



September 2022

Community Resilience  
Building Workshop Summary  
Findings: Appendix to the  
Town of Hinsdale Hazard  
Mitigation Plan (2019)



Town of Hinsdale in partnerships with  
Commonwealth Municipal Consulting, LLC

Community Resilience Building Workshop  
Summary Findings:  
Appendix to the Town of Hinsdale  
Hazard Mitigation Plan (2019)

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# Overview

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## Introduction

Following the completion of a Multi-Hazard Mitigation Plan in 2019 (HMP)<sup>2</sup>, the Town of Hinsdale pursued the Municipal Vulnerability Preparedness (MVP) Community designation through Massachusetts Executive Office of Energy and Environmental Affairs (EEA) MVP Planning Grant. The grant award for the Reduced Scope MVP extended the work of the HMP by focusing on climate change resilience, nature-based solutions, and regional collaboration on climate adaptations.

The Town of Hinsdale is located in the Berkshire Hills in Western Massachusetts. The Town is near the headwaters of the Housatonic River and contains many bodies of water that are utilized both as water supplies by Hinsdale and its neighboring communities as well as for recreational purposes. A significant portion of the remainder of the Town is forested, providing tree canopy for recreational opportunities, including a portion of the Appalachian Trail<sup>3</sup>.

The large bodies of water in Town are a source of concern related to climate change. Plunkett Reservoir, the Town's secondary water source and a primary recreational

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<sup>1</sup> Samson, P. (2013). *Paul Samson's kayaking blog*. Retrieved Aug 24, 2022, from <https://psamson.wordpress.com/2013/12/20/ashmere-lake-hinsdale-ma/>

<sup>2</sup> Hinsdale Hazard Mitigation Advisory Committee. (2019). *Town of Hinsdale Multi-Hazard Mitigation Plan*. Town of Hinsdale.

<sup>3</sup> Town of Hinsdale. (n.d.). *Town of Hinsdale: About*. Retrieved from <https://www.hinsdalemass.com/about>

attraction, is surrounded by 125 full time and part-time homes. It is also situated above “the Flats,” a central, low-lying part of Town adjacent to the Town Center that contains many homes, a few businesses, an elementary school, and a combined Town Hall and Police Station. There are also wetlands that are a portion of the Housatonic River Watershed. This area is designated a state recognized Area of Critical Environmental Concern<sup>4</sup>.



*Ashmere Lake, Hinsdale Massachusetts<sup>5</sup>*

Belmont Reservoir, located at a higher elevation than Plunkett Reservoir, serves as a primary water supply as well as the first domino in the event of a dam failure and/or flood that would cascade through Plunkett and then to the Flats and beyond, potentially crossing into the neighboring Town of Dalton<sup>6</sup>. Train tracks owned and managed by CSX also run along the Housatonic River and would, minimally, also be impacted by a major flooding event. More likely, the risk posed by a flood is multiplied by their presence because surrounding land is not regularly maintained. Beaver activity and the age and condition of several dams in Town, especially the high-hazard earthen dam on Plunkett Reservoir, also increase the risk posed by any weather event with significant precipitation and/or wind. Flooding events following Tropical Storm Irene and other severe storms have demonstrated the Town’s vulnerability with regard to floods. Given the predicted

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<sup>4</sup> Hinsdale Hazard Mitigation Advisory Committee. (2019). *Town of Hinsdale Multi-Hazard Mitigation Plan*. Town of Hinsdale.

<sup>5</sup> Wikipedia.org. (2022). *Hinsdale, Massachusetts*. Retrieved Aug 25, 2022, from [https://en.wikipedia.org/wiki/Hinsdale,\\_Massachusetts](https://en.wikipedia.org/wiki/Hinsdale,_Massachusetts)

<sup>6</sup> Root, M. (2022). *Biennial 2020 Dam Inspection Report for Plunkett Reservoir Dam*. Town of Hinsdale, MA.

increase in annual precipitation and more significant 24-hour rainfall totals<sup>7</sup>, the risk associated with these vulnerabilities dramatically increases.

Of the 568 owner-occupied homes in Hinsdale, 209 are owned outright while 359 have a mortgage<sup>8,9</sup>. The median home values are \$158,700 for those with no mortgage and \$251,100 for those with a mortgage. Combined, the private property value of the Town of Hinsdale is estimated at \$123,313,200. There are an additional 173 homes in Hinsdale that are renter-occupied. Also of note, the Town does not contain an Environmental Justice Population.

## Community Resilience Building Workshop

As previously stated, the Town of Hinsdale updated their HMP in 2019. Although the plan included vulnerabilities and hazards as it related to emergency management and planning, the Town needed to consider long-term climate change solutions as part of the strategy for maintaining its resources.

The Town contracted Commonwealth Municipal Consulting, LLC, (CMC) an MVP vendor, with the goal of receiving the MVP Community designation. This opportunity was made possible by funding from the Massachusetts Executive Office of Energy and Environmental Affairs (EEA). Per the EEA grant, the Town and CMC followed a truncated Community Resilience Building (CRB) framework process due to the project being designated reduced scope because of the recent completion of the HMP.

The Town created an MVP Core Team committee that met frequently over the course of the Spring of 2022 to review hazards, identify vulnerabilities, and inventory current actions in the community. The Core Team held a series of meetings to assemble data on the Town's infrastructure; identify known hazards; and review existing plans, procedures, By-Laws, and protections already in place.

