**



**8 inches  
Since 1900**

**Strong Storms:**



**55%  
Since 1958**



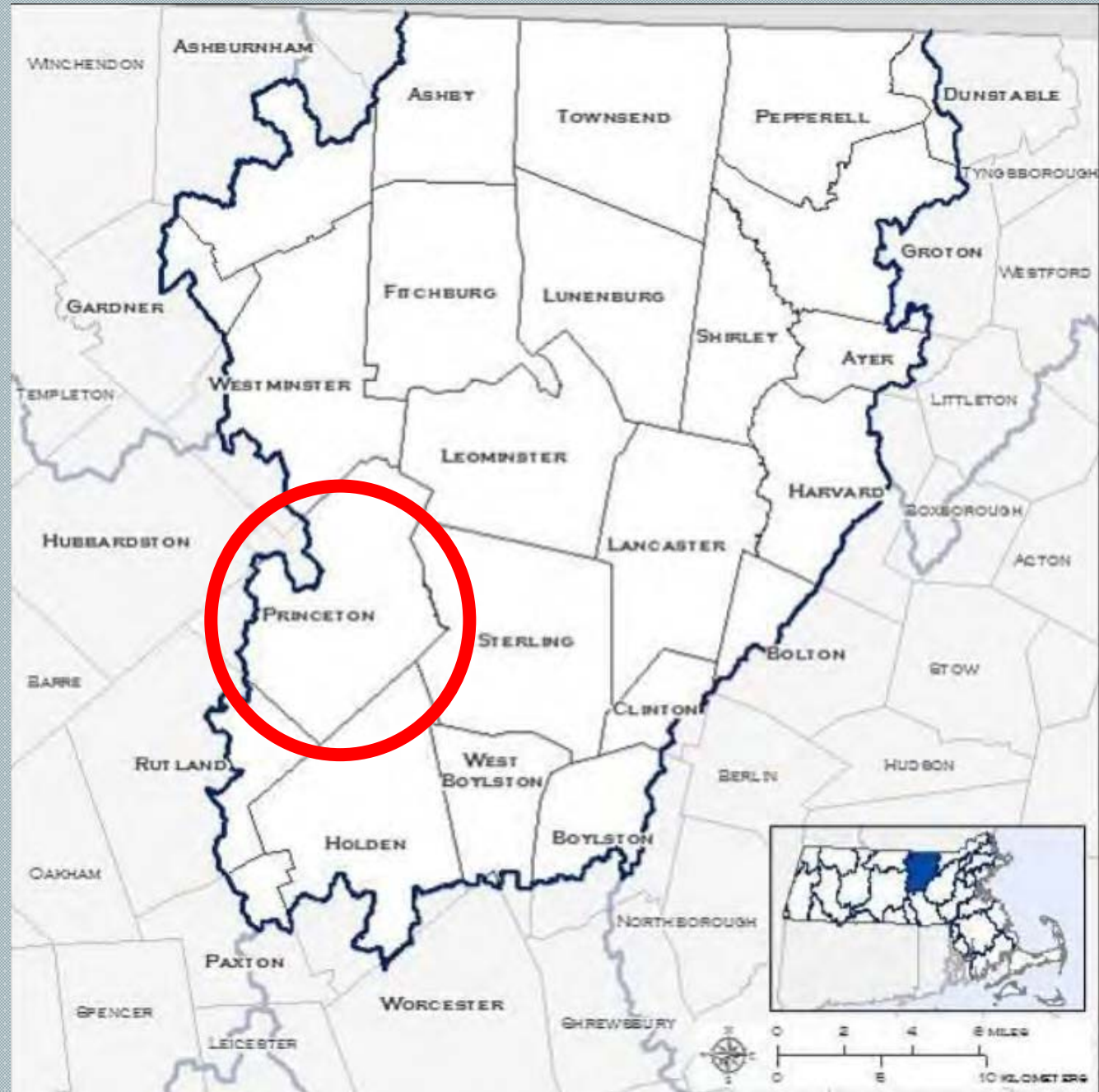
# **NORTHEAST CLIMATE SCIENCE CENTER UMASS AMHERST**



- NECASC downscaled climate projections for major drainage basins
- Climate Models from the IPCC Fifth Assessment Report
- Historical Data 1971-2000
- Medium and High Emission Scenarios were Chosen (RCP 4.5 and 8.5)
  - Medium Scenario Assumes Emissions Peak at Mid-Century
  - High Scenario Assumes a Continuing Emission Trajectory

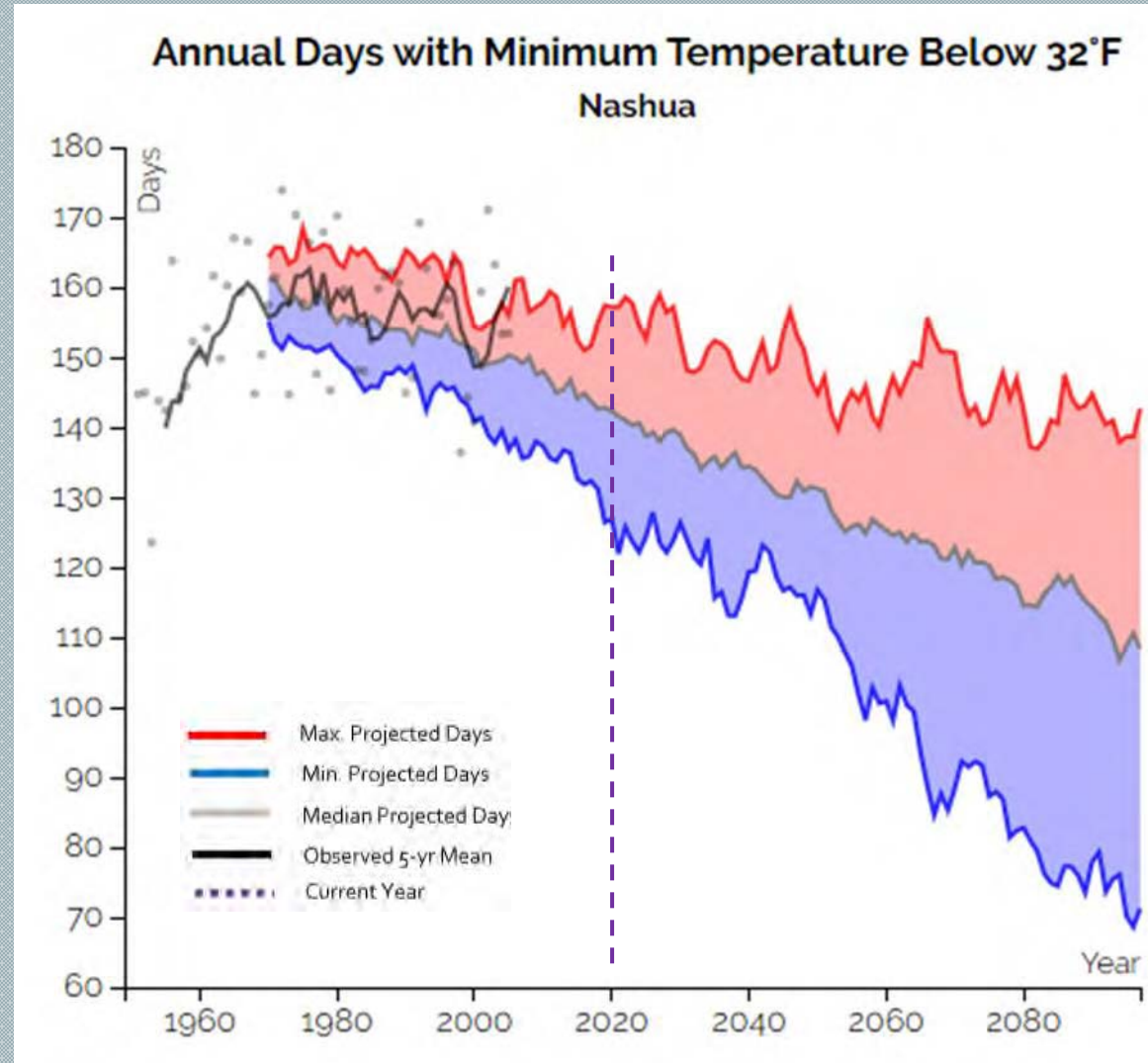


# NASHUA RIVER BASIN



# WINTER STORMS

- Annual days below freezing will decrease
- Rising temps → more winter precipitation to fall as rain or freezing rain
- Lower snowfall accumulation
- Winter - Highest projected increase in precipitation
- Storms that do occur may be worse
  - proximity to Atlantic Ocean increases risk of large storm events

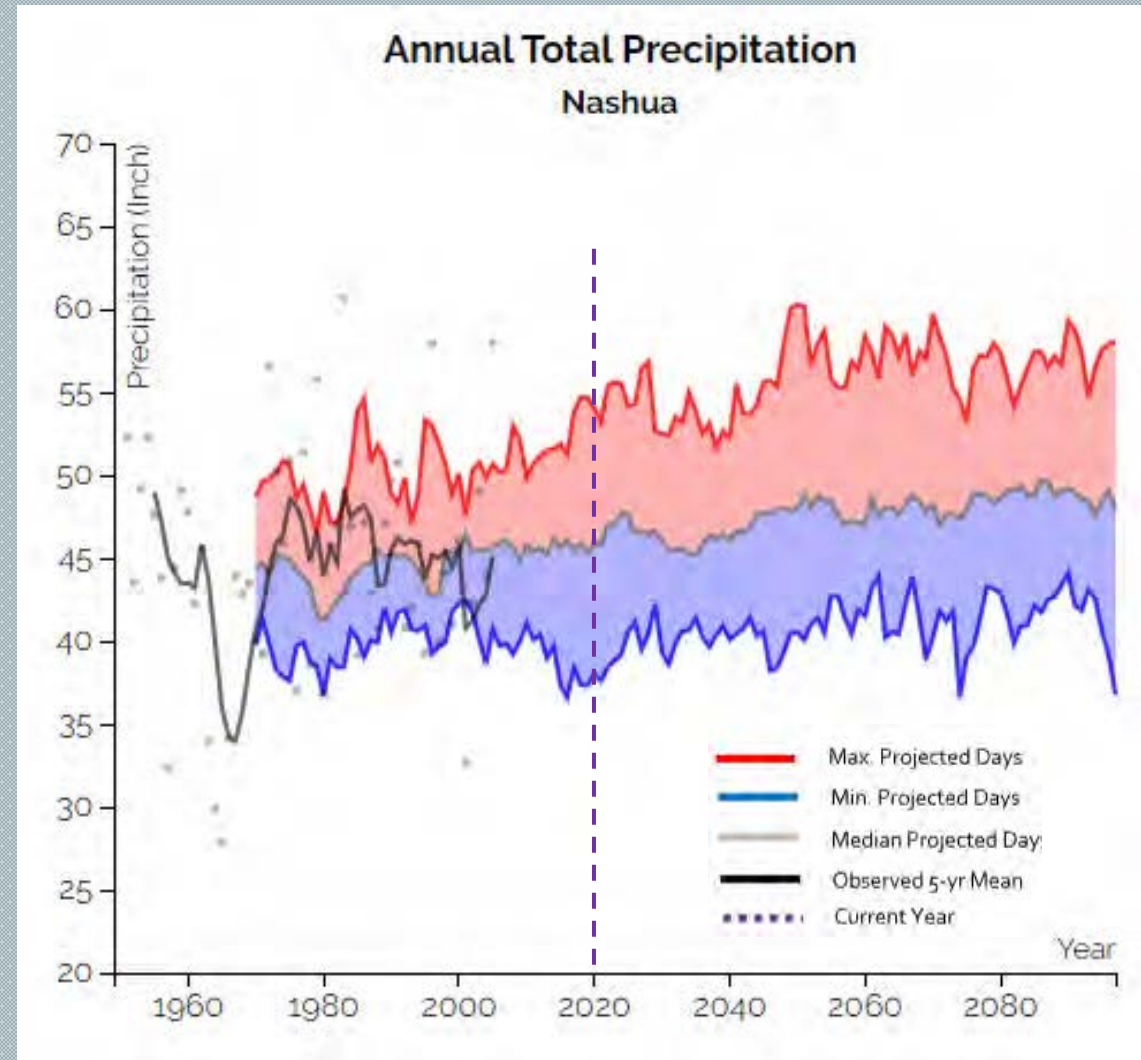




# HEAVY RAINFALL AND FLOODING

## Seasonal

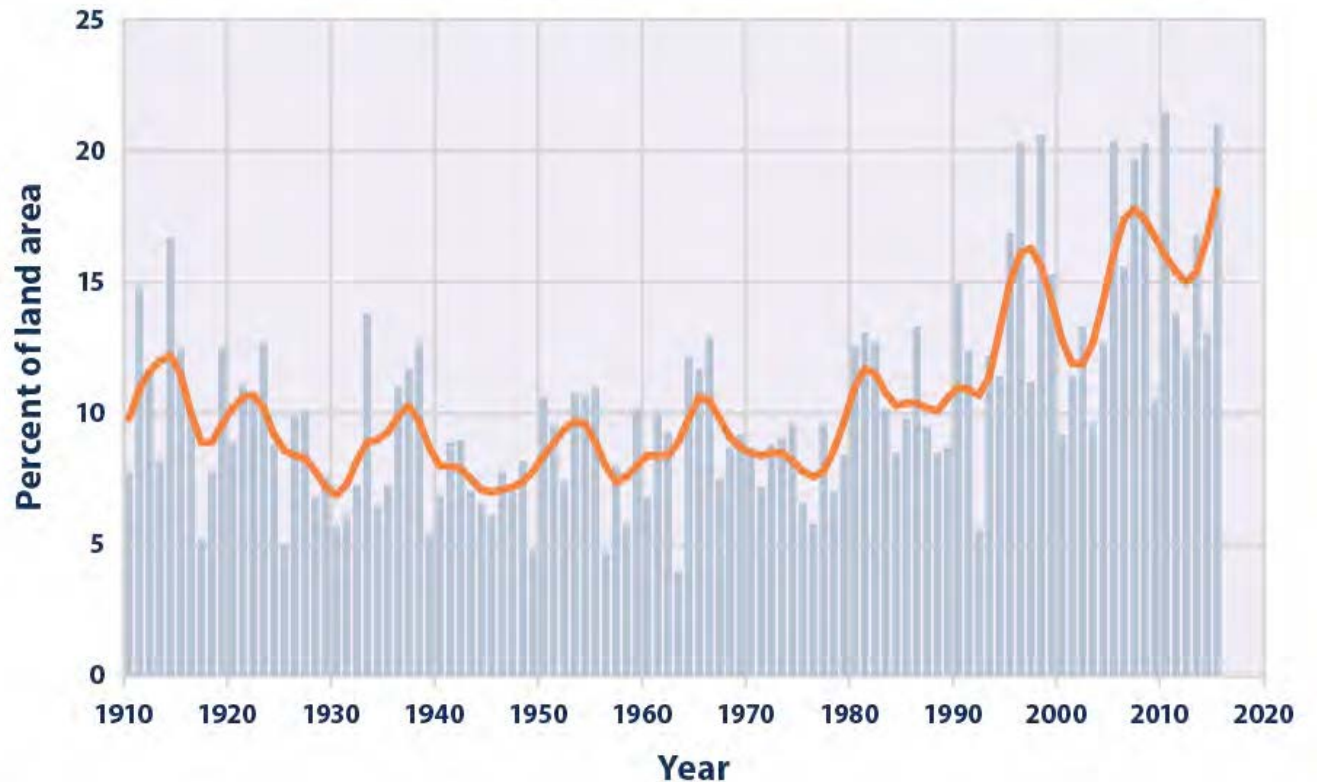
- **Winter** – Largest increase expected, up to .6 to 3.9 inches by end of century
- **Spring** – Expected increase of .2 to 2.8 inches by end of century
- **Summer** – Possible decrease of 1.2 inches to increase of 2.0 inches by end of century
- **Fall** – Possible decrease of 1.7 inches to increase of 1.5 inches by end of century



# HEAVY RAINFALL AND FLOODING

- Precipitation will increase across all seasons
- Total annual rainfall will increase
- Heavy rainfall events will become more frequent
  - Overbank flooding from rainfall and snowmelt
  - Piped Infrastructure backup and or failure
- Water quality impact from flooding
  - Erosion
  - Nonpoint source pollution

Extreme One-Day Precipitation Events in the Contiguous 48 States, 1910–2015



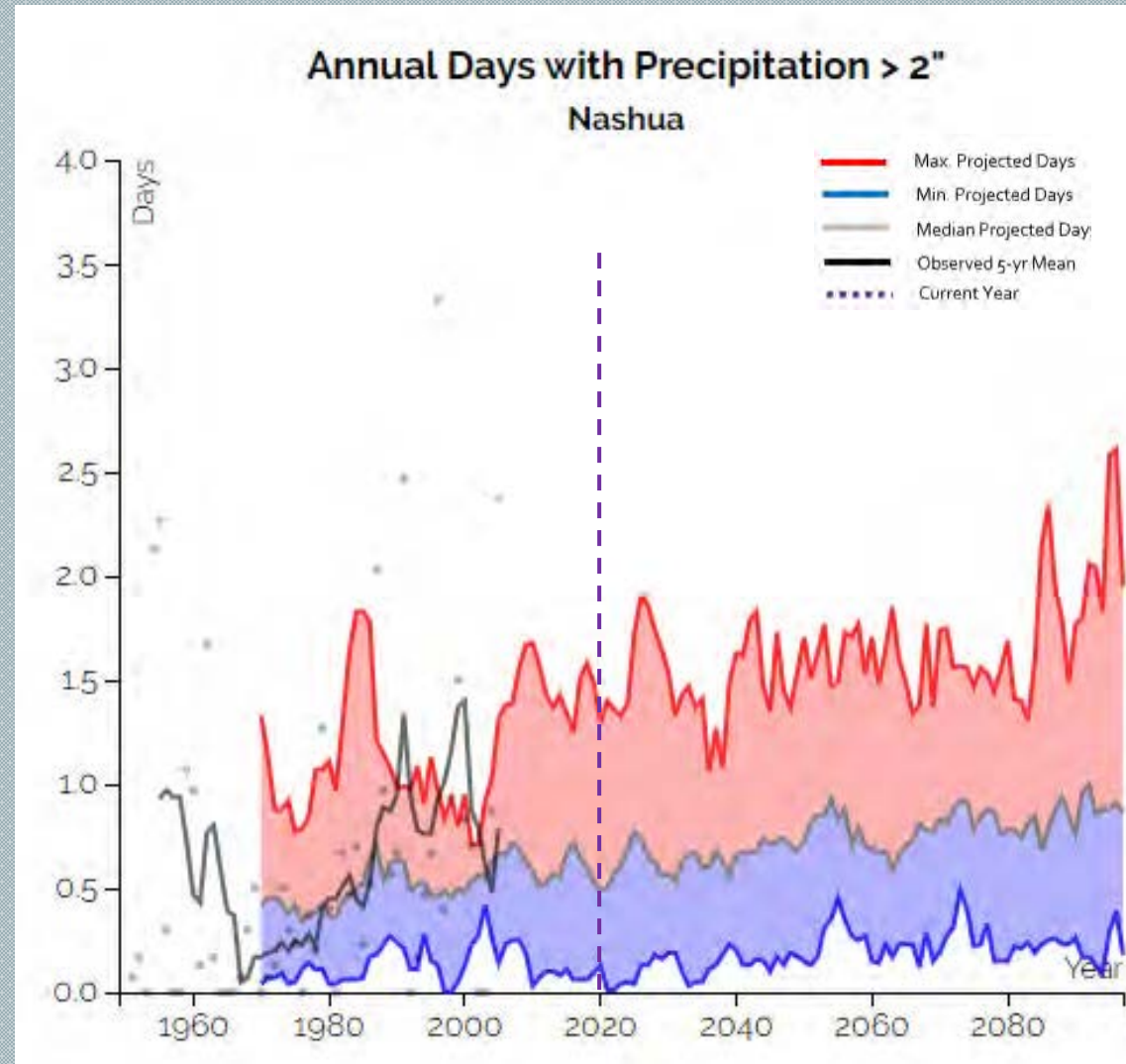
Data source: NOAA (National Oceanic and Atmospheric Administration). 2016. U.S. Climate Extremes Index. Accessed January 2016. [www.ncdc.noaa.gov/extremes/cei](http://www.ncdc.noaa.gov/extremes/cei).