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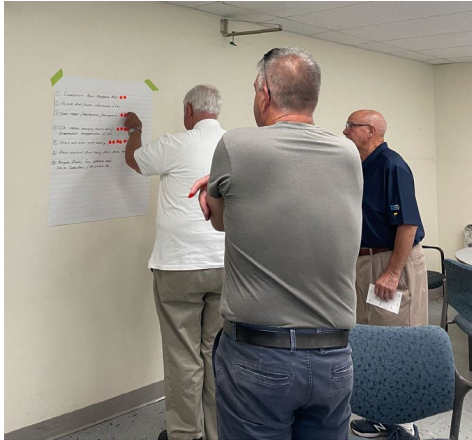
<sup>7</sup> Massachusetts Executive Office of Energy and Environmental Affairs. (2021). *Resilient MA map viewer*. Retrieved June 20, 2022, from <https://resilientma.mass.gov/map/>

<sup>8</sup> U.S. Census Bureau. (n.d.). *Financial Characteristics for Housing Units without a Mortgage*, 2020 American Community Survey 5-year estimates. Retrieved from <https://data.census.gov/cedsci/table?q=hinsdale%20ma&tid=ACSST5Y2020.S2507>

<sup>9</sup> U.S. Census Bureau. (n.d.). *Financial Characteristics for Housing Units with a Mortgage*, 2020 American Community Survey 5-year estimates. Retrieved from <https://data.census.gov/cedsci/table?q=hinsdale%20ma&tid=ACSST5Y2020.S2506>

On June 28, 2022, the Town of Hinsdale held a two-hour CRB Workshop. The Workshop's central objectives were to:

- Define top local natural and climate-related hazards of concern;
- Develop prioritized actions for the community;
- Identify immediate opportunities to collaboratively advance actions to increase resilience.



During the Workshop at Hinsdale's Town Hall, CMC provided an overview of the MVP program, reviewed the process leading up to the Workshop, and presented a summary of climate change projections. They then reviewed the impacts specifically for Hinsdale using ResilientMA.org and local hazard information based on their completed HMP.

The discussion proceeded to action items, including prioritizing actions, considering regional actions, and seeking nature-based solutions when possible.

This report compiles the rich information and conversations that came out of Hinsdale's CRB Workshop process. It highlights the top three action items identified during the Workshop. The stakeholders played an integral role in identifying their proposed actions and had a common goal of enhancing the Town's resilience to climate change.



## Methods and Materials

In order to best identify potential action steps from a climate forward perspective, climate change projections for the Town were completed prior to the Workshop using the ResilientMA Map Viewer<sup>10</sup>. Significant data discussed at the Workshop included the projected change in total precipitation by 2050, the projected change in average temperature by 2050, and the projected change in days above 90°F by 2050<sup>11</sup>. See *Table 2* for all climate change projections for Hinsdale.



With the climate change projections in mind, discussions of potential adaptation techniques for the top three actions focused on the possibility of nature-based solutions. Nature-based solutions are a form of sustainable planning and development that incorporate the natural environment with the built environment to increase resilience and promote adaptation, specifically to climate change<sup>12</sup>. Focusing on nature-based solutions instead of infrastructure-based solutions helps to promote long-term planning in a way that is environmentally and financially sustainable for the Town.

Environmental, infrastructural, and societal vulnerabilities were also taken into consideration during this discussion. Environmental vulnerabilities include the natural world and its systems that we are dependent on for survival. Infrastructural vulnerabilities include the physical-built environment and the systems on which it depends. Examples include buildings or structures, public transportation, roads, communication networks,

<sup>10</sup> Massachusetts, Executive Office of Energy and Environmental Affairs. (2021). *ResilientMA map viewer*. Retrieved July 13, 2022, from <https://resilientma.mass.gov/map/>

<sup>11</sup> IUCN Congress. (2021). *Nature-based solutions training: Using the global standard to achieve positive sustainable change*. Retrieved Aug 26, 2022, from <https://www.iucncongress2020.org/programme/official-programme/session-43371>

<sup>12</sup> Federal Emergency Management Agency. (2022). *Nature based solutions*. Retrieved July 13, 2022, from <https://www.fema.gov/emergency-managers/risk-management/nature-based-solutions#:~:text=Nature%2Dbased%20solutions%20are%20sustainable,Reduce%20flood%20risk>

and water and electrical systems<sup>13</sup>. Societal vulnerabilities focus on a community's ability to be resilient in the face of hazards and the various social factors that may help or hinder this ability<sup>14</sup>.

Aspects of societal vulnerabilities include race, income, age, disability, and overall access to essential goods and services to ensure safety and vitality in the community. A survey for Climate Vulnerable Populations was distributed subsequently to the Workshop to gauge their opinions and the social vulnerabilities faced by the Town of Hinsdale. This survey is included as Appendix E.

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<sup>13</sup> Boyle, M. J. (2022). *Infrastructure*. Retrieved July 13, 2022, from <https://www.investopedia.com/terms/i/infrastructure.asp>

<sup>14</sup> Flanagan, B. E., Gregory, E. W., Hallisey, E. J., Heitgerd, J. L., & Lewis, B. (2011). A social vulnerability index for disaster management. *Journal of Homeland Security and Management*, 8(1).

# Findings

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## Top Hazards and Vulnerable Areas

Based on the Hinsdale 2019 HMP, the Core Team identified the natural hazards facing the Town of Hinsdale and assessed the vulnerabilities of the area’s critical facilities, infrastructure, residents, and businesses.

### Top Hazards

Top Hazards as Identified in the HMP and Confirmed by the Core Team
Flooding (includes Ice Jam, Beaver Activity)
Dam Failure
Severe Storm (High Wind, Tornado, Extreme temperature)
Severe Winter Event (Ice Storm, Blizzard, and Nor’easter)

*Table 1.* Top Hazards in the Town of Hinsdale

According to the HMP, these four categories were ranked as the most prevalent natural hazards identified by local officials in Hinsdale. The Core Team and Workshop participants confirmed that these rankings are still accurate. The HMP also identified that climate change has the potential to exacerbate these issues over time with these changes in weather events. As stated in the HMP:

Climate change presents a significant challenge for risk management associated with severe weather. The frequency of severe weather events has increased steadily over the last century. The number of weather-related disasters during the 1990s was four times that of the 1950s, and cost 14 times as much in economic losses. Historical data show that the probability for severe weather events increases in a warmer



climate (MEMA, 2013)<sup>15</sup>. Warming ocean temperatures are a source of increased evaporation and resulting precipitation, and warmer air masses can create more volatile atmospheric conditions, particularly if they interact or collide with cooler air masses. Any severe storm event could have significant economic consequences.

Extreme temperatures are among the most dangerous impacts associated with climate change. Extreme heat is among the most harmful to public health and safety, particularly for populations made more vulnerable due to existing chronic medical conditions or lower economic status. Additional impacts pose serious threats to public health and safety of urban areas, rising sea levels, and decreases in natural biodiversity (Hinsdale Hazard Mitigation Advisory Committee, 2019, p. 50).

## Current Concerns and Challenges Due To Hazards and Climate Change

There is a history of localized flooding events within the Town of Hinsdale, specifically during or as a result of extreme weather events. These events are detailed in the HMP, but highlights include:

- Hurricane Ivan's remnants, September 2004: Damage to batter boards on Plunkett Reservoir Dam and flooding on Commonwealth Avenue and railroad tracks;
- October 2005: Damage to batter boards on Plunkett Reservoir Dam and flooding on Commonwealth Avenue; and
- Tropic Storm Irene, August 2011: Cady Brook Bridge was destroyed.

The HMP also notes that seven of the last 15 flood events that exceeded the flood stage at Cortsville gage, the nearest USGS stream gage to Hinsdale, have occurred since 1970, and five of those 15 events have occurred since 2000 (Hinsdale Hazard Mitigation Advisory Committee, 2019, p. 21).

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<sup>15</sup> Massachusetts Emergency Management Agency. (2013). *Commonwealth of Massachusetts State Hazard Mitigation Plan*. Massachusetts Department of Conservation and Recreation.

The primary concern expressed by the Core Team as well as the Workshop participants is an event that would trigger a dam failure and/or flood of Plunkett Reservoir. The events predicted include:

- a failure of the earthen dam on Plunkett Reservoir's eastern side due to its age or an earthquake,
- a beaver dam failure above Belmont Reservoir (whose waters then flow to Plunkett Reservoir),
- a dam failure at Belmont Reservoir,
- a major rain event or microburst that overwhelms one or both of those reservoirs, or
- an extreme heat event early in the spring following a winter with heavy snowfall causing a sudden melting of mountain snow with the runoff inundating the reservoirs.

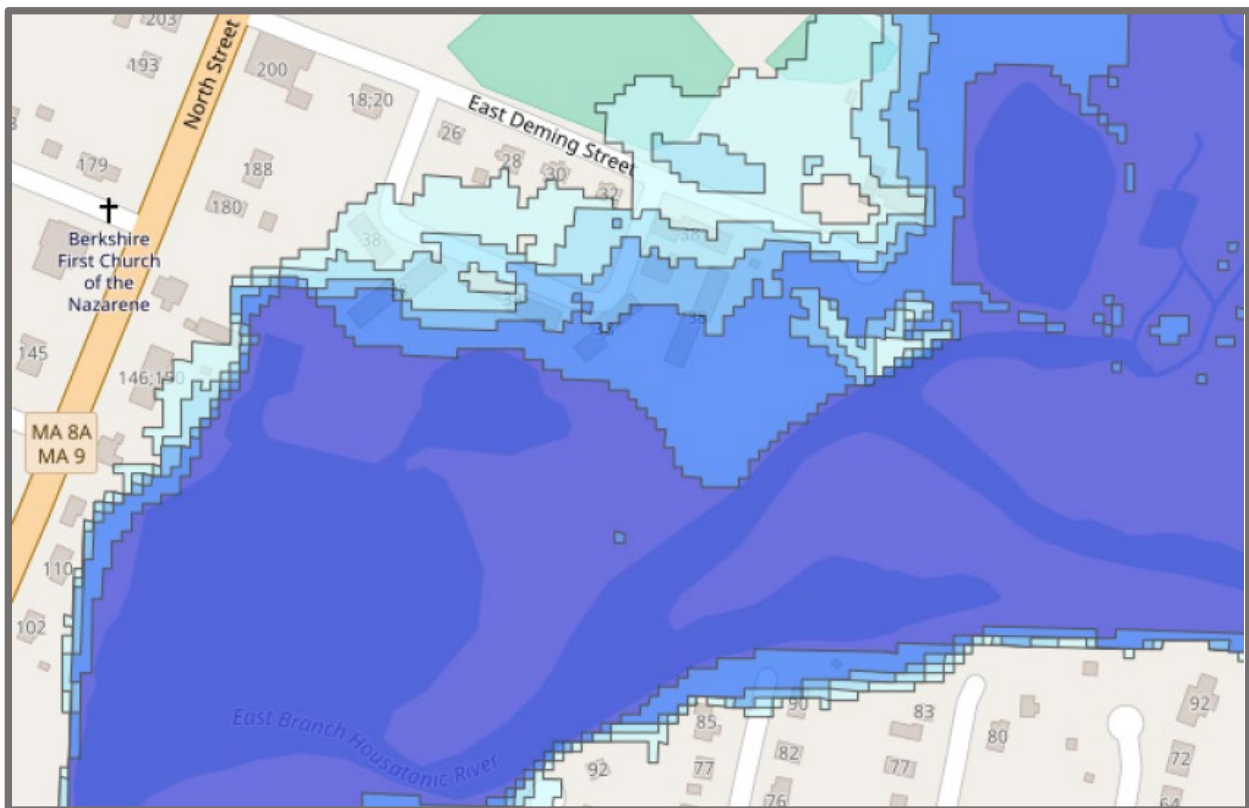


## Inundation Map, Plunkett Reservoir

This map, completed as part of a recent EAP updated, shows the inundation area resulting from a flood of Plunkett Reservoir with a two-foot surge. The inundation area reached as far north as Dalton.

In each of these instances, the prediction is that the sudden influx of water would overwhelm one or both reservoirs. If Plunkett Reservoir fails, the resulting floodwaters will then head northeast along Frisell Brook to the Flats, then to the Center of Town, then continue north and south along the Housatonic River floodplain, primarily to the east of the river, and potentially into the neighboring Town of Dalton, depending on the volume of water involved<sup>16</sup>.

Given the prediction of increased annual precipitation as well as increased frequency of extreme precipitation events (see *Table 2*), the probability of a flood associated with Plunkett Reservoir will continue to increase over time.



Detail of inundation area in Town of Dalton, MA

<sup>16</sup> Root, M. (2022). Biennial 2020 Dam Inspection Report for Plunkett Reservoir Dam. Town of Hinsdale, MA.