For more information, visit U.S. EPA's "Climate Change Indicators in the United States" at [www.epa.gov/climate-indicators](http://www.epa.gov/climate-indicators).

# HEAVY RAINFALL AND FLOODING

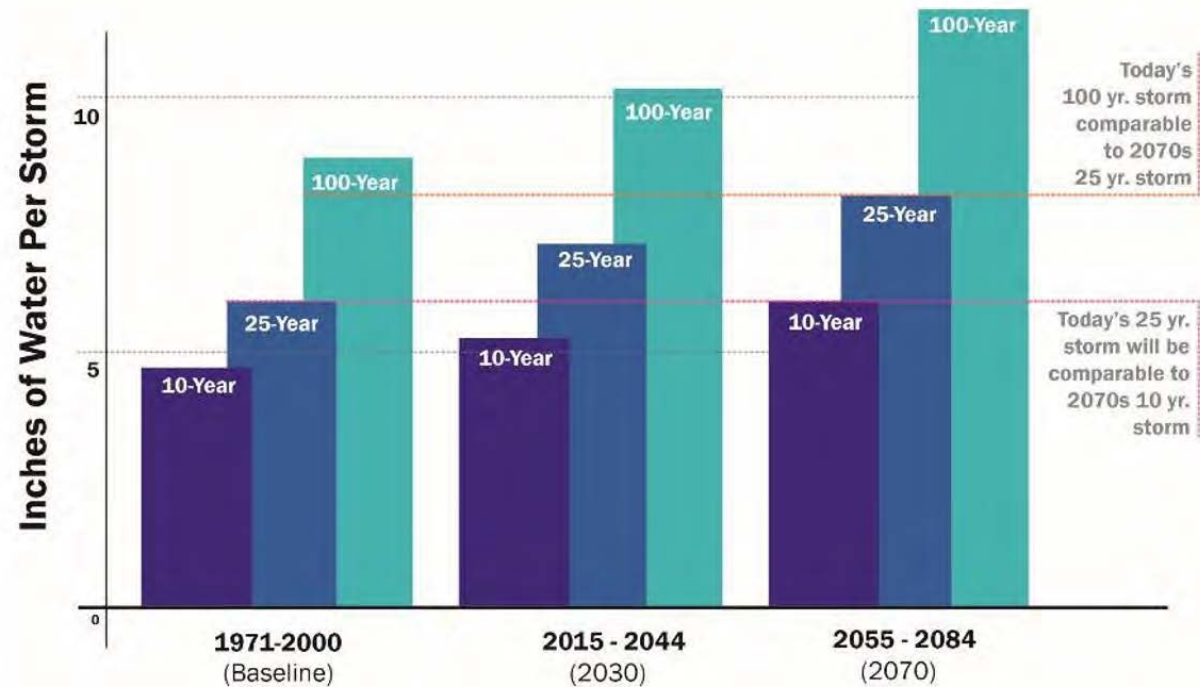
## Extreme Precipitation

- The number of days each year with more than 2 inches of precipitation will increase.





# HEAVY RAINFALL AND FLOODING



Source: Design storm projections for the Boston metro area based on Kleinfelder/ATMOS projections, Nov. 2015, Kleinfelder for City of Cambridge.



Icon made by photo3idea\_studio from Flaticon.com

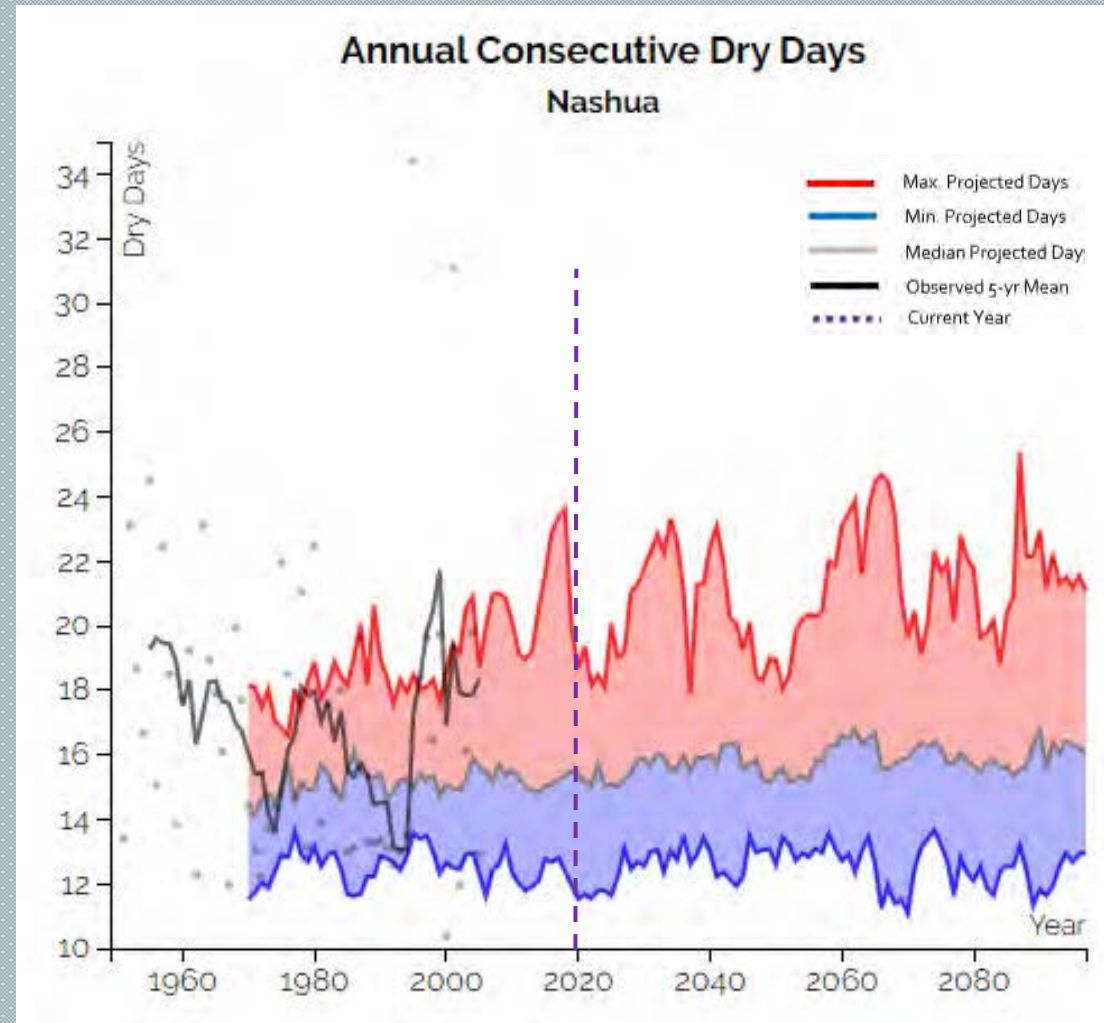
# IMPACTS OF INCREASED PRECIPITATION

- More disruptive flooding events, especially with undersize stormwater infrastructure
  - Increased inland flooding
  - Soils become saturated
  - River flows rise
  - Capacity of urban SW infrastructure is exceeded
  - Impacts to property and critical infrastructure
- Increased non-point source pollution
  - Ecological damage to nearby waterbodies



# DROUGHT IMPACTS

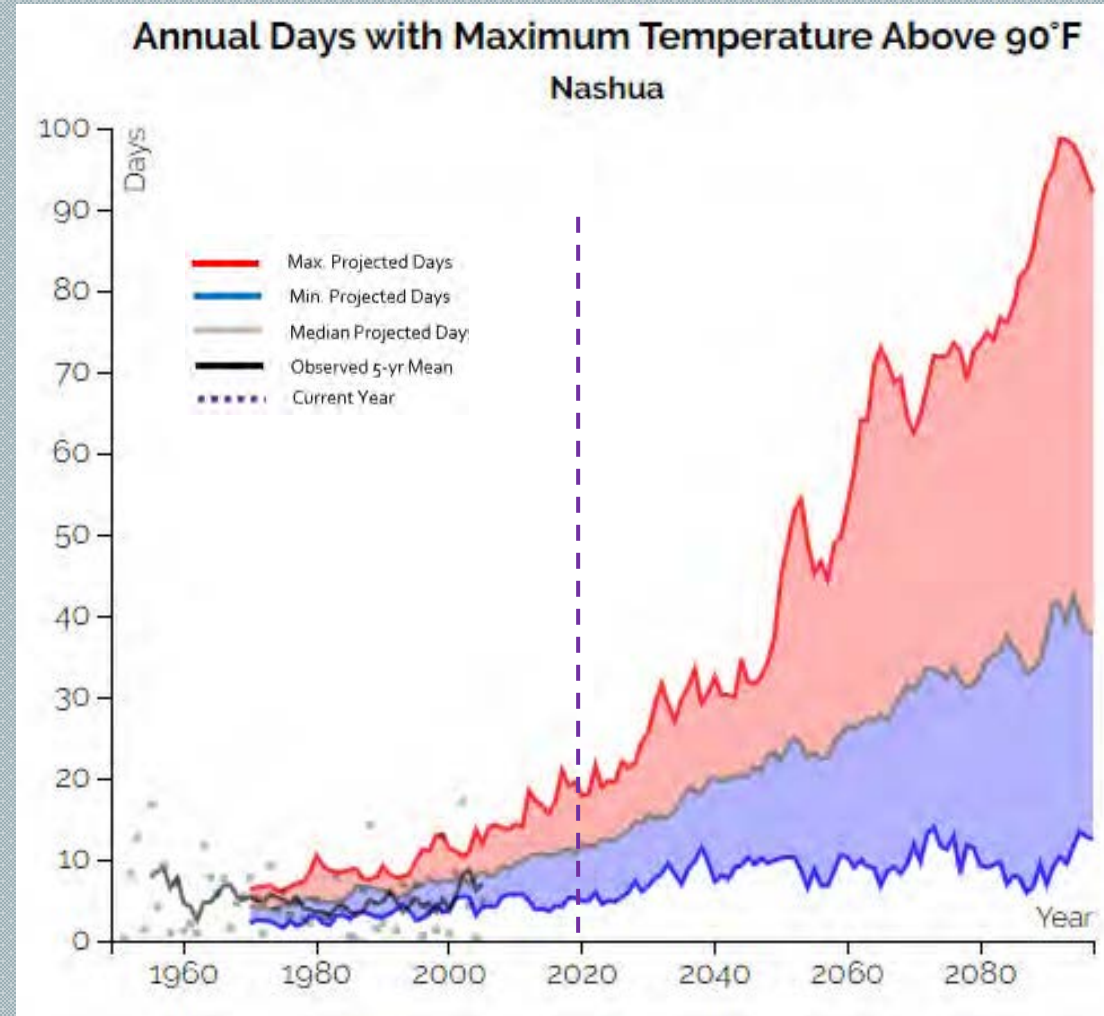
- More consecutive dry days
- Highest number of consecutive dry days in summer and fall.
- Increase of up to 3 additional consecutive dry days by the end of the century





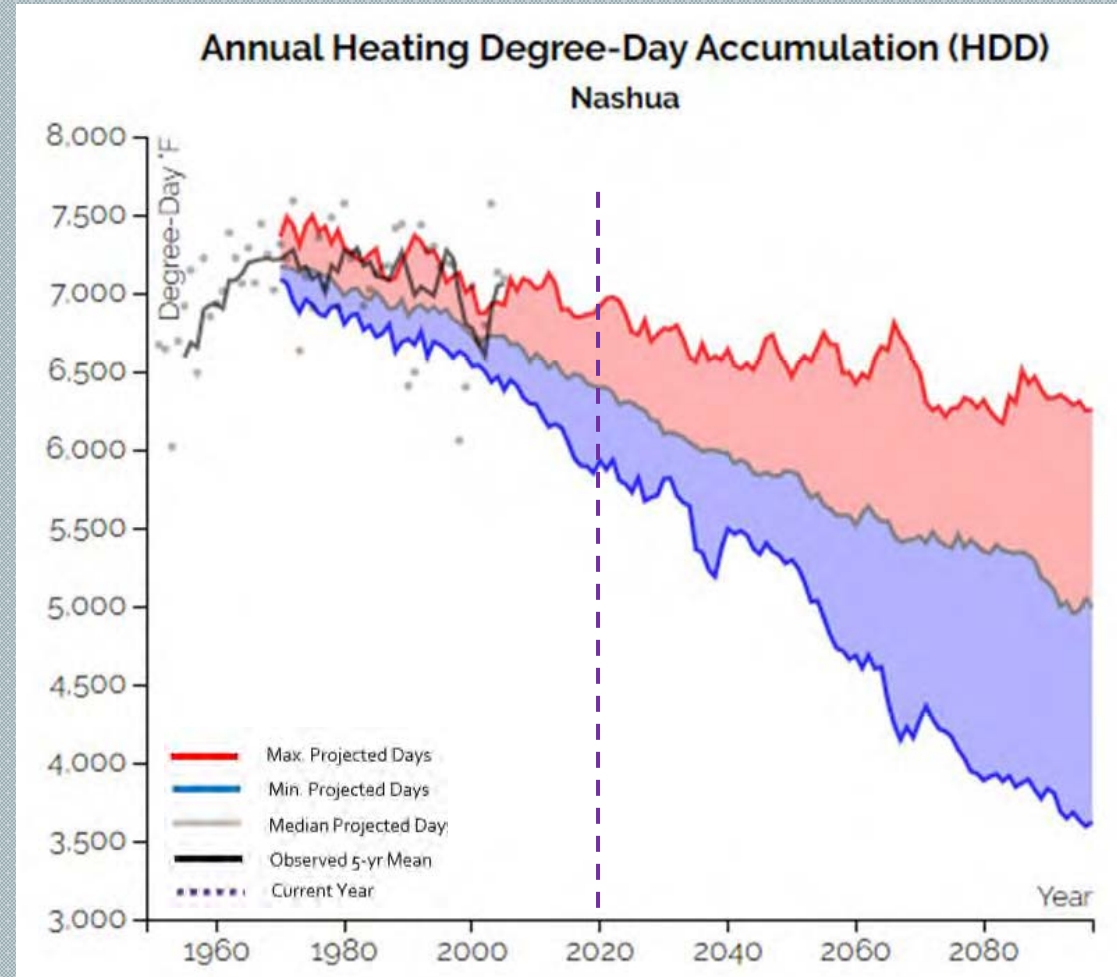
# HEAT PROJECTIONS

- Projected increase of 8 to 29 days annually over 90°F by mid century
- Projected increase of 11 to 69 days annually over 90°F by end of century