Category	Annual Baseline	High Emissions Scenario (RCP 8.5 <sup>17</sup> ) Projection by 2050's
Consecutive dry days	15.98 days	+0.74 days
Extreme precipitation > 1"	6.03 days	+1.55 days
Extreme precipitations > 2"	0.57 days	+0.22 days
Extreme precipitation > 4"	0.01 days	+0.02 days
Total precipitation	47.43 inches	+3.56 inches
Average temperatures	44.32 °F	+5.72 °F
Cooling degree days <sup>18</sup>	261.29 degree days	+470.06 degree days
Days < 0 °F	15.92 days	-10.6 days
Days < 32 °F	172.97 days	-31.62 days
Days > 100 °F	0.00 days	+0.24 days
Days > 90 °F	1.33 days	+15.7 days
Days > 95 °F	0.07 days	+3.53 days
Growing green days <sup>19</sup>	1899.77 degree days	+1018.72 degree days
Heating degree days <sup>20</sup>	7822.03 degree days	-1590.87 degree days
Maximum temperatures	55.41 °F	+5.74 °F
Minimum Temperatures	33.23 °F	+5.88 °F

Table 2. Climate Change Predictions in the Town of Hinsdale, MA.

<sup>17</sup> Refers to the concentration of carbon that delivers global warming at an average of 8.5 watts per square meter across the planet.

<sup>18</sup> Measures the degrees that a day's average temperature is above 65 degrees Fahrenheit to quantify the demand for energy.

<sup>19</sup> Used to estimate the growth and development of plants and insects during the growing season. Development will only occur if the temperature exceeds some minimum development threshold, or base temperature (TBASE).

<sup>20</sup> The degrees that a day's average temperature is below 65 Fahrenheit, used to quantify the demand for energy.



This updated floodplain contains components of both Town and regional infrastructure. Included in this area are Town Hall, the Town Police Station, the Fire Department, the Highway Department/DPW garage, and Kittredge Elementary School. Hinsdale's transfer station is also nearby, so fallout from a flood penetrating the transfer station might contaminate the aquifer. The area also contains homes and businesses, including several active camps that are important businesses for the community in the summer months. Finally, the combination of Belmont and Plunkett Reservoirs comprise the primary water supply and back-up for the Town of Hinsdale. The Core Team noted that activating Plunkett Reservoir in the event that Belmont Reservoir becomes unusable would require 10 pumpers to move water through the Town's filter system to use it for this function.

Along the Housatonic River, there are CSX train tracks as well as Eversource power lines. Both are regional supply lines that, if compromised by a flooding event, would impact not only the Town of Hinsdale and its immediate neighbors but potentially the entire region. Since the CSX tracks run through wetlands along Route 8, if they are not properly maintained a large precipitation event could result in the flooding of Route 8, cutting off a primary evacuation route and emergency responder access to parts of Hinsdale. Additionally, without an ongoing relationship or oversight, the Town has serious concerns about what materials, including dangerous chemicals, are being transported through the community. More specifically, the Town does not know what safety measures are in place to safeguard them from accidents, including spills or derailments, or, should the worst come to pass, what the response plans are in the event of an accident or derailment.

Beyond the two reservoirs already discussed, the Town of Hinsdale also contains water supplies for the neighboring Town of Dalton and City of Pittsfield in the Upper Sackett and Cleveland Brook Reservoirs, both owned by the City of Pittsfield. Additionally, Ashmere Lake is owned by the Massachusetts Department of Conservation and Recreation (DCR). Hinsdale is in the peculiar situation of having those reservoirs and associated dams owned by other entities while being situated within its borders. Because of this arrangement, the other entities are responsible for the maintenance and upkeep of the respective bodies of water and/or dams. In the cases of Upper Sackett and Cleveland Brook Reservoir, a dam failure would not only flood parts of Hinsdale, but it would also affect the water supply for Dalton and/or Pittsfield as well as their sewage infrastructure. Two additional concerns related to Cleveland Brook Reservoir are



the proximity of the Pittsfield Chlorination Station (in Hinsdale) and Wahconah Regional High School (in Dalton), both potentially at risk in a flooding event from this reservoir.

There are a few additional challenges noted throughout the Core Team and Workshop discussions. One recurring challenge is the increasing beaver activity throughout the Town's bodies of water. The Town noted state policy prevents them from directly



managing beaver activity despite the increased risk posed by the number of beaver dams in Town. Another challenge noted is the accumulation of dead and dried out trees near the entrance to the Appalachian Trail on Pittsfield Road. The concern is that with increased periods of drought the dead wood presents an increased risk of wildfires. Though not top priorities for the Town, these challenges do pose a risk and, therefore, warranted discussion by the group as well as consideration of possible action steps.

### Survey Results Summary

A significant component of gauging climate change concern in a community is the presence of an Environmental Justice Population. Environmental Justice Populations in Massachusetts are neighborhoods comprised of specific percentages of individuals with limited incomes, who are non-white, or who are not English language speakers. These criteria reflect some historically marginalized groups that are placed at an increased risk for adverse climate change effects due to a variety of socioeconomic stressors. The State also considers Climate Vulnerable Populations, defined as individuals belonging to the above-

mentioned groups, the elderly, and people with disabilities, for similar reasons, but it does not require these individuals to be grouped in a specific neighborhood.

To solicit information from members of these groups, a survey was distributed to Hinsdale residents via an online link in the Town Newsletter<sup>21</sup>. A physical copy of the survey was also sent to the Town Administrator to target Climate Vulnerable Populations in Town who may not have access to a computer, but no responses were gathered in this manner. In total, six people responded to the online survey over the course of 3 weeks.

The complete results of the survey are included as Appendix F. Half of the respondents are over the age of 65, classifying them as members of a Climate Vulnerable Population. In the case of a climate change driven hazard, age poses increased concern surrounding the ability to evacuate due to decreased mobility and the potential need for additional assistance. Also, while half of the respondents reported earning over \$150,000 per year, one respondent indicated that they earn between \$20,000 and \$34,999 per year. While this range is not below the federal poverty limit, it showcases a gap in income that may pose challenges in terms of distribution and/or access to emergency services.

Although most of the responses indicate a favorable perception of Hinsdale's ability to provide emergency services, one respondent indicated a strong, unfavorable perception. That response correlated with a perception that age and income would limit their ability to receive support in the event of a weather-related emergency. Responses were similar when based on historical occurrences of emergencies in Town, with two respondents indicating dissatisfaction. There was no consensus on the ranking of hazards among the respondents, but it is important to note that severe winter weather and drought received two responses about past occurrences while all other hazards that garnered responses received only one. This may indicate a stronger prevalence of these particular hazards.

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<sup>21</sup> Town of Hinsdale. (2022). *2022 Mid-Summer Newsletter*. Retrieved on September 1, 2022, from <https://us12.campaign-archive.com/?u=a9153ccf60677b5bf7ac511e4&id=7dcfcf208d>



## Specific Categories of Concerns & Challenges

### Dam Repair, Maintenance, and Management

Dam failure is a foremost concern in Hinsdale and correlates with the flood hazard being a top hazard in the Town's HMP. Due to the regional stake in water supply resources, interest in recreational areas, and the number of tributaries involved, regional coordination is required to manage and maintain the dams located in Hinsdale.

There are five high hazard dams located in Hinsdale, including Plunkett Reservoir Dam, Belmont Reservoir Dam, Cleveland Brook Reservoir Dam, Upper Sackett Reservoir Dam, and Lake Ashmere Dam. Of these dams, Plunkett Reservoir Dam is the most concerning because of its current condition assessment (listed as Fair<sup>22</sup>) and potential for damage. Plunkett Reservoir connects to the head of the Housatonic River. It is an earthen dam, built in 1875, owned by the Town of Hinsdale. Should the dam fail, the flood waters could reach as far as the Town of Dalton. Within Hinsdale, the Flats, Michaels Road, and Commonwealth Avenue would be directly impacted by the resulting flood from a dam failure.



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<sup>22</sup> United States Army Corps of Engineers. (n.d.). *National Inventory of Dams: Plunkett Reservoir Dam*. Retrieved July 6, 2022, from <https://nid.usace.army.mil/#/dams/system/488708/inspections>.

As noted above, the City of Pittsfield, the Town of Dalton, and DCR also own dams in the Town of Hinsdale, therefore, Hinsdale must coordinate with other communities and agencies on solutions. Stakeholders attending the Workshop suggested that Berkshire County towns need to take a comprehensive look at all water sources in the Berkshires and their interconnectedness to develop a coordinated approach to dam management. The question of how to coordinate those efforts, including who would lead that process, remains unanswered.

One consideration is the DCR Office of Dam Safety. It was noted during the Workshop that the Office of Dam Safety has been extremely helpful during an emergency, but it is not otherwise active in ongoing maintenance activities. From Hinsdale's perspective, it has been challenging to coordinate efforts among communities as an individual town when there is no emergency, despite how critical that coordination is.

### Maintenance of Railways and Vulnerability Preparedness

A common thread of all the action concerns is the relation between maintenance and water challenges. This includes a significant concern about the railroad tracks that run through Town along both the Housatonic River and Route 8.

The Town is concerned about maintenance around the railroad by CSX and the reality that lack of maintenance or communication could gravely impact the Town. A portion of the railroad tracks are in wetlands. When the vegetation in the areas surrounding the tracks is not maintained, overgrowth and accumulation blocks drainage systems and increases sediment on the floor. As these materials increase, the culverts require more frequent clean-outs to remain functional. Beaver activity in the wetlands can result in a similar effect when they dam pools within the wetland area. Failure to perform routine maintenance can result in localized flooding near the backups, minimally, to large-scale flooding along the tracks and nearby Route 8 in the extreme.

Further, any flooding event that affects the tracks will, invariably, affect the rail service that uses them. Minimally, flooding will slow supply chains for a variety of products, which includes a regular delivery of ethanol through the region. The Core Team shared that trains with 150+ cars regularly travel through Town. In the extreme, severe flooding results in a train derailment. That cascades into the



potential for chemical spills emanating from the derailed cars, contaminating the wetlands and flood waters that caused the derailment in the first place.

## Protect and Sustain Water Supplies

The protection of water supplies in Hinsdale is a top action priority for the Town of Hinsdale as well as for its regional neighbors. There are several lakes that supply regional drinking water as well as offer recreational usage for residents. As stated previously, there is the relation between maintenance and water challenges. In this instance, protecting and sustaining water supplies is dependent on adequate dam management and maintenance. Each water supply is dependent on the ability of its dam to control water flow.



Although located within the borders of Hinsdale, The City of Pittsfield owns the Upper Sackett Reservoir and uses it as a primary water supply. Due to the direction of waterways and its location, any type of flooding hazard could also cause damage in the neighboring Town of Dalton. Pittsfield also owns and

uses Cleveland Brook Reservoir as a water supply. Of note, Cleveland Brook Reservoir hosts Pittsfield's water treatment facility that includes water storage tanks.

Lastly, Plunket Reservoir is the backup water supply for Hinsdale and currently has a landfill located above, although there is a plan for it to be capped in the summer of 2022. The risk of having roadways, residential development, and a sewer system located near Plunket Lake puts the popular recreation area and back up water supply at risk. If the filtration system were to have any runoff due to heavy storms, the dams at both Belmont Reservoir and Plunket Lake would be compromised. Additionally, Belmont Reservoir is protected land and has an abundance of beaver dam activity.

## Current Strengths and Assets

While the Core Team mainly focused on the vulnerabilities within the community, they also noted some current strengths and assets that can help mitigate the risks posed by climate change. One of the most crucial strengths is the combination of volunteer and paid Town officials. There are many dedicated citizens who volunteer their time and expertise to move the Town forward while simultaneously acting as an endless source of historical information. Some of those individuals wear multiple hats within the Town.

Due to the efforts of Town officials, Hinsdale reported that some of the action steps from the HMP have already been completed or are currently in process. These include progress on updates to Middlefield Road, updates to Schopp Road, the installation of a new bridge on Old Windsor Road, and the installation of a new, over-engineered culvert on Old Dalton Road. Additionally, Ashmere Dam was more recently replaced, though the Core Team noted it was not built to the current 500-year flood spillway design flood design storm standard<sup>23</sup>.