# HEAT PROJECTIONS

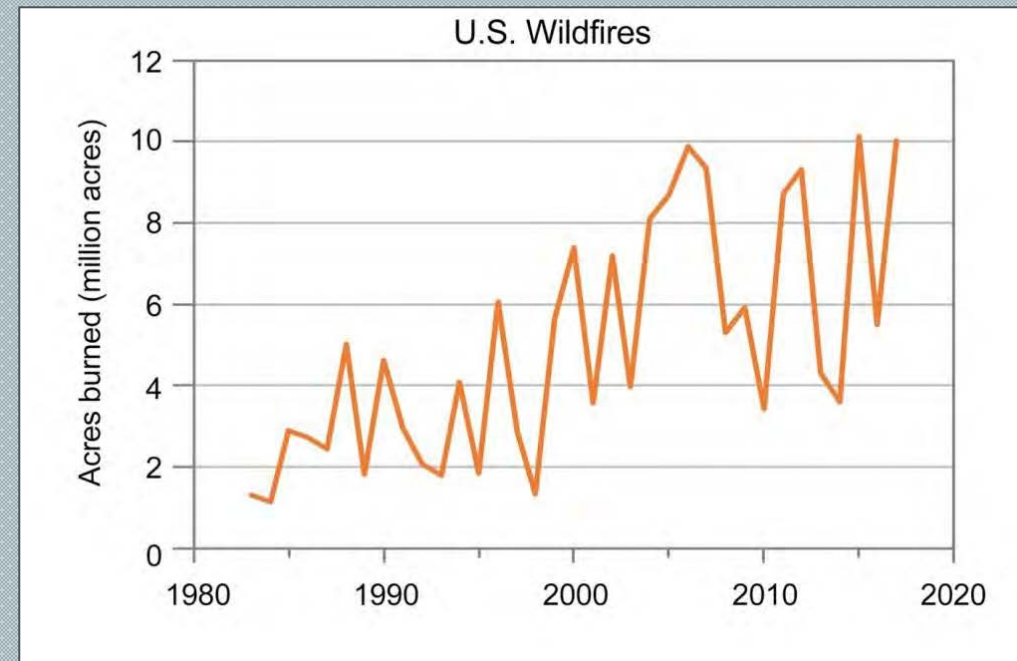
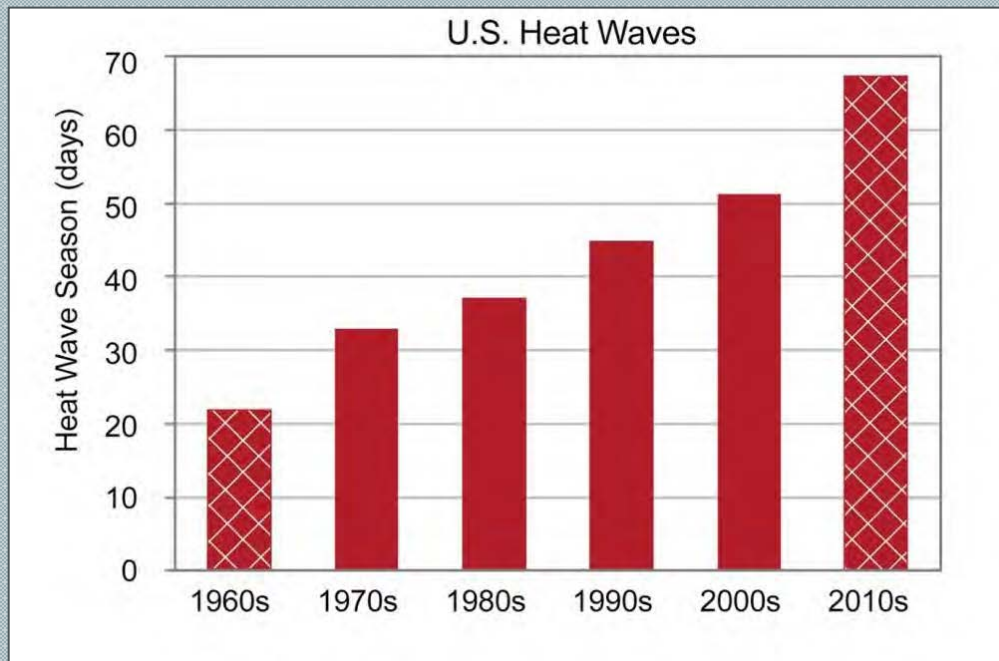
- Projected decrease in heating degree-days and increase in cooling-degree days
- More days above 65°F means fewer days needed to heat buildings and more days needed to cool buildings.
- Winter
  - 7-19% decrease in HDD by mid century
- Spring
  - 10-24% decrease in HDD by mid century
- Fall
  - 20-33% decrease in HDD by mid century



# HEAT AND WILDFIRE

## Nation-Wide Data

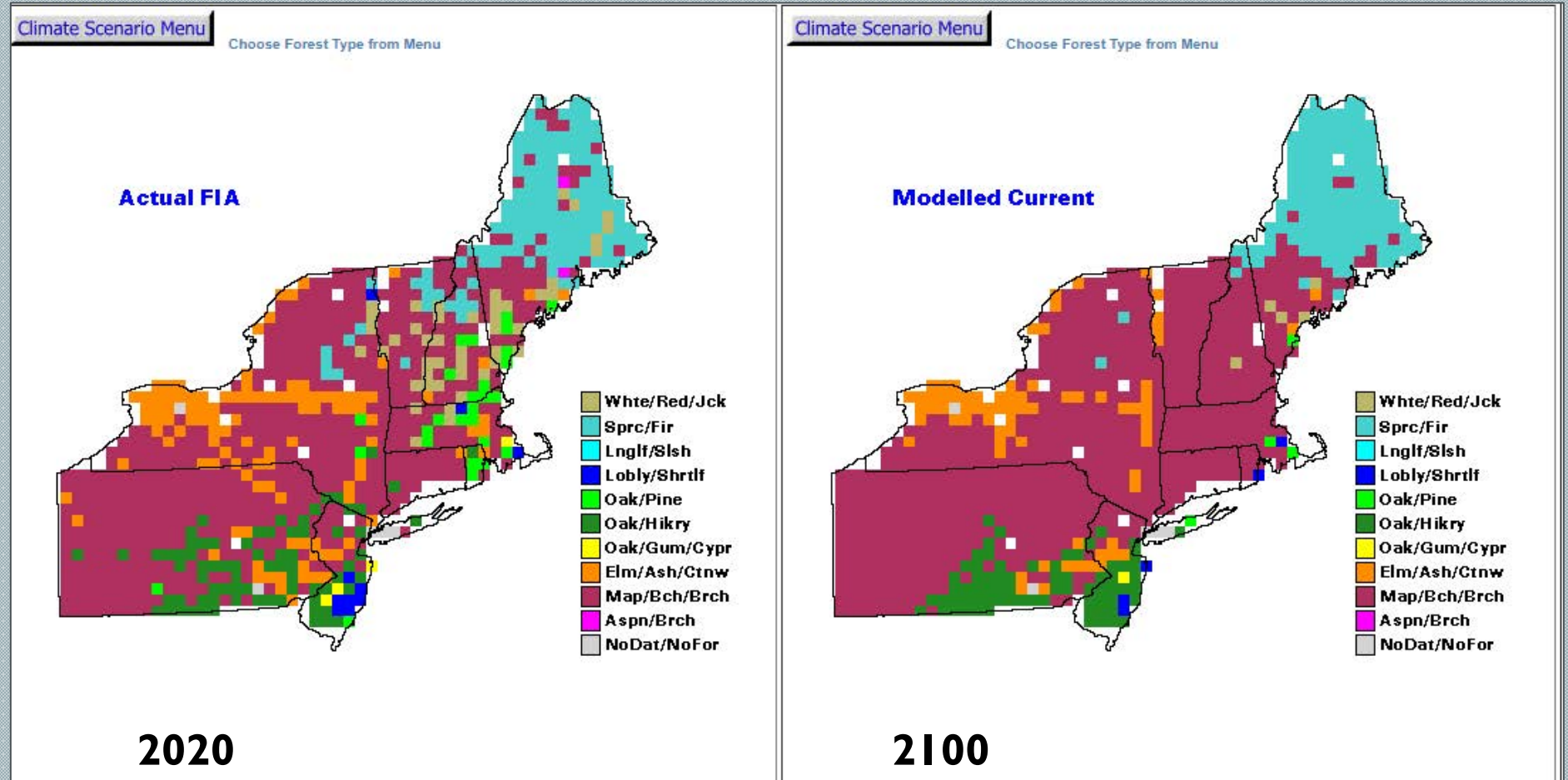
As the number and length of heat waves increase, so will the incidence of wildfires.



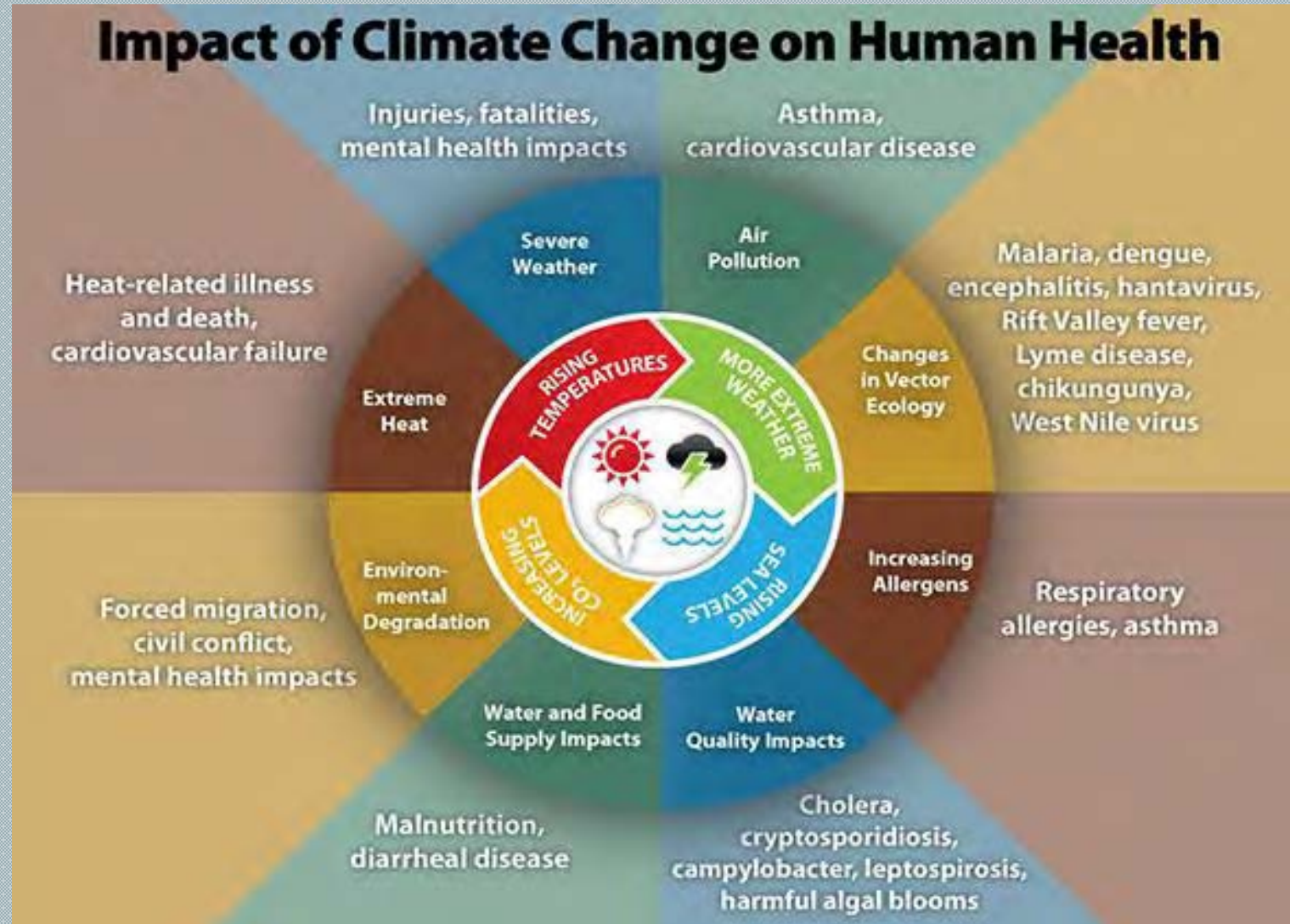


# HEAT IMPACTS ON THE ENVIRONMENT

- Ranges of tree species are expected to move north
- Diversity of species will decrease
- Increases of invasive species are likely

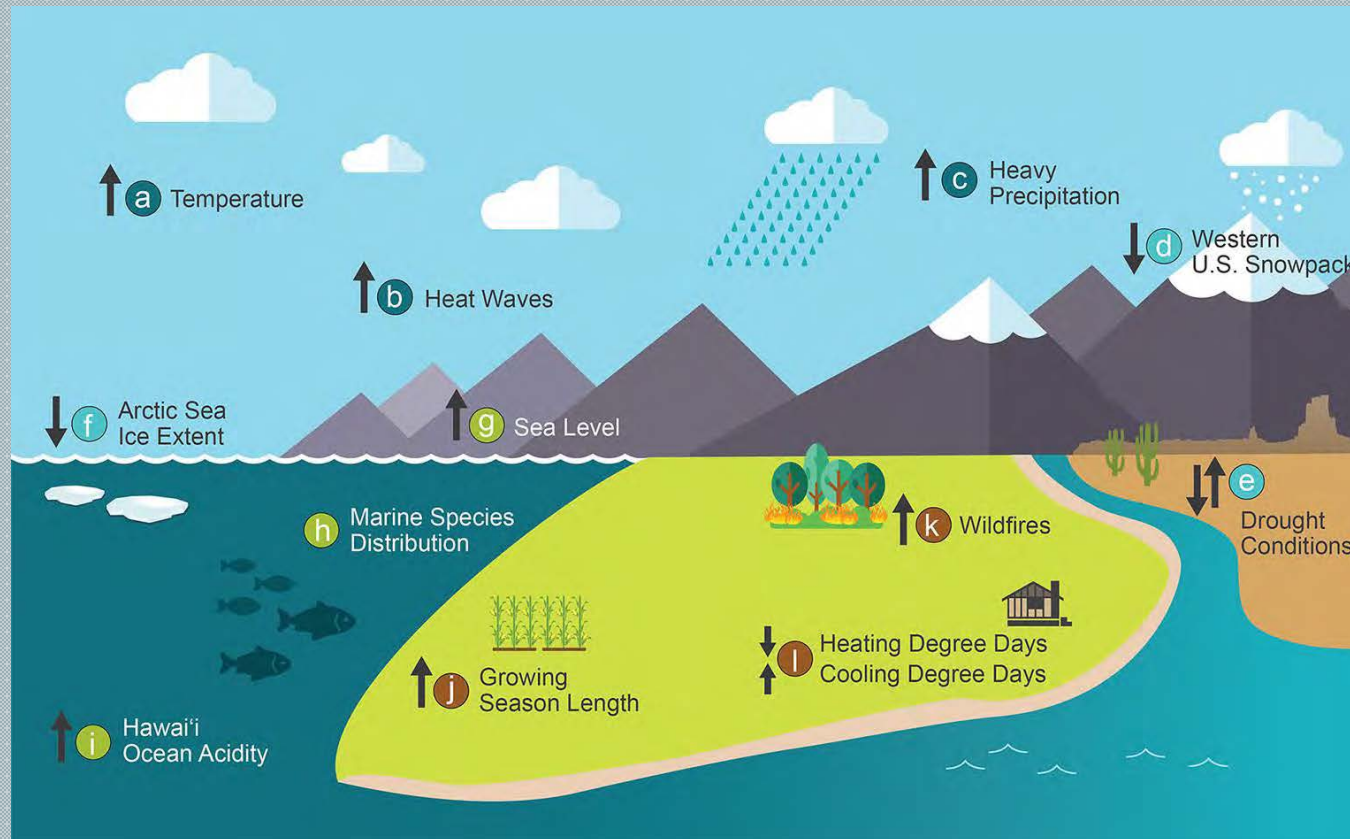


# HEAT IMPACTS ON SOCIETY



<https://www.cdc.gov/climateandhealth/effects/default.htm>

# QUESTIONS OR COMMENTS?



[mkaplan@cmprc.org](mailto:mkaplan@cmprc.org)



# PRINCETON HAZARDS AND IMPACTS

1. Engage  
Community

2. Identify CC  
Impacts &  
Hazards

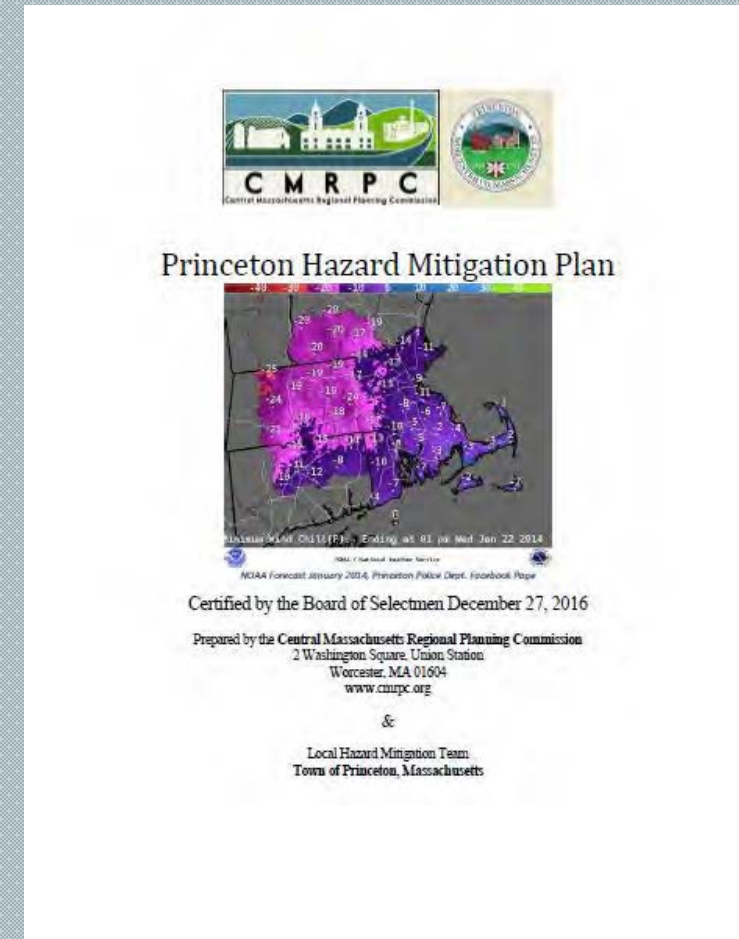
3. Complete  
Assessment of  
Vulnerabilities  
& Strengths

4. Develop &  
Prioritize  
Actions

5. Take Action

# HAZARD MITIGATION PLANNING

- Overlaps somewhat with Hazard Mitigation Planning, but MVP is more focused on climate change in the long term
- Princeton's Hazard Mitigation received Final FEMA Approval in December 2016.
- 5-year plans