The Core Team also noted the strong working relationships with neighboring communities. They also expressed a good working relationship with Eversource, who is the power supply company for the Town. Input during the Workshop highlighted the

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<sup>23</sup> Massachusetts Department of Conservation and Recreation: Dam Safety. Mass. Stat. Chapter 302 §10.14.(6)(a) (2017).

responsiveness of Eversource to the Town’s concerns, and their representative was an active and thoughtful contributor to the discussion. Eversource is also installing redundancy in their service lines to the Town to minimize the impact of an outage resulting from a severe weather event.

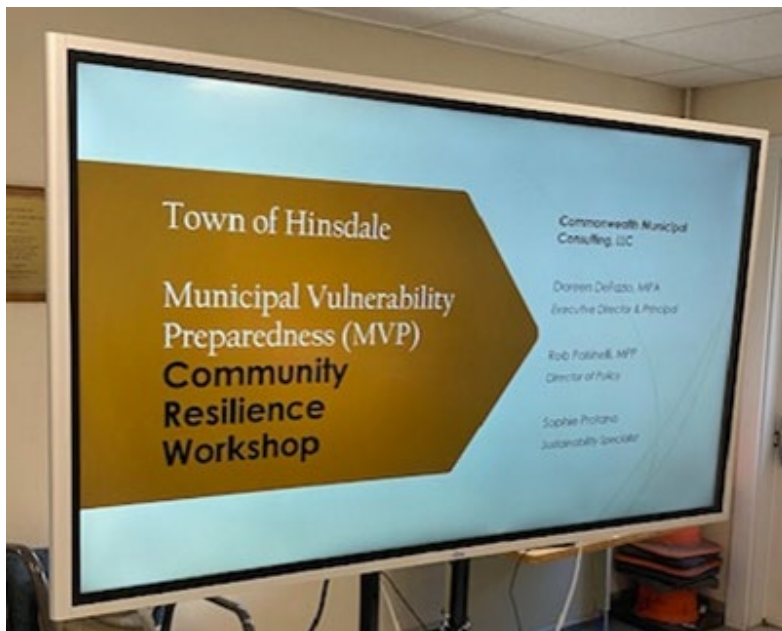
## Areas of Vulnerability and Related Actions

Certain features in Hinsdale—including places, communities, natural resources, and infrastructure systems—may be particularly vulnerable to the effects of climate change.

The core team identified the following items as key vulnerabilities and areas of concern:

1. Comprehensive Beaver Management Plan
2. Flood proof/elevate infrastructure in flats
3. Dam repair/maintenance/management
4. CSX– increase response drills
5. Protect and sustain water supply
6. Protect electrical power supply during severe storms
7. Mitigate flooding from wetland areas

## Top Project Recommendations to Improve Resilience



Discussion about the action steps available to the Town, as related to the top hazards and climate change data, focused on incomplete recommendations from the 2019 HMP. The specific steps were selected based on their ability to target the top vulnerabilities as well as their relation to the discussions of the Core Team prior to the Workshop. To select the top priority actions, Workshop

participants engaged in a dot survey activity. The top three vulnerability actions based on stakeholder voting were:



1. Dam Repair, Maintenance, and Management
2. CSX – Increase Response Drills
3. Protect and Sustain Water Supplies

Each of these actions received the same number of votes. The Workshop participants then engaged in a deep discussion of each action, considering nature based-solutions, regional opportunities, and other ideas to achieve the actions.

Of primary discussion is the fact that each of these recommendations is interrelated to the others as follows. Flooding results from insufficient dam maintenance and repair. Flooding causes the direct loss of one or more water supplies and also increases the chance of a train derailment. Ongoing train track maintenance minimizes that threat, but lack of maintenance exacerbates it. Train derailments can cause contamination to water supplies. So, protecting water supplies is largely accomplished through proper dam maintenance and repair activities, as well as through comprehensive train track maintenance and accident response preparedness.

Because the top recommendations are interdependent, the proposed project recommendation combines all three recommendations into one, comprehensive project. The following documents those discussions as well as additional recommendations related to the group discussion.

## Project Rationale

Plunkett Reservoir and its potential flooding remain a primary concern for the Town. The highest potential for damage would result from the catastrophic failure of the earthen dam on Plunkett Reservoir's eastern side. This concern was the main vulnerability discussed in both the Core Team meetings and in the MVP workshop.

While no catastrophic dam failures have occurred in recent decades that gravely impacted Hinsdale, several incidents at the Plunkett Reservoir Dam highlight the need for additional support to this resource as climate threats continue to increase. On September 18, 2004, the remnants of Hurricane Ivan caused the flash boards at the dam to give way. More than eight million gallons of water

flooded the Housatonic River downstream of the lake, resulting in major flooding. A similar situation occurred during an October 2005 storm event when the batter boards gave way at Plunkett Reservoir. The Town has since replaced the batter board system but needs funds to complete repairs to the spillway and update the 100-year-old dam.

## Climate Change

Further intensifying this concern, climate change predictions from ResilientMA.org indicate increasing precipitation, heat waves, and temperatures in the future (see *Table 2* for complete predictions). All of these will increase the strain on the Plunkett Reservoir Dam. More specifically, Hinsdale is projected, under a high emissions scenario, to see an increase of 3.56 inches in total precipitation by 2050 from their current annual baseline. Furthermore, Hinsdale will also experience an increase in instances of extreme precipitation greater than one inch increasing by 1.55 days, instances of extreme precipitation greater than 2 inches increasing by 0.22 days, and instances of extreme precipitation greater than 4 inches increasing by 0.02 days.

Increasing temperatures in Hinsdale will lead to higher demand for the water resources provided by the dam, further adding to concerns surrounding dam resilience. It is projected under a high emissions scenario that by the year 2050 Hinsdale's average temperature will increase by 5.72 degrees Fahrenheit from their current annual baseline. Furthermore, it is projected that Hinsdale will experience a substantial increase in days with elevated temperatures with days above 90 degrees Fahrenheit increasing by 15.7 days, days above 95 degrees Fahrenheit increasing by 3.53 days, and days above 100 degrees Fahrenheit increasing by 0.24 days. These predictions are in comparison with current baselines of 1.33 days above 90 degrees Fahrenheit, 0.07 days above 95 degrees Fahrenheit, and no days above 100 degrees Fahrenheit. This highlights the fact that the Town has yet to experience frequent extreme heat at this caliber and, in turn, must prepare for the effects it may have on the dam before they occur.