# BE PREPARED, MITIGATE THE COSTS

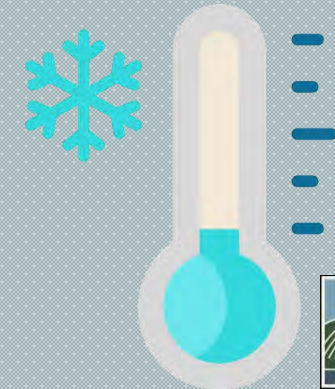
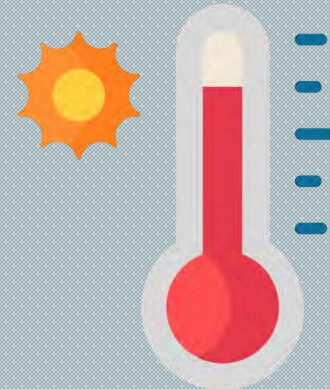
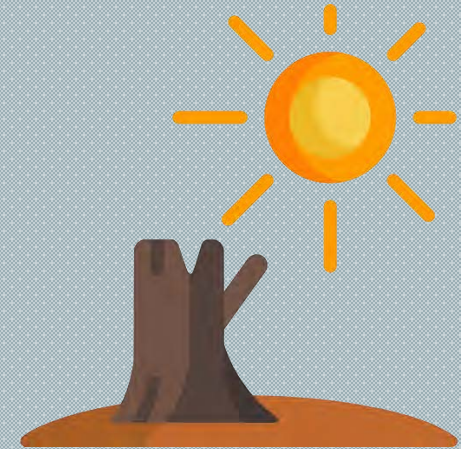
US Natural Disasters in 2017 cost \$306 Billion, the most expensive year since NOAA started keeping track in 1980

National Benefit-Cost Ratio Per Peril <small>*BCR numbers in this study have been rounded</small>		Exceed common code requirements	Meet common code requirements	Utilities and transportation	Federally funded
Overall Hazard Benefit-Cost Ratio		4:1	11:1	4:1	6:1
Savings (\$billion)		\$16 <sub>/year</sub>	\$13 <sub>/year</sub>	\$2.5	\$160
 Riverine Flood		5:1	6:1	8:1	7:1
 Hurricane Surge		7:1	Not applicable	Not applicable	Too few grants
 Wind		5:1	10:1	7:1	5:1
 Earthquake		4:1	12:1	3:1	3:1
 Wildland-Urban Interface Fire		4:1	Not applicable	Not applicable	3:1



# NATURAL HAZARDS

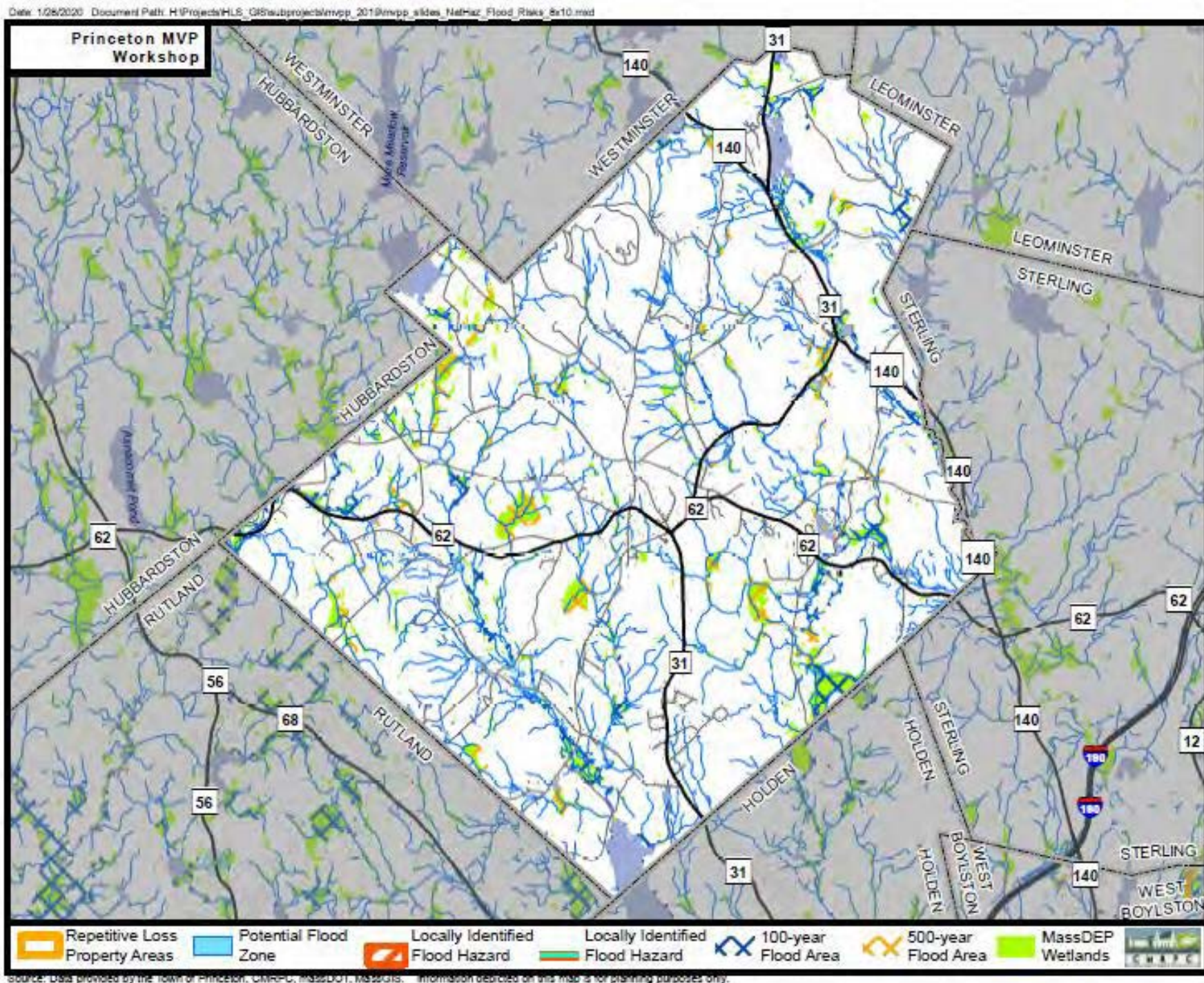
- Flooding (all types)
- Droughts and wildfires
- Winter storms
- Severe thunderstorms
- Hurricanes
- Wind and tornadoes
- Extreme temperatures
- Landslides
- Earthquakes





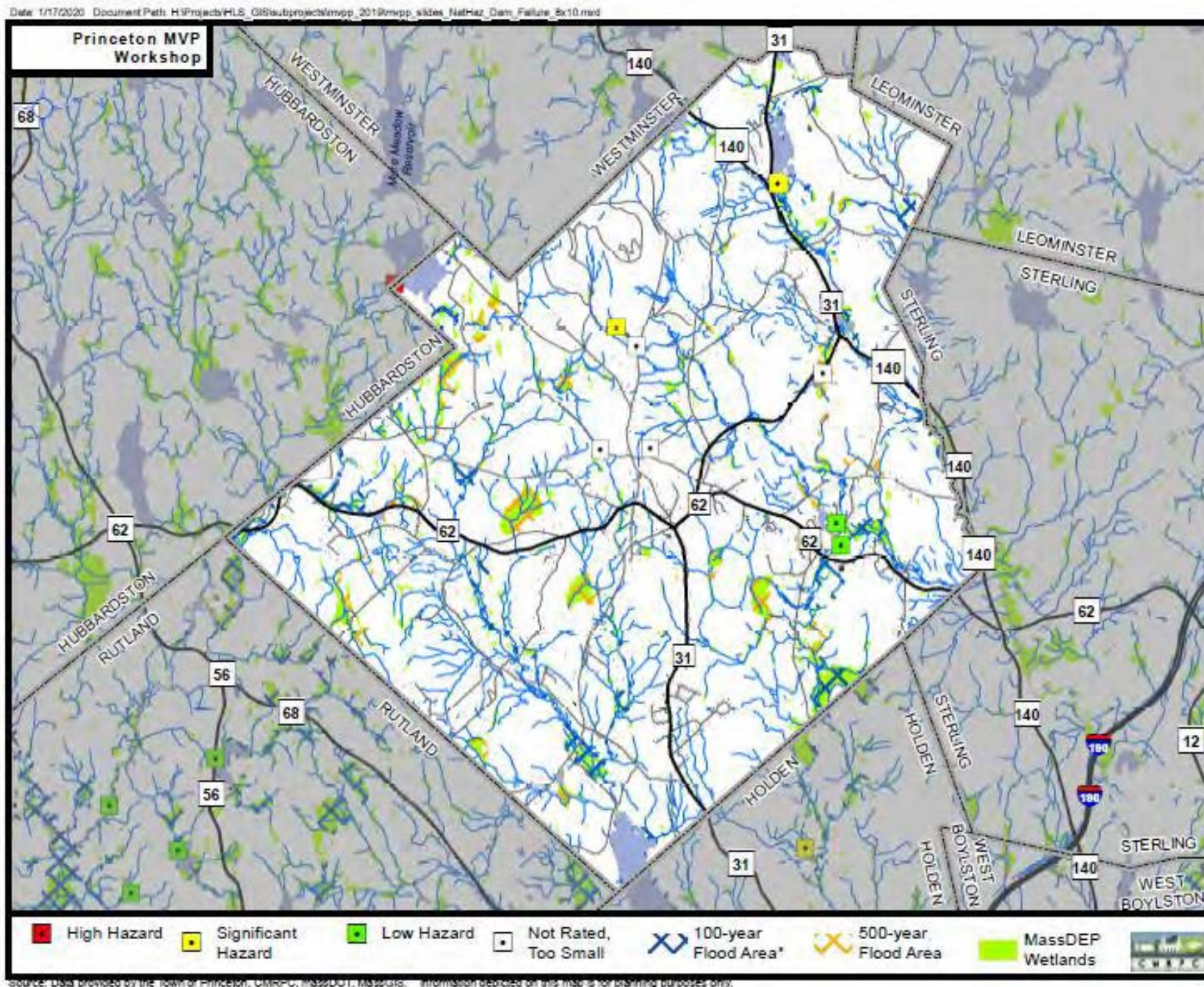


# FLOOD RISKS



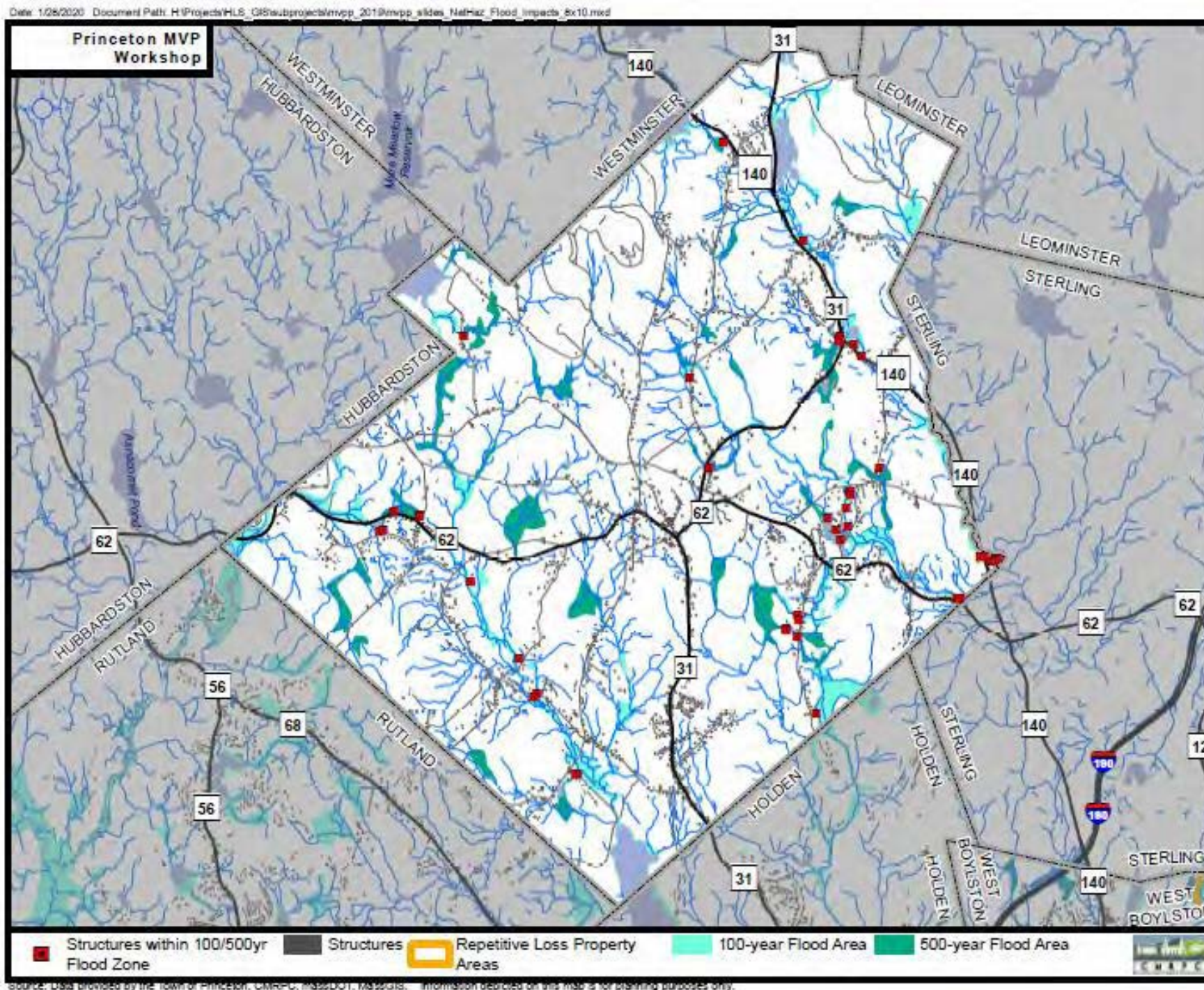


# DAM FAILURE RISK



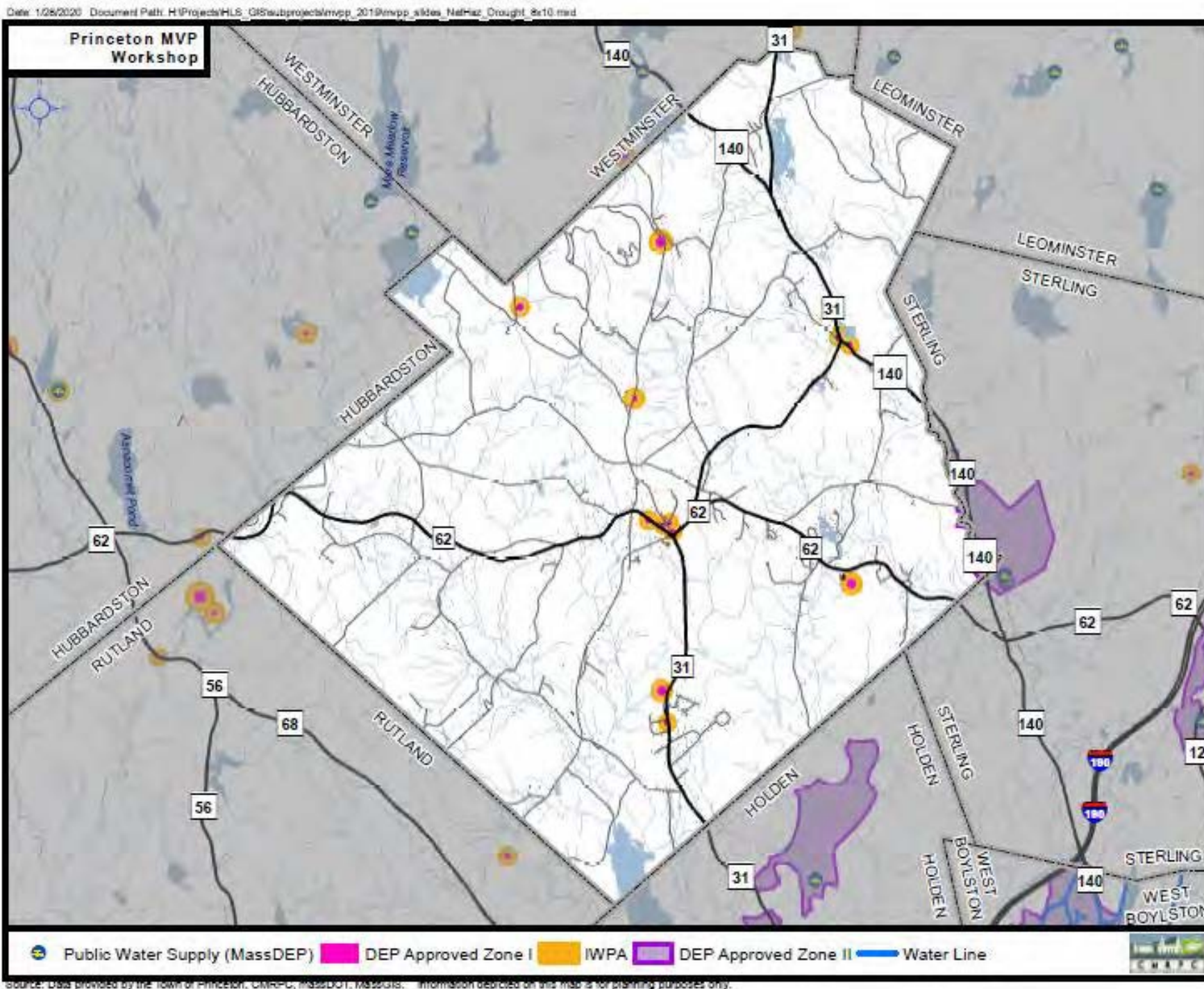


# FLOODING IMPACTS





# DROUGHT IMPACTS

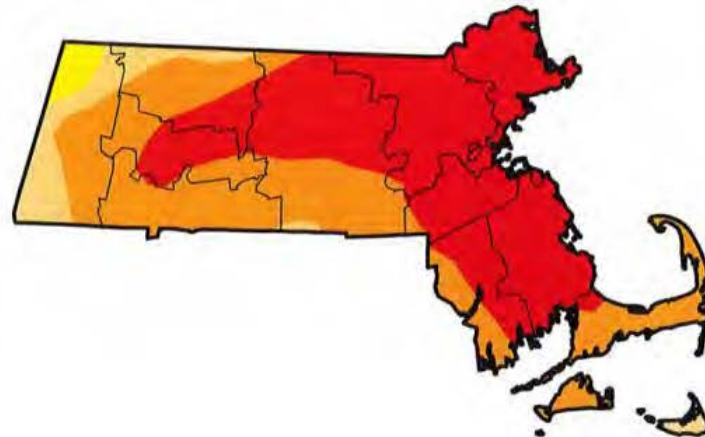




# DROUGHT IMPACTS

## U.S. Drought Monitor Massachusetts

**September 13, 2016**  
(Released Thursday, Sep. 15, 2016)  
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	0.00	100.00	98.15	89.95	52.13	0.00
<b>Last Week</b> 9/6/2016	0.00	100.00	94.38	77.38	22.67	0.00
<b>3 Months Ago</b> 6/14/2016	20.09	79.91	13.56	0.00	0.00	0.00
<b>Start of Calendar Year</b> 12/29/2015	22.85	77.15	26.34	0.00	0.00	0.00
<b>Start of Water Year</b> 9/29/2015	12.90	87.10	30.43	0.00	0.00	0.00
<b>One Year Ago</b> 9/15/2015	34.81	65.19	0.23	0.00	0.00	0.00

### Intensity:

D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate Drought	D4 Exceptional Drought
D2 Severe Drought	

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

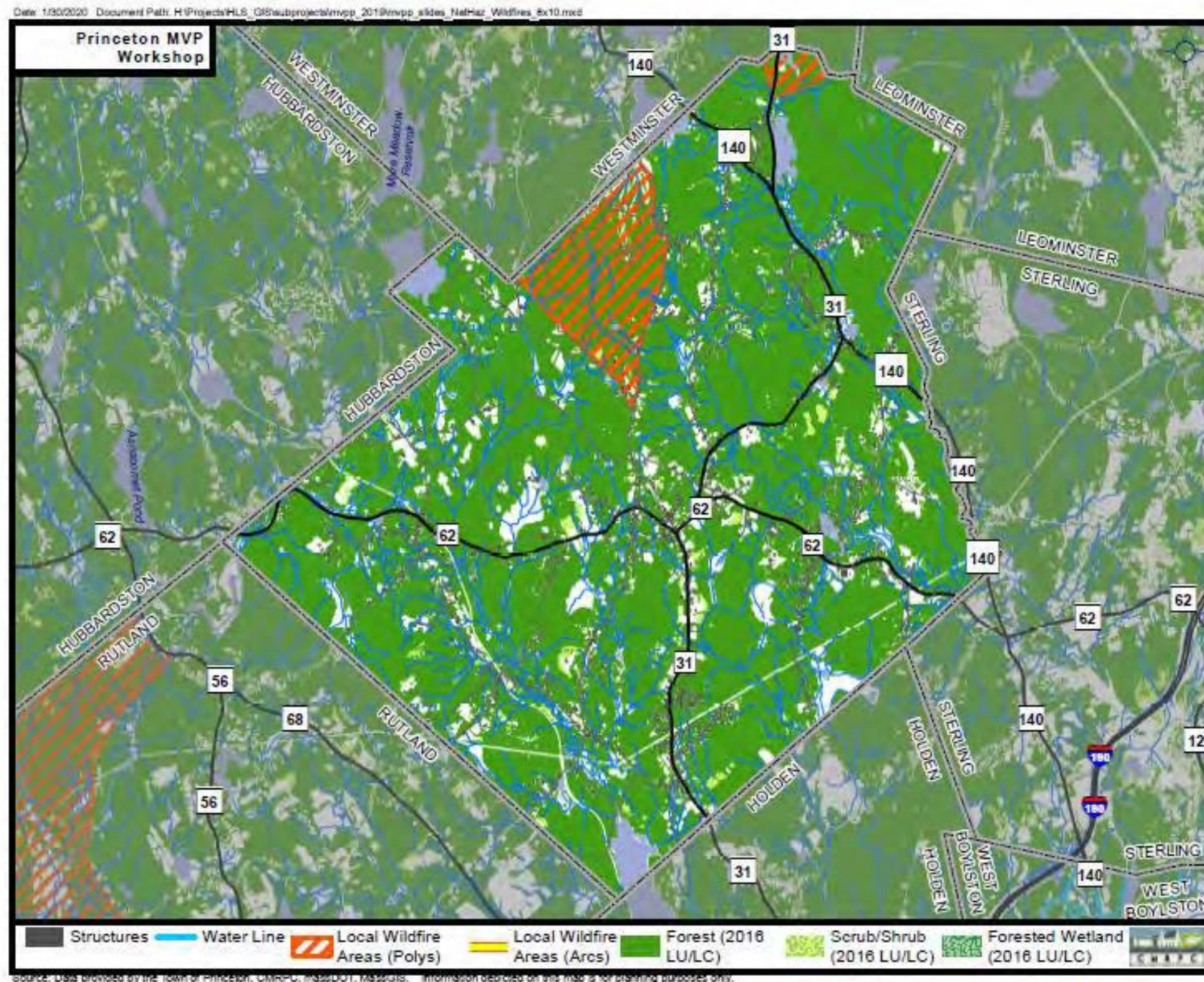
**Author:**  
Eric Luebehusen  
U.S. Department of Agriculture



<http://droughtmonitor.unl.edu/>

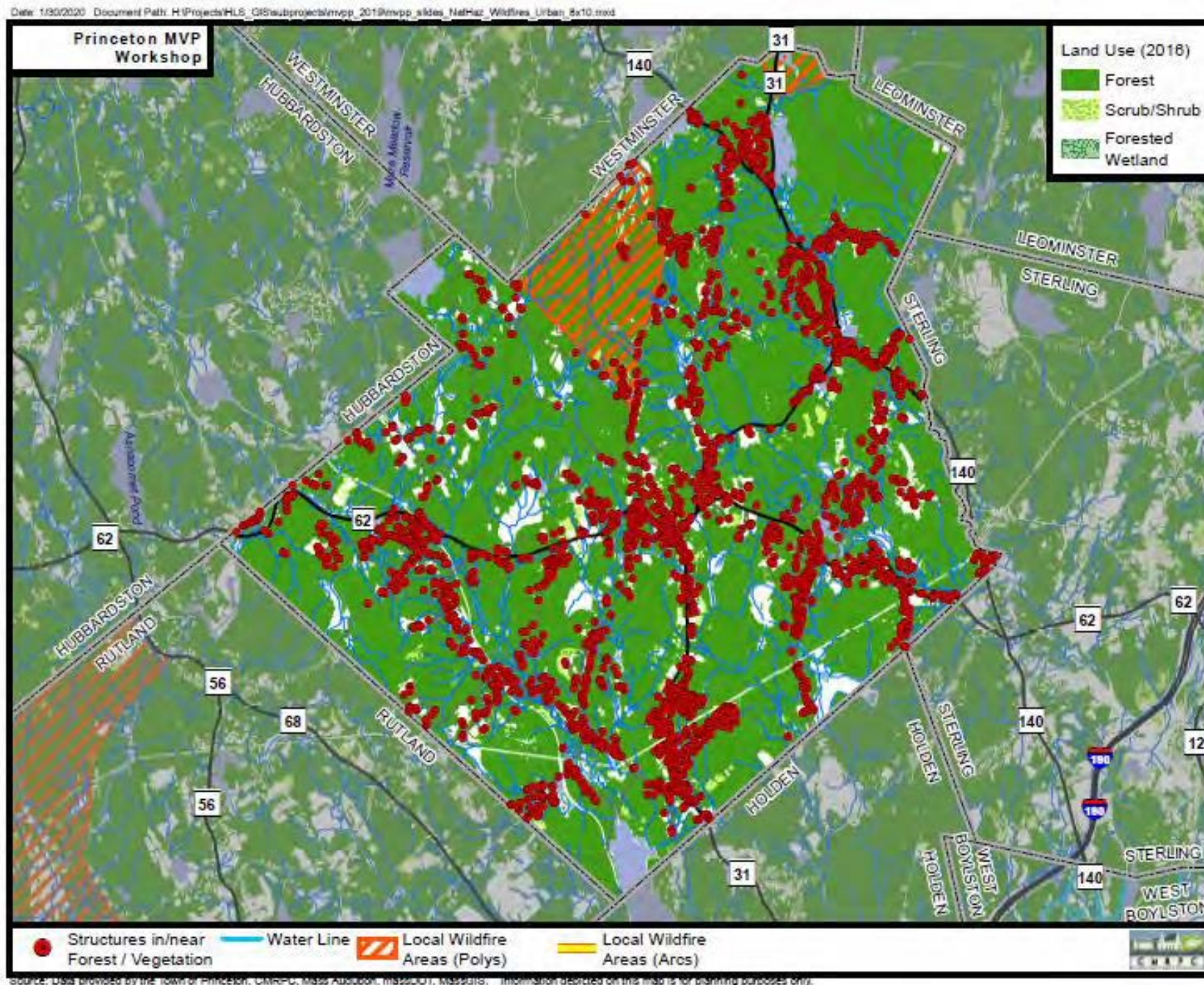


# WILDFIRE



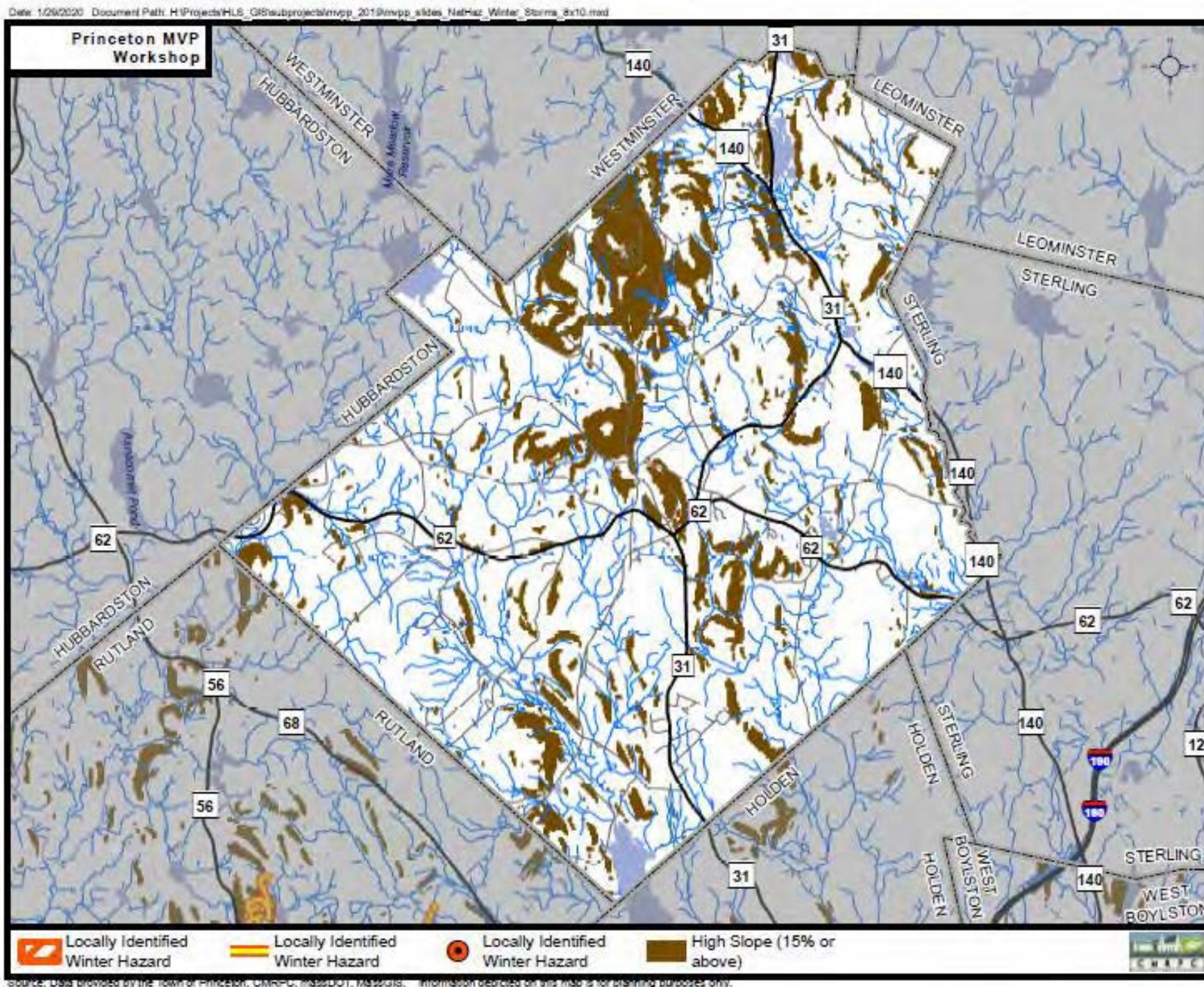


# WILDFIRE/URBAN INTERFACE





# WINTER STORMS





# EXTREME STORMS

## Tornado Tracks, 1950-2017

☒ Show Touchdown Points

### Filter by Magnitude:

- ☒ F/EF 0
- ☒ F/EF 1
- ☒ F/EF 2
- ☒ F/EF 3
- ☒ F/EF 4
- ☒ F/EF 5

### Filter by Year Range:

1950 through 2017

### Filter by Month:

All Months

### Filter by Casualties:

- ☐ Injuries > 0
- ☐ Fatalities > 0

### For more information, click any:

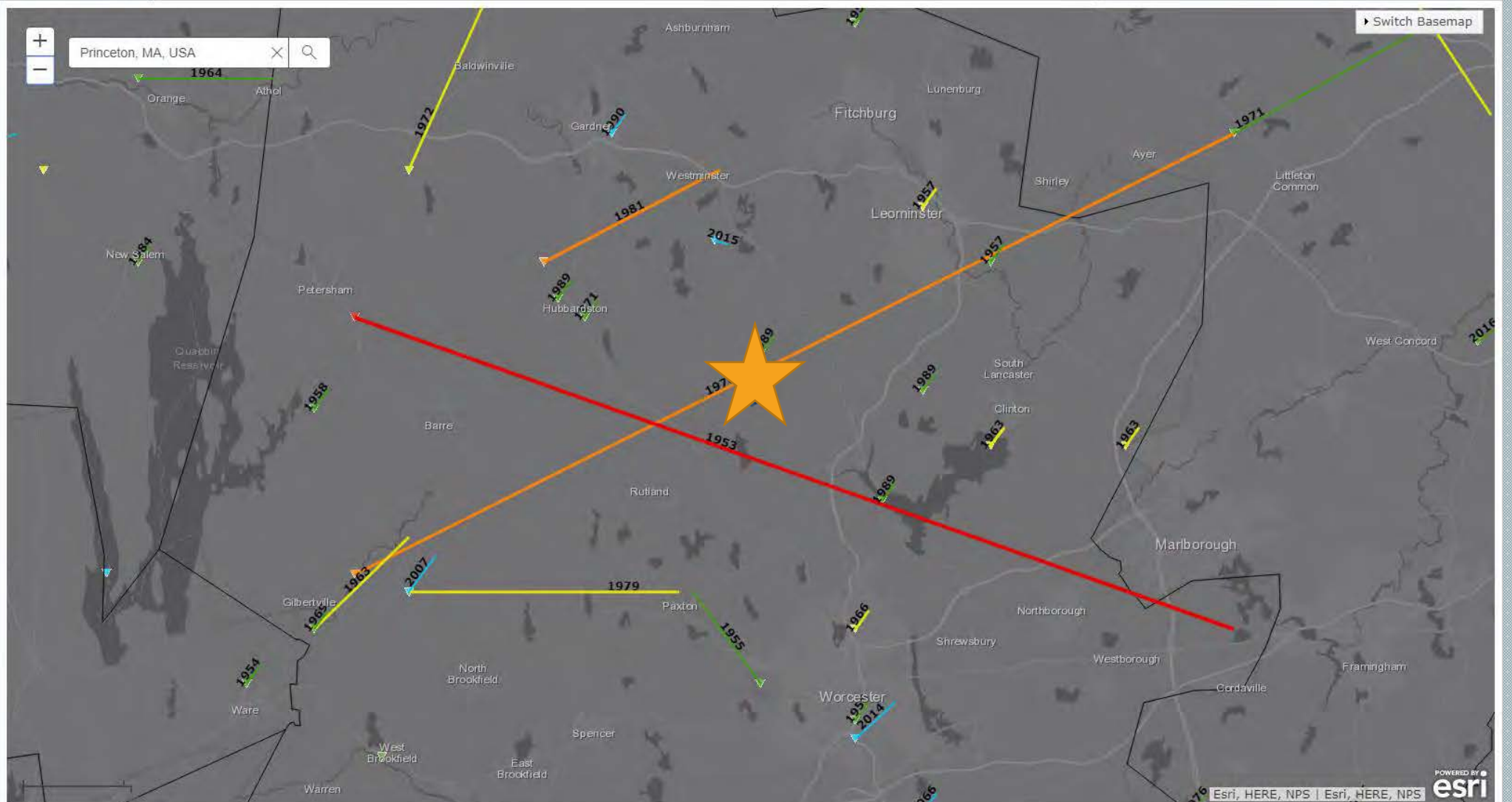
- ☒ Track (for tornado data)
- ☐ County (for county image)

Please note: Attempting to view many tracks may significantly hinder performance.



### Send Feedback

Tornado data from the  
National Weather Service  
Storm Prediction Center:  
<http://www.spc.noaa.gov/gis/svrgis>



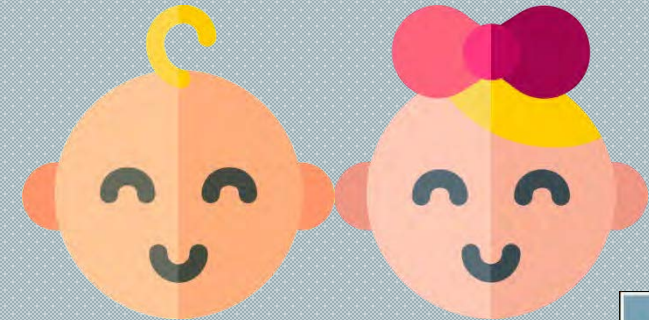
# CRITICAL INFRASTRUCTURE & FACILITIES

- What infrastructure and facilities are critical to the region and its residents? Which do we most need or desire to protect from hazards?
  - Those needed to respond to hazard events or which would exacerbate hazard scenarios, if affected
  - Those needed to perform day-to-day municipal operations and to support basic services and economic activity
  - Major employers and institutions, natural and cultural resources, recreational and historic sites, etc...