## Project Description and Specifications

It is therefore recommended that the Town seek an action grant to update Plunkett Reservoir Dam by conducting a dam assessment and/or feasibility study which will include investigating the Plunkett Reservoir Dam and identifying specifications of a project to make the dam self-leveling. The project should consider climate change and any adaptations that would alleviate flooding impact over the course of the next several decades in terms of how climate trends will affect the regional area. The project's objective goal is to avoid a failure of the earthen dam on Plunkett Reservoir's eastern side as well as the resulting flooding to Town Center, Route 8, CSX's train tracks, and portions of neighboring communities.

The study should prioritize nature-based solutions to hazardous flood zones whenever possible including restoration of original waterflow ways if they have been compromised. During the Workshop, participants discussed the oxbowing of the Housatonic River south of Town Center and along Route 8 and the train tracks. Therefore, the study should investigate whether straightening portions of the Housatonic in that area could decrease flooding potential of the river by eliminating some of the tight turns the water presently follows. Alternatively, the study should also consider the benefit and possibility of redirecting water around known problematic areas of the waterways that often become backed up in times of heavy rainfall, during rapid spring melting, due to beaver activity, or due to lack of maintenance around the train tracks. It should also identify flood-prone areas and offer solutions that include the installation of culverts, offsetting runoff by adding rain gardens, expanding floodplains, and increasing elevation of infrastructure in the predicted floodplain. Regarding the expansion of floodplains, the study should investigate options to expand the floodplain upstream from Plunkett Reservoir and, ideally, Belmont Reservoir, resulting in far less water flowing downhill to the center of Town in the event of a dam failure.

In partnership with the proposed study, the action plans should also include a strategy to limit new roadways and residential development as well as sewage system expansion in locations near Plunkett Reservoir. It should also include ongoing enforcement of existing By-Laws concerning building permits and removal of gravel, stone, loam, and sand to ensure restoration of

disturbed earth and erosion mitigation measures (planting of vegetation) preventing alteration of land features that could contribute to localized flooding.

Finally, this project should include an independent study (i.e., not conducted by CSX) of both the potential as well as the impact of a train derailment in Hinsdale. Specific considerations should include the condition of the train tracks, support structures including bridges and retaining walls, and the vegetation and wetlands near the tracks. The study should detail the potential for derailment under various scenarios. Minimally, that should include a failure of Plunkett Reservoir Dam, a 100-year flood, and a 500-year flood, all with consideration of climate change predictions. Similarly, predictions about the impact of a derailment should consider the cargo and number of cars involved, most likely location for a derailment given the track conditions and flood zone, areas affected directly, and systems affected (e.g., soil, water, ecological, societal). Recommendations should include details of needed repairs, a specific maintenance schedule for the tracks and railroad-controlled land, and details for response drills involving the state, the municipality, and CSX.

Taken together, the combined project reflects municipal priorities established in the community's MVP Workshop. It will directly achieve the goals of dam repair, maintenance, and management; maintenance of railways and vulnerability preparedness; and protecting and sustaining water supplies.

## Regionalization

Ideally, the action plan can be an opportunity to partner with neighboring communities to develop a proposal to the State for a comprehensive approach to managing all water bodies in Berkshires. This is, in large part, due to the interconnectedness and interdependence of the water systems throughout the region. Hinsdale hosts the primary and secondary water supplies for three municipalities spread among four reservoirs. Belmont Reservoir holds its water from flowing to Plunkett Reservoir. The Housatonic River forms from its many tributaries in Town and continues north to Dalton. Other brooks and rivers connect the reservoirs to each other as well as predict the inundation areas in the event of a flood from the nearest reservoir. The current predicted inundation area in the event of a catastrophic failure of the Plunkett Reservoir Dam

includes areas in both Hinsdale and Dalton. Ensuring safe, usable water to all the communities is dependent on the municipalities working together and understanding how what happens in one Town invariably impacts neighboring communities.

Partnering can include actions like engaging with state legislators on sponsoring legislation to prioritize funding of water body-related projects based on the interconnectedness of the water system in Western MA and/or the calculated impact/benefit of the project within the greater system. This cooperation would be particularly relevant for the City of Pittsfield, the Town of Dalton, and DCR who all own dams in the Town of Hinsdale. At a minimum, the stakeholders attending the Workshop suggested that Berkshire County towns, independent of the State, need to take a comprehensive look at all water sources in the Berkshires and their interconnectedness to develop a coordinated approach to dam management.

## Climate Vulnerable Populations

The U.S. Census was last completed in 2020, following the 2019 Town of Hinsdale HMP. The following is an update on the demographics of the Town of Hinsdale based on the 2020 U.S. Census. Hinsdale has a population of 1,919. The Town's residents are predominantly White, Non-Latino people (96.2%). Though there is no identified Environmental Justice Population within the Town, there are members of Climate Vulnerable Populations within the community.

As mentioned in the *Introduction*, there are approximately 173 renter-occupied homes versus 568 owner-occupied homes in Hinsdale. The median income in Town is \$32,828 per year. It is important to note the estimates of persons with disabilities have a large margin of error (+/-16 – 59 depending on category) and that people may be included in more than one category (i.e., one person may have ambulatory, visual, and/or auditory difficulties). Similar overlapping of categories also holds true when considering that many individuals belonging to one category of Climate Vulnerable Population likely belong to at least one other category, too. All the individuals belonging to a Climate Vulnerable Population are distributed across the Town as opposed to being clustered together in specific locations.