# VULNERABLE POPULATIONS

- Vulnerability is not just about utilities, facilities, or businesses
  - Disproportionate populations of potentially vulnerable demographic groups (elderly, children, etc.) or socioeconomic groups (low income households, etc.) living/working in high-risk areas
  - Can be on neighborhood scale, or at specific locations
  - Cultural vulnerability (cultural or language isolation)
  - These will evolve over time, as climate and populations change

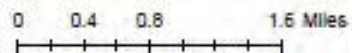
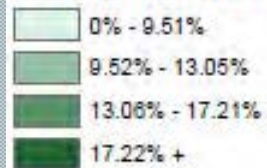


# VULNERABLE POPULATIONS: SENIORS (65+)

Municipal Vulnerability  
Preparedness (MVP)  
Workshop: Princeton

## Legend

Percent Population over 65

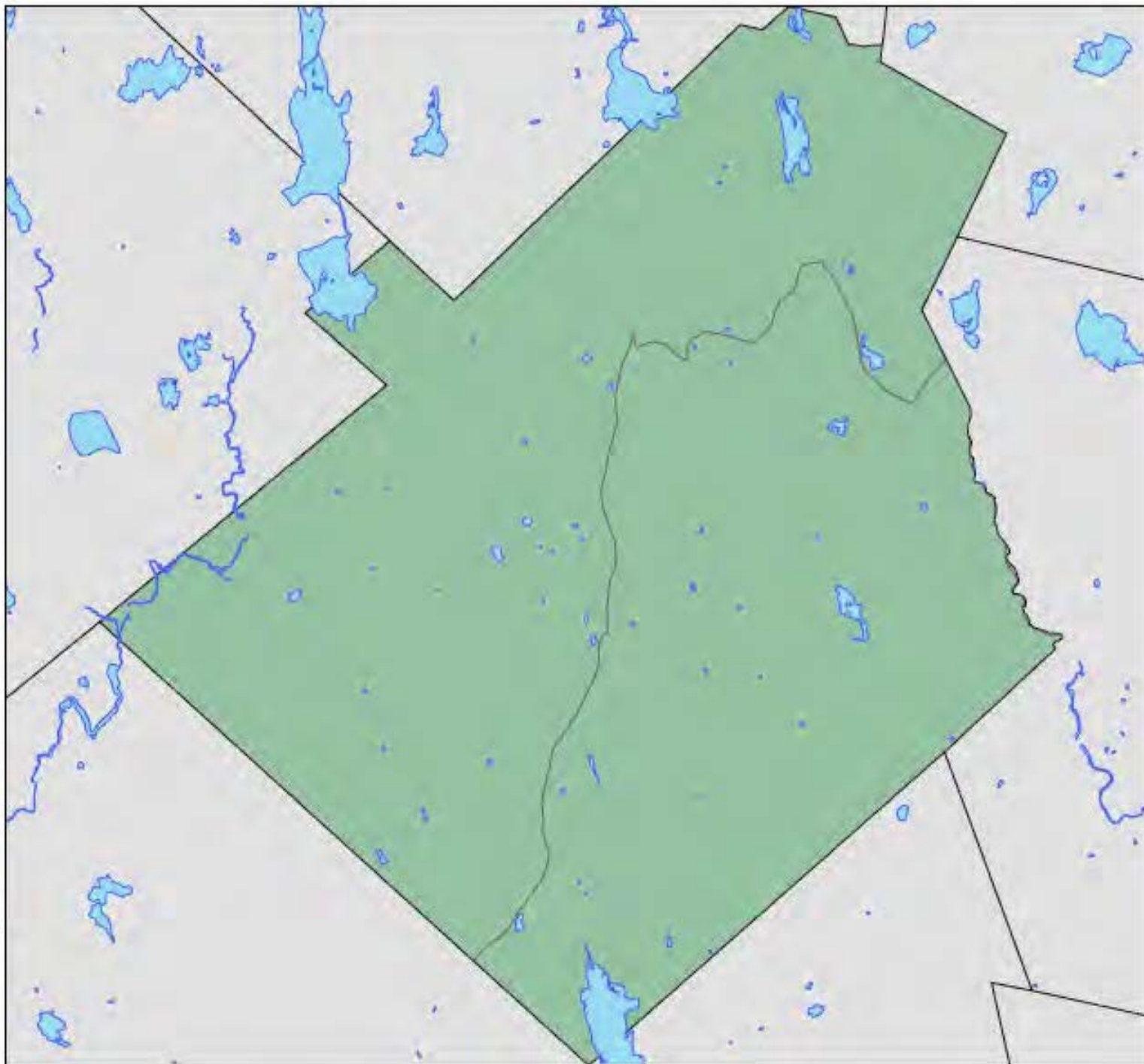


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Mail us on the 401 - <http://www.cmrpc.org>

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Jan 1 2010

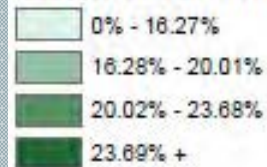


# VULNERABLE POPULATIONS: CHILDREN

Municipal Vulnerability  
Preparedness (MVP)  
Workshop: Princeton

## Legend

### Percent Population Children



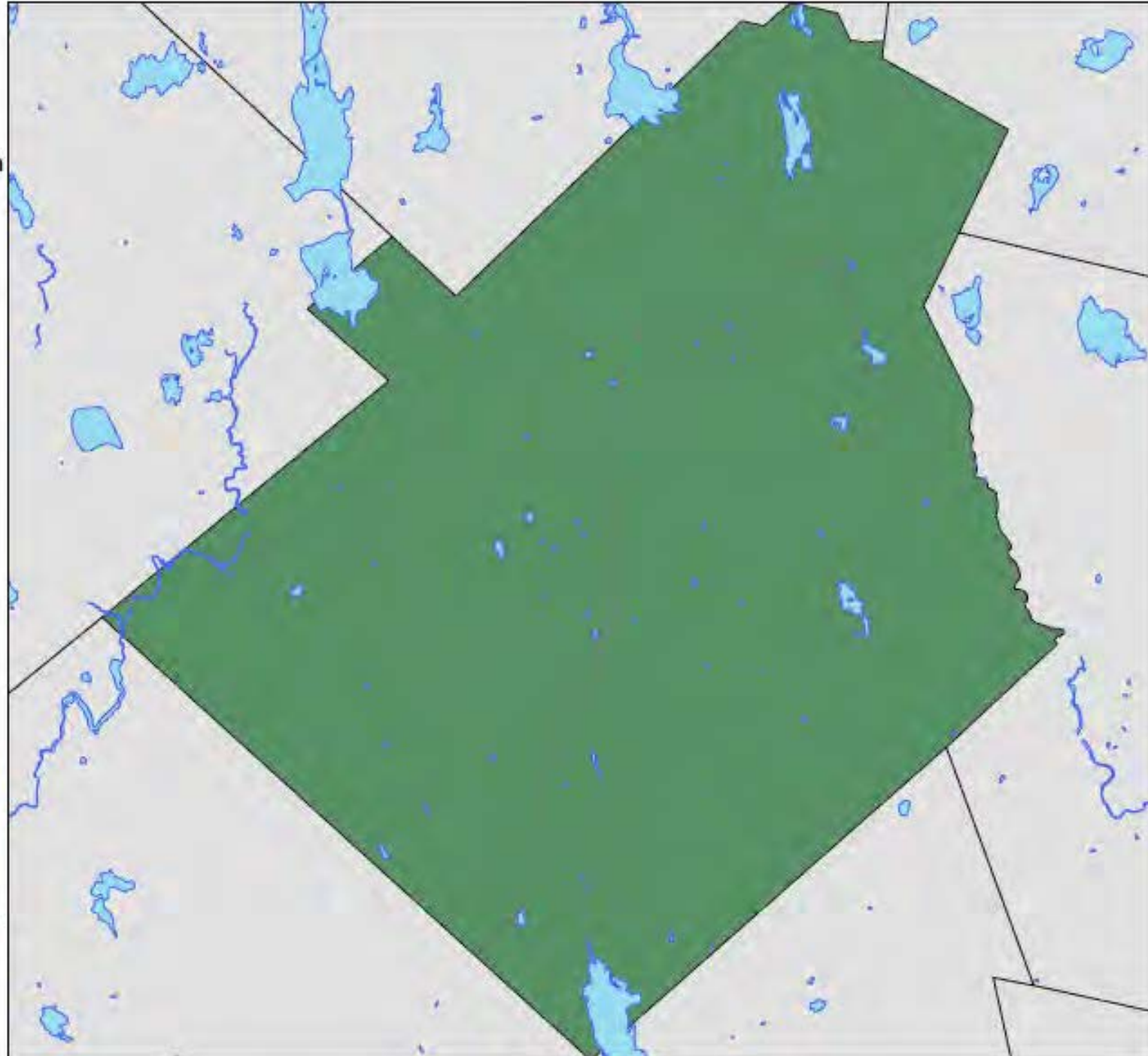
0 0.4 0.8 1.6 Miles

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June 1, 2010



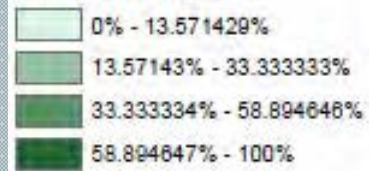


# VULNERABLE POPULATIONS: RENTER OCCUPIED

Municipal Vulnerability  
Preparedness (MVP)  
Workshop: Princeton

## Legend

### Percent of Renters



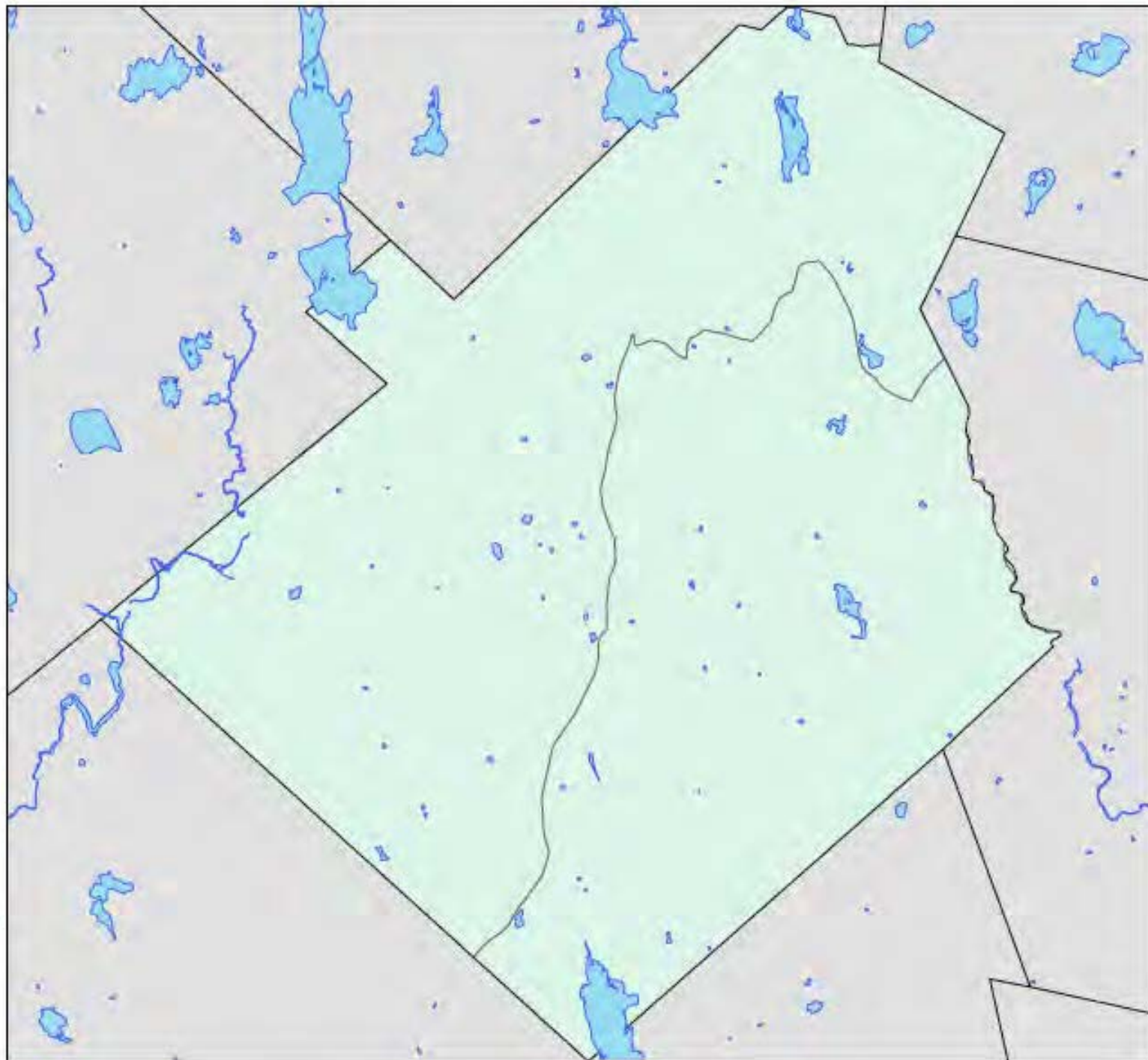
0 0.4 0.8 1.6 Miles

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Jan 1, 2014

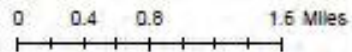
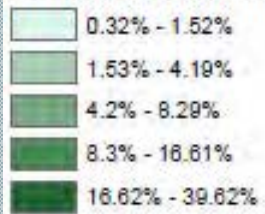


# VULNERABLE POPULATIONS: LIMITED ENGLISH SPEAKERS

Municipal Vulnerability  
Preparedness (MVP)  
Workshop: Princeton

## Legend

### Limited English Proficiency

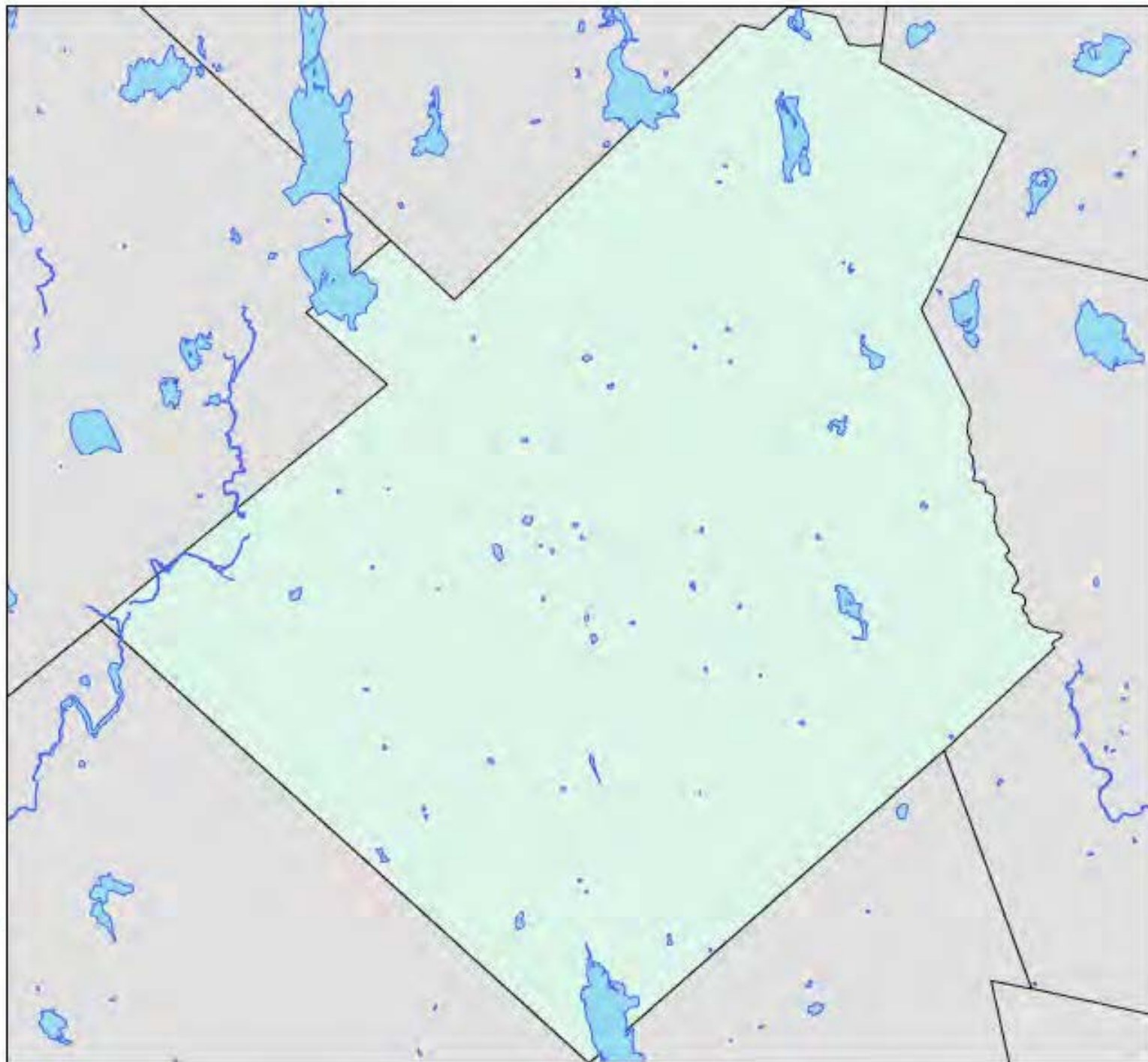


Information depicted on this map is for planning purposes only. The information is not adequate for legal boundary definition, regulatory interpretation, or parcel level analysis. Use caution interpreting boundary accuracy.

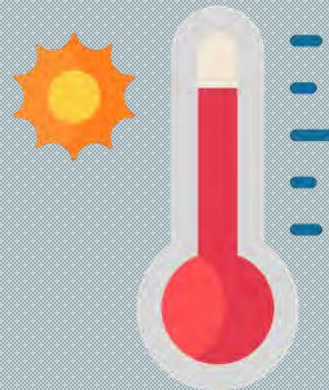
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www.cmrpc.org

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Jan 1 2020



# IN SUMMARY







## Town of Princeton

### Municipal Vulnerability Preparedness Program

# PUBLIC LISTENING SESSION

**Tuesday, March 9, 2021  
10:00 AM**

**Meeting Link:** <https://global.gotomeeting.com/join/911978685>

**Phone Number:** +1 (408) 650-3123

**Access Code:** 911-978-685

You are invited to attend the Town of Princeton's Municipal Vulnerability Preparedness (MVP) Public Listening Session! The MVP Core Team will be holding this Public Listening Session on March 9, 2021 at 10:00 AM during the Selectboard meeting. Learn more and provide comments regarding Princeton's outcomes from the recently held Community Resilience Building Workshop.

MVP provides support for communities to begin the process of planning for climate resilience and prioritizing adaptation and hazard mitigation actions. Communities that complete the MVP certification program are eligible for Action Grant funding and other opportunities. To view the Town of Princeton's draft Summary of Findings Report, please click this link: [https://www.town.princeton.ma.us/sites/g/files/vyhlf4891/f/uploads/updated\\_princeton\\_mvp\\_report\\_1\\_29\\_21\\_0.pdf](https://www.town.princeton.ma.us/sites/g/files/vyhlf4891/f/uploads/updated_princeton_mvp_report_1_29_21_0.pdf)

For more information or to provide comments, contact Sherry Patch, Town Administrator, at [townadministrator@town.princeton.ma.us](mailto:townadministrator@town.princeton.ma.us), or the Central Massachusetts Regional Planning Commission at [dmardini@cmrpc.org](mailto:dmardini@cmrpc.org).

# MUNICIPAL VULNERABILITY PREPAREDNESS (MVP) PROGRAM

## Public Listening Session

Princeton, MA

March 9, 2021

10:00 – 11:00 AM



## **MUNICIPAL VULNERABILITY PREPAREDNESS (MVP)**

- State grant program to support cities and towns to begin the process of planning for climate resiliency.
- MVP Planning Process includes CRB Workshop, Report, Listening Session and Annual Reporting
- Communities who complete the MVP Planning Process become certified as an MVP Community
- Designated communities become eligible for MVP Action Grant funding







## Municipal Vulnerability Preparedness (MVP) Program

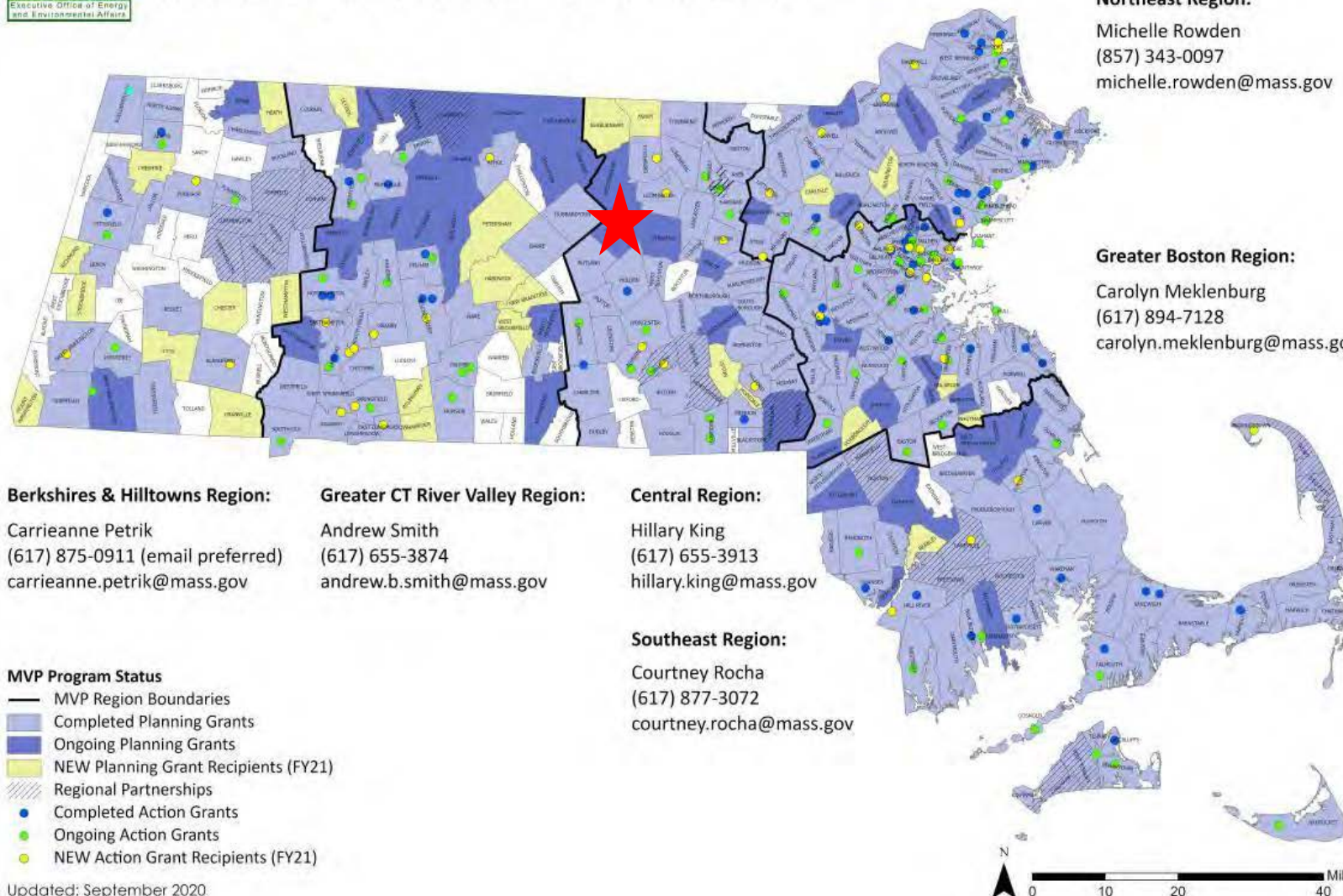
**Program Manager:** Kara Runsten, (617) 312-1594, kara.runsten@mass.gov

### Northeast Region:

Michelle Rowden  
(857) 343-0097  
michelle.rowden@mass.gov

### Greater Boston Region:

Carolyn Meklenburg  
(617) 894-7128  
carolyn.meklenburg@mass.gov



## COMMUNITY RESILIENCE BUILDING (CRB) PROCESS

- Community-driven process led by the project coordinator (Sherry Patch) with a core team of Town officials and Department Heads
- Princeton's 10 member Core Team met 7 times, January, March, April, May and September
- Invitation-only workshop was held virtually on October 22<sup>nd</sup>, October 29<sup>th</sup>, and November 5<sup>th</sup>
- 33 attendees, including local officials, board and committee members, business, schools and non-profit groups
- Listening session (today) is open to the public



## CRB WORKSHOP OBJECTIVES

- Define extreme weather and climate-related hazards
- Identify current and future vulnerabilities and strengths
- Develop and prioritize actions for the community and broader stakeholder networks, and
- Identify opportunities for the community to advance actions to reduce risks and build resilience



## PRIMARY TOPIC AREAS



- Infrastructure



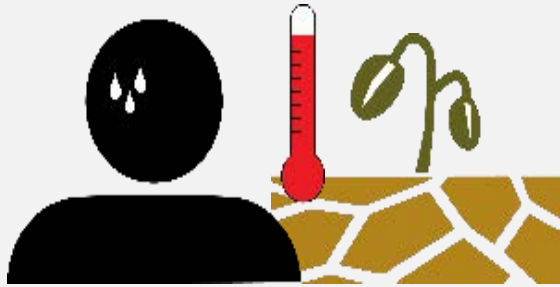
- Society



- Environment

# STEP ONE: IDENTIFY TOP 4 HAZARDS

## DROUGHT/HEAT/WILDFIRE



## FLOODING



## WINTER STORMS (ICE)

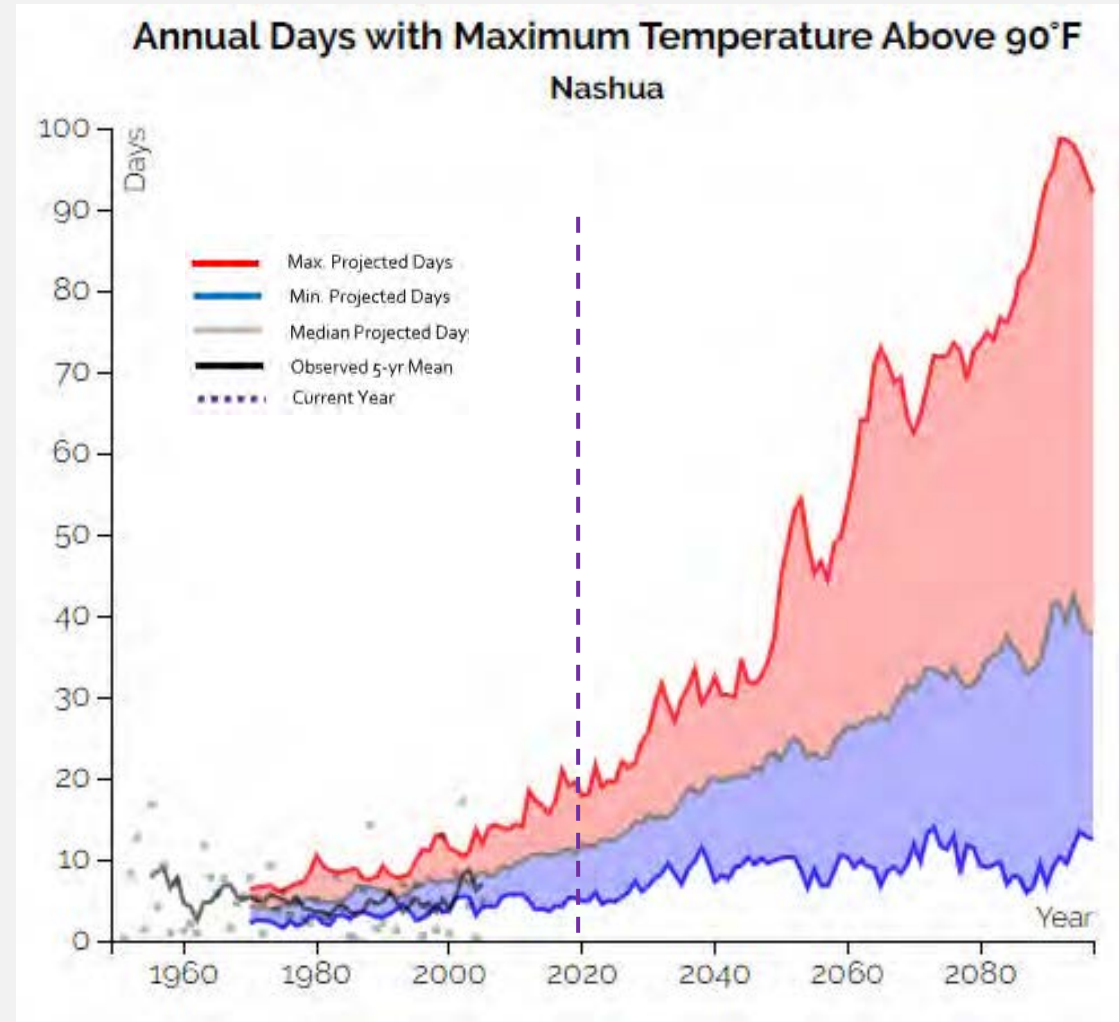


## HIGH WIND EVENTS



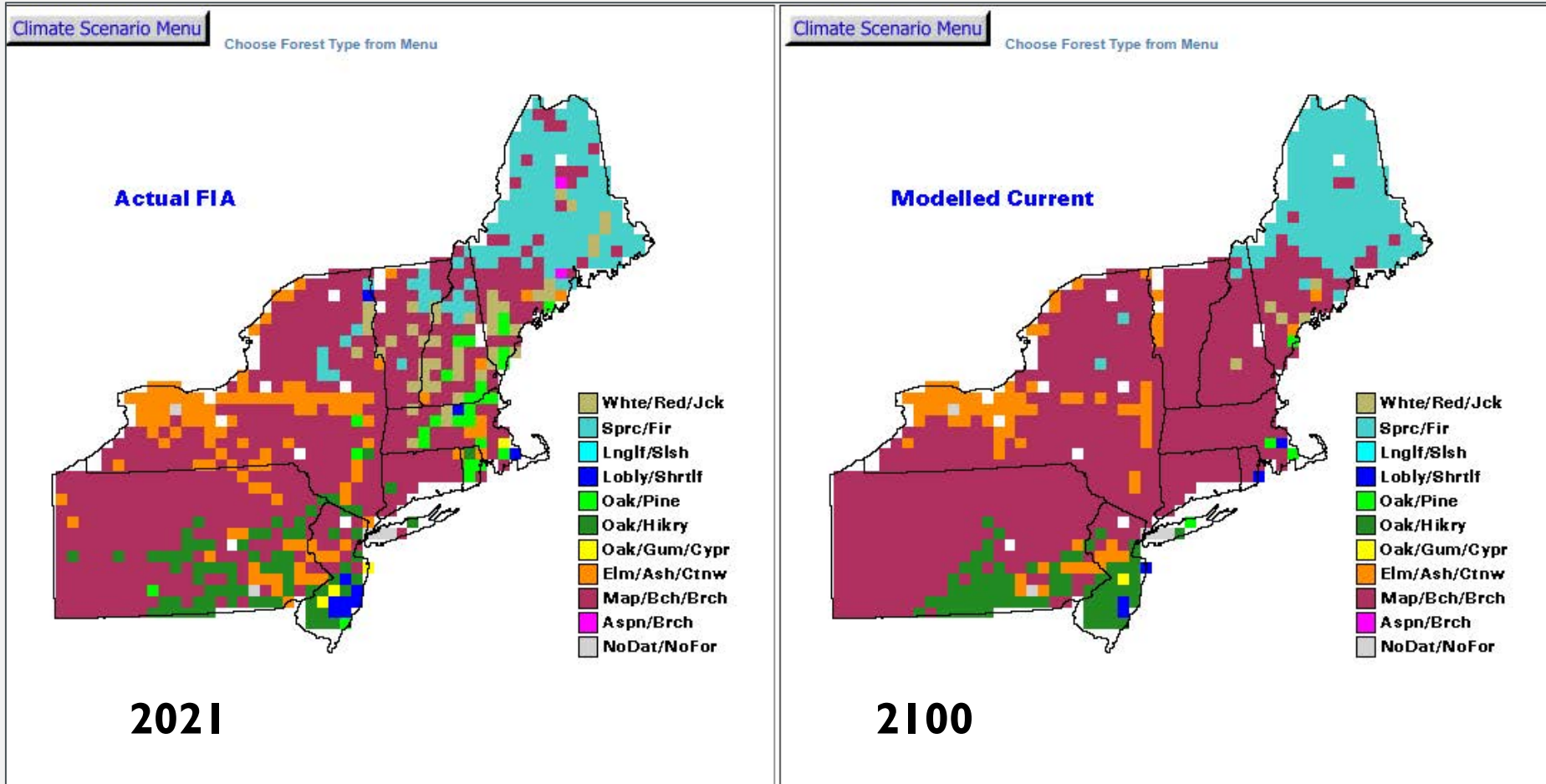
# HEAT PROJECTIONS

- Projected increase of 8 to 29 days annually over 90°F by mid century
- Projected increase of 11 to 69 days annually over 90°F by end of century





# HEAT IMPACTS ON THE ENVIRONMENT

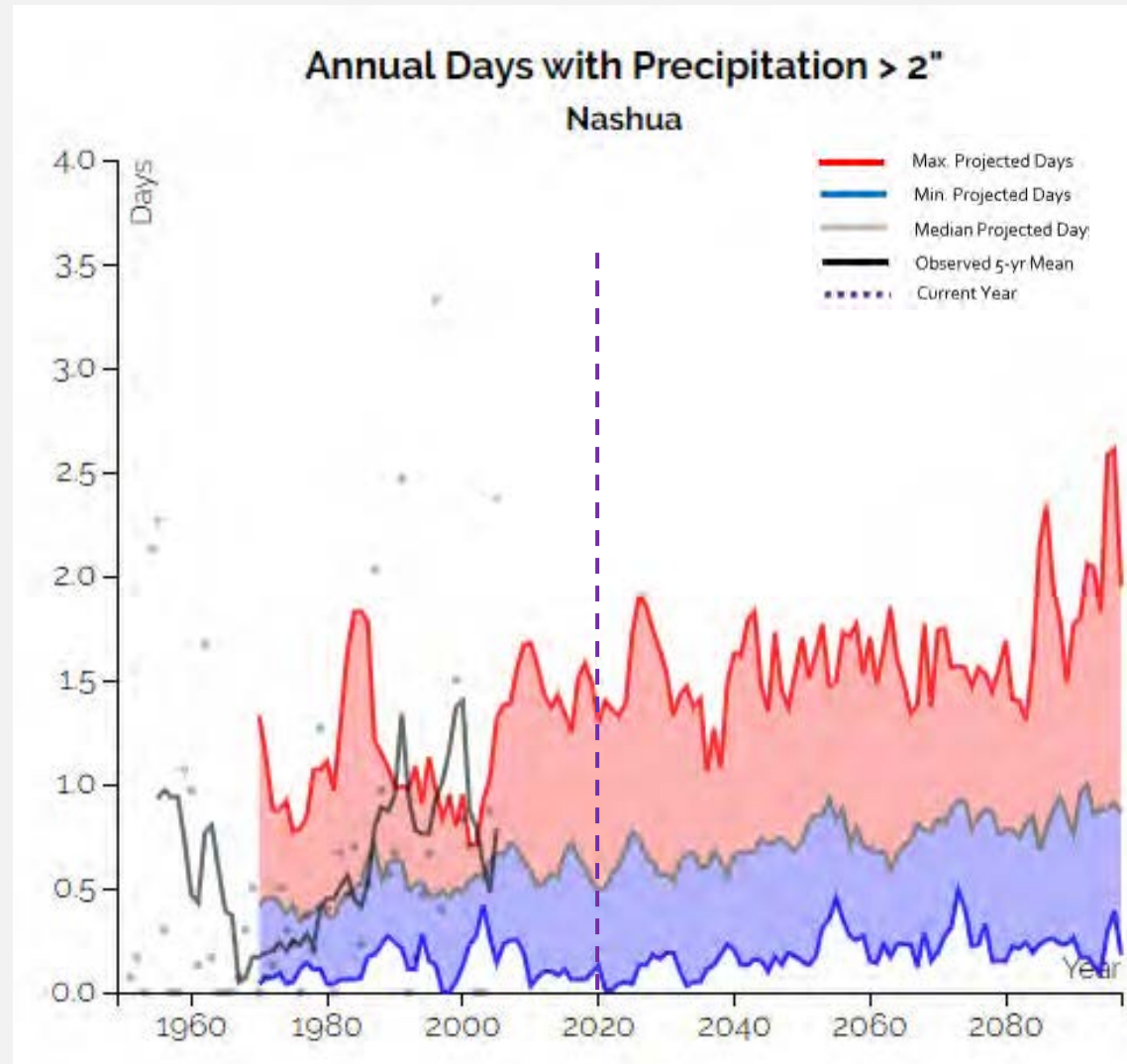


- Species expected to move north
- Diversity of species will likely decrease
- Likely increase in invasive species

# HEAVY RAINFALL AND FLOODING

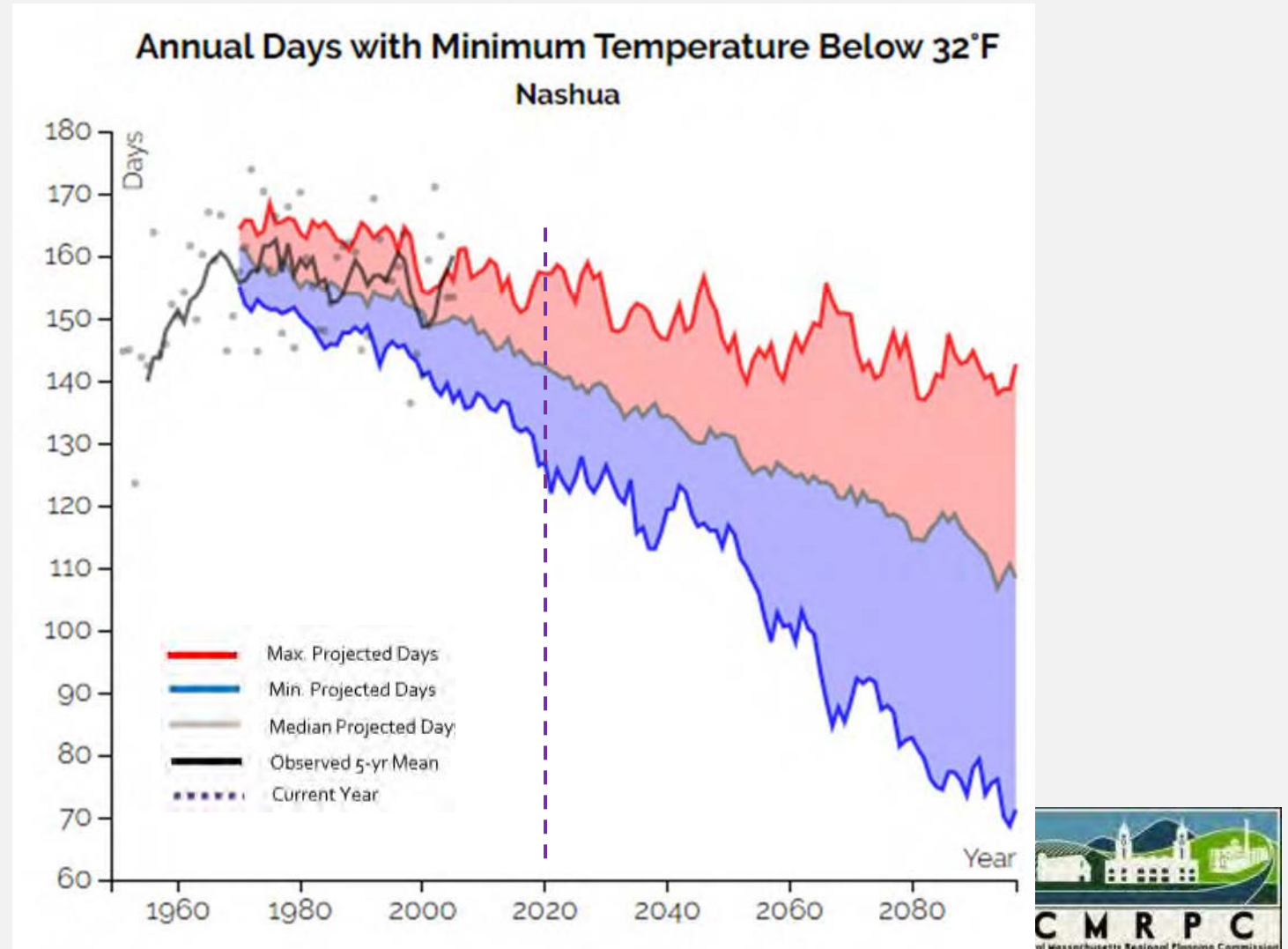
## Extreme Precipitation

- The number of days each year with more than 2 inches of precipitation will increase.



# WINTER STORMS

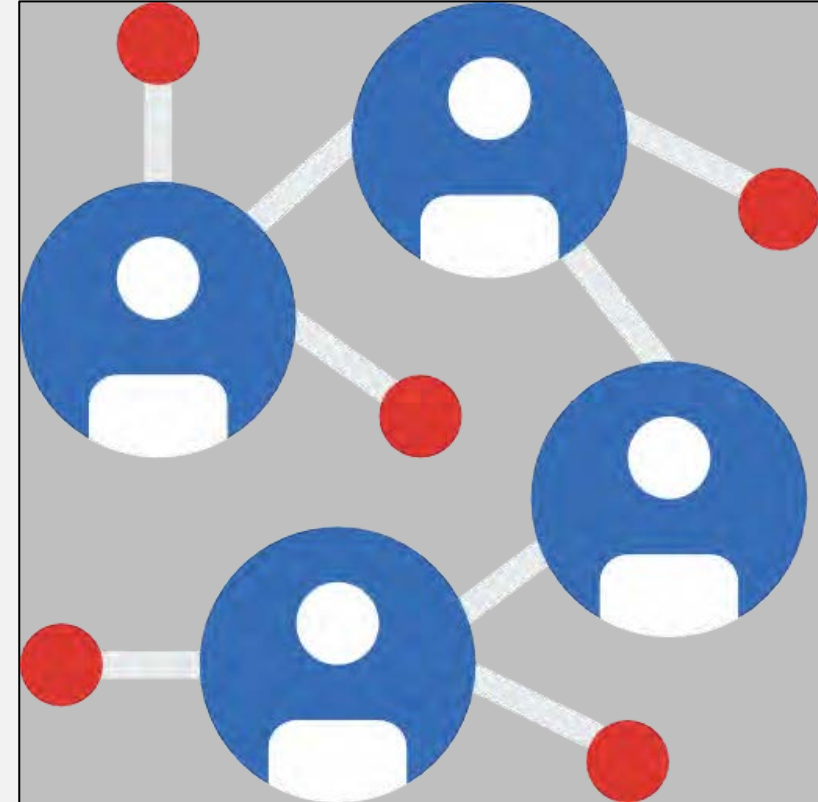
- Annual days below freezing will decrease
- Rising temps → more winter precipitation to fall as rain or freezing rain
- Lower snowfall accumulation
- Winter - Highest projected increase in precipitation
- Storms that do occur may be worse
  - proximity to Atlantic Ocean increases risk of large storm events





# BREAKOUT GROUPS

- 4 Breakout groups of 6-7 individuals
- 4 Focus Hazards
- 3 Focus Sections
- Tools and Resources
  - Matrix, Maps, HMP & Each Other




Icon made Prettyicons from Flaticon.com

# THE MATRIX

Community Resilience Building Risk Matrix				www.CommunityResilienceBuilding.com					
<p><b>H-M-L</b> priority for action over the <u>Short</u> or <u>Long</u> term (and <u>Ongoing</u>)</p> <p><b>V</b> = Vulnerability <b>S</b> = Strength</p>				<p><b>Top Priority Hazards</b> (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)</p>				Priority	Time
Features	Location	Ownership	V or S					H-M-L	Short Long Ongoing
<b>Infrastructural</b>									
<b>Societal</b>									
<b>Environmental</b>									

# STEP TWO: WHAT, WHERE, WHO AND VULNERABILITIES

**Community Resilience Building Risk Matrix**  [www.CommunityResilienceBuilding.com](http://www.CommunityResilienceBuilding.com)


**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	Top 4 Hazards	Priority	Time	
						H-M-L	Short Long Ongoing
<b>Infrastructural</b>							
<b>Societal</b>							
<b>Environmental</b>							



# STEP TWO: WHAT, WHERE, WHO AND VULNERABILITIES

**Community Resilience Building Risk Matrix**  [www.CommunityResilienceBuilding.com](http://www.CommunityResilienceBuilding.com)

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	Top 4 Hazards				Priority	Time
								H-M-L	Short Long Ongoing
<b>Infrastructural</b>									
Dam									
<b>Societal</b>									
Senior Housing									
<b>Environmental</b>									
Wetlands									

## STEP TWO: WHAT, WHERE, WHO AND VULNERABILITIES

**Community Resilience Building Risk Matrix**

H = High priority for action over the Short or Long term (depending)  
V = Vulnerability S = Strength

[www.CommunityResilienceBuilding.com](http://www.CommunityResilienceBuilding.com)


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

**Top 4 Hazards**

Features	Location	Ownership	V or S	Priority	Time
<b>Infrastructural</b>					
Dam					
<b>Societal</b>					
Senior Housing					
<b>Environmental</b>					
Wetlands					

Estimated Location

# STEP TWO: WHAT, WHERE, WHO AND VULNERABILITIES

**Community Resilience Building Risk Matrix**  [www.CommunityResilienceBuilding.com](http://www.CommunityResilienceBuilding.com)

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	Top 4 Hazards				Priority	Time
								H-M-L	Short Long Ongoing
<b>Infrastructural</b>									
Dam									
<b>Societal</b>									
Senior Housing									
<b>Environmental</b>									
Wetlands									

**Public? Private? State?**

**Estimated Location**



# STEP TWO: WHAT, WHERE, WHO AND VULNERABILITIES

**Community Resilience Building Risk Matrix** [www.CommunityResilienceBuilding.com](http://www.CommunityResilienceBuilding.com)

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	Top 4 Hazards	Priority	Time
					H-M-L	Short Long Ongoing
<b>Infrastructural</b>						
Dam						
<b>Societal</b>						
Senior Housing						
<b>Environmental</b>						
Wetlands						

**Vulnerability or Strength**


**Public? Private? State?**

**Estimated Location**

## STEP THREE: ACTIONS, PRIORITY AND TIMELINE

[illegible]

# TABLE SUMMARIES

Community Resilience Building Risk Matrix 					www.CommunityResilienceBuilding.org					
<b>Princeton Table 1</b> 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, etc.)					
					Winter Storm	Flooding	Wind Events	Draught	Priority	Time
									H - M - L	Short Long Ongoing
Features	Location	Ownership	V or S	Description						
Infrastructural										
Fire Roads and Trail Access	Various	DCR, TOWN, PVT	V	Not enough access to large wooded areas	Opening and clearing of access roads in case of fire or emergency, map and identify vulnerable areas. Access to equipment from neighboring towns or town inventory.					
Fire Pond	Various	Town	V	Access to Fire Ponds, Maintenance	Could we harvest storm water for fire use.					
Cable/Fiber Optic	Town Wide	Charter								
Power	Town Wide	PMLD	V	Storm damage, Single point of entry, not insulated three phase line	Vegetation and Forest management, study of tree inventory to find compromised trees beyond street line. Study to address single entry point of power and solutions, feasibility and					
Communication (Landlines, Cell Phone Towers)	Town Wide	Verizon	V	Dead spots in cell services, No single way to communicate to all residents,	Vegetation and Forest management, study of tree inventory to find compromised trees beyond street line.					
Culverts/Bridges	Town Wide	Town, Private	V	Many culverts in town are in need of replacing	Town is working towards replacing vulnerable culverts with environmentally friendly culverts. Learn about additional funding options, hire a outside company to improve plan and funding					
Railroad	Ball Hill Rd, Calamint, Gates	Railroad Company	V	Proper maintenance of track to prevent fires from sparks	Keeping tracks clear to prevent potential for fires in summer. Keeping tracks clear of ice and snow. Holding company accountable.					
Dam					Making sure Dams are strong and able to withstand capacity. Making sure the Dams are evaluated. High Hazard Dam may be misnamed. Plan to contact private Dam owners.					
Flat Roof buildings										
Steep Roads	Gregory Hill Rd, Pine Hill Rd,		V	Perennial Icing	Safety study, flashing stop signs mountain rd. and Worcester rd. study on ice management, other treatment options for steep hill areas.					
Dirt Roads	Town Wide	Town	V	Problems with wash out and thawing, highway dept. frequently repairing roads						
Private Wells/ Community Water / Sewer	Town Wide	Private	V	Lack of community water and treatment facility	encouraging residents to use rain runoff for lawn and garden use, tie into irrigation use					
Public Safety Building	Center of Town	Town	V							
Steep Roofs	Various, Fire Station	Town	V	Snow/Ice falling from roofs, blocking ambulance, danger to pedestrians						
Emergency Response	Fire, EMT	Town	V	Lack of full time emergency response staff, longer response time in emergency's	Public safety building, increase in employment					



# GROUP VOTE



## Princeton Municipal Vulnerability Preparedness Program

### Top Priority Actions Survey

Thank you for participating in Princeton's MVP Virtual Workshop! All of the presentations, background information, and the matrix that you helped to fill out during the workshop can be accessed at the following link:

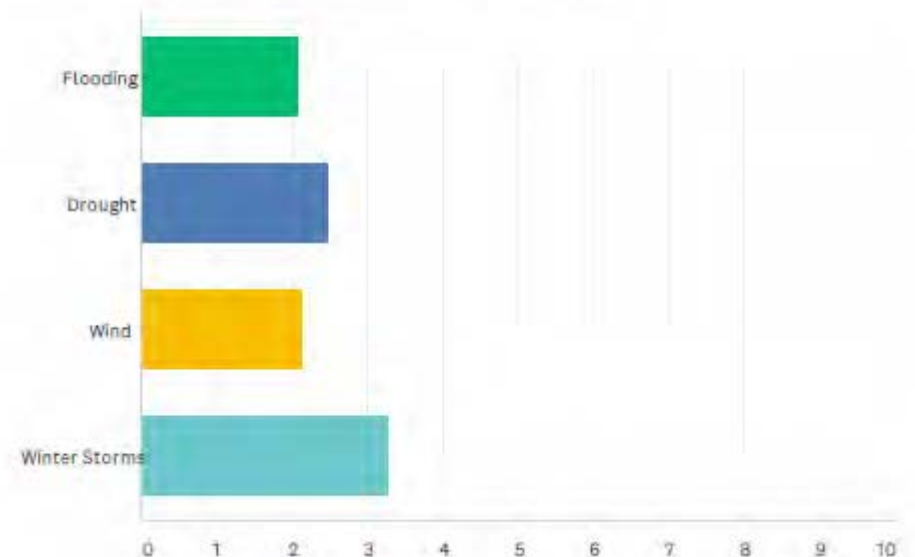
<https://www.townofprinceton.org/DocumentCenter/View/224/Princeton-MVP-Virtual-Workshop-Report>

Based on the action items that you came up with during the workshop, we have developed the survey below. This survey will help us identify the top priority actions that Princeton should take in order to become more resilient. Please take some time to review those materials in the link above and complete the survey by Sunday, November 22, 2020. The results of this survey will be described in the report and discussed during the listening session.

Thank you in advance for your help with this next step!

Q1 Please Rank the following hazards in order from most concern (1) to least concern (4):

Answered: 14 Skipped: 0



WHAT DID THE GROUP FIND?

# INFRASTRUCTURE CONCERNS



Dams, Culverts,  
& Bridges



Power Grid



Roadways



Town Facilities



# INFRASTRUCTURE STRENGTHS



Road Maintenance



Public Safety



Municipal Buildings

# INFRASTRUCTURE ACTIONS

## HIGH PRIORITY

Water  
Management

Alternative  
Power  
Sources

Access

## SOCIETAL CONCERNS



Transportation



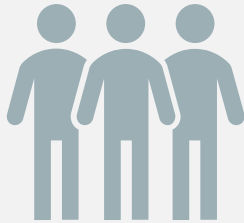
At- Risk Population



Communication



# SOCIETAL STRENGTHS



Community



Town Services &  
Personnel



Communication  
Systems

# SOCIETAL ACTIONS

## HIGH PRIORITY

Utilize  
Partnerships

Enhance  
Community  
Preparedness

Assess  
Resources

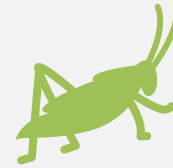
# ENVIRONMENTAL CONCERNS



Invasive &  
Nuisance Species



Runoff  
Contamination



Insect-Borne  
Disease



Fire Prevention



# ENVIRONMENTAL STRENGTHS



Tourism &  
Recreation



Forests & Trees



Bylaws & Policies

# INFRASTRUCTURE ACTIONS

HIGH PRIORITY

Environmental  
Policy

Outreach

Forest  
Management

# NEXT STEPS FOR PRINCETON



Finalize draft report with assistance from CMRPC



Final report submitted to EOEEA by June 30, 2021  
Projected Submission in Early April



Princeton receives “MVP Community” certification



Annual reporting by Core Team



Develop and apply for MVP Action Grants



# ACTION GRANTS

Next round expected in spring 2021

Up to \$2 million for an individual community

Up to \$5 million for regional projects

One year grant cycle (typically) July 1<sup>st</sup>- June 30<sup>th</sup>

25% Match - Cash or In-kind (Non-State Funds)

[www.mass.gov/municipal-vulnerability-preparedness-mvp-program](http://www.mass.gov/municipal-vulnerability-preparedness-mvp-program)

[www.communityresiliencebuilding.com](http://www.communityresiliencebuilding.com)



# Questions and Comments

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# Thank you