Demographic	Estimated Number of people	Estimated Percentage of Population
Black or African-American	9	0.5%
Two or More Races	81	4.2%
American Indian and Alaskan Native	2	0.1%
Asian	10	0.5%
Some Other Race	14	0.7%
Hispanic or Latino	29	1.5%
65 or older	372	21.5%
150% or less of the Federal Poverty Level (FLP)	212	12.4%
Income is less than 65% of the State median	349	22.7%
Visual Difficulty	21	1.2%
Hearing Difficulty	61	3.5%
Ambulatory Difficulty	96	5.8%
Cognitive Difficulty	128	7.7%

*Table 3 - Climate Vulnerable Populations in Hinsdale*

Improving the quality of Plunkett Reservoir Dam will have a significant effect on the Climate Vulnerable Population in Hinsdale. First, this population, by definition, is the least mobile in Town. If the dam were to fail, the climate vulnerable population would have the most difficulty in relocating to a secure area in the immediate aftermath. Considering longer-term outcomes, this group would also face more challenges in finding and affording new housing, replacing belongings, and accessing any potential resources that become available to victims due to their limited resources, income, mobility, and likely lack of comprehensive insurance. Respondents to a survey echoed this sentiment. While most respondents indicated that Hinsdale was able to provide necessary

assistance and resources to mitigate harm, 33% ( $n = 6$ ) indicated that they felt underserved during past weather-related emergencies. Though not specifically polled, it is likely that those who felt underserved in prior emergencies would support efforts to address future vulnerabilities. Importantly, a more comprehensive outreach strategy to better understand the perceived lack of assistance in prior emergencies would provide valuable information on additional need areas and potential actions to address them.

## Regional Benefits

Regionally, this project would have a profound effect. As previously discussed, the failure of Plunkett Reservoir Dam would have an immediate effect on the residents and businesses located in the flood zone. Eastern sections of the Town of Dalton would also be flooded. Route 8 would also be compromised, making evacuations challenging and limiting access to emergency response personnel for Hinsdale as well as to the towns north and south. If CSX's train tracks are also compromised as anticipated, there would be a strain on regional supply chains for much of New England. Because of the interconnectedness of the communities, Dalton and Pittsfield have both voiced willingness to participate with and support Hinsdale on these mitigation efforts.

## Public Engagement

As mentioned above, a more comprehensive public outreach strategy needs to be incorporated into the proposed project. Briefly, it is recommended that the Town engage in a multipronged approach to obtain the widest amount of input. First, the Town should engage in another survey, specifically targeting Climate Vulnerable Populations, by anonymously targeting respondents using the school district as an intermediary to distribute the survey to families using the free and reduced lunch program, those participating in English Language Learner (ELL) or Special Education services, or those classified as identified as non-White. The second strategy should be directly interviewing volunteers who attend a monthly Council on Aging luncheon or similar activity for their thoughts on the project. Ideally, through the interviewing process a willing volunteer could also be identified to participate as a member of a steering or oversight committee to provide ongoing feedback throughout the life of the project. Finally, at

least two public comment opportunities should be provided to the community at large, one at the inception and one at any critical decision point (i.e., deciding on a next action following a feasibility study). It is recommended that the public comment opportunities be as accessible as possible by offering multiple formats for participation.

The direct and ongoing feedback possible by having a Climate Vulnerable Population member on the project's steering committee allows for the most consistent, direct feedback on the project from the targeted population. For the other strategies, the project management team should consider the timing of each strategy and schedule them in a manner that allows that feedback to be incorporated before final decisions or commitments to action have been made. It is recommended that all feedback be considered for incorporation into the project and that a feedback loop be established to inform the Climate Vulnerable Population of outcomes related to their feedback.

## Outcomes, Measurement, and Maintenance

An indirect outcome of this project, should the Town and its regional partners choose to work together as indicated above, is that it could serve as a model for future projects with regional implications. One clear example of this is in the dealings with CSX, another top priority for Hinsdale. Both the Core Team and Workshop participants voiced sentiments about the need for a regional approach in dealing with CSX, thereby increasing the influence over CSX's response. The Workshop included a conversation about using a regional approach when interacting with CSX as well as in engaging with the State Legislature to advocate for more accountability when obligations, particularly maintenance activities, are not being met. Though this approach does not lend itself directly to an MVP action item, it is a clear extension of the recommended project given the Town's priorities and concerns.

The measurement of success for this project will be calculated based on the outcome of the proposed study. The study must provide the Town with an actionable solution to repair or improve the Plunkett Reservoir Dam that is engineered to account for predicted increases in extreme weather previously discussed by using the current 500-year flood spillway design flood

design storm standard. Additional recommendations should include consideration of nature-based solutions and regionalization as well as providing funding options to complete the project. A secondary outcome of the project's success would be a clear assessment of the risks posed by the railway that runs through Town as well as having a specific strategy to manage them.

Ongoing maintenance for Plunkett Reservoir Dam following repairs or improvements should be conducted in alignment with the current schedule. Every two years the condition of the dam will continue to be assessed and reported to the MA Office of Dam Safety. Per those assessments, repairs and maintenance activities should be performed as recommended, and any emergency condition related to the dam (i.e., failure) should be reported to the MA Office of Dam Safety for remediation assistance.

### Additional Recommendations

Additional actions beyond the scope of the top recommended project are detailed below.

High Priority Actions
Investigate the possibility of regionalizing the relationship between CSX and the many small communities in Western MA to give the municipalities increased leverage in dealings with the railroad. Partner with CSX on the communication and maintenance of their land around the tracks. Consider regional or an intermunicipal agreement to maintain all of CSX rails throughout the Berkshires. With CSX running through the center of both Hinsdale and Dalton, working together to mitigate the hazards that could be associated with the materials being transported is also a priority.
Explore funding opportunities to replace or improve existing dams with better technology and structure. Ensure structural investigation occurs to determine what type of dam will control the water flow before making decisions about repair or replacement.
Continue the replacement of culverts with oversized culverts.



<p>Create a comprehensive beaver management plan in conjunction with the Massachusetts Division of Fisheries and Wildlife (a.k.a., MassWildlife).</p>
<p>Engage with Problem Animal Control Agents (PACs) to install Water Level Control Devices in existing areas where beaver dams pose high risk of causing flooding in the event of a failure.</p>
<p>Leverage regional partners or a State agency to promote collaboration between all the Berkshire Towns where CSX railroads exist.</p>
<p>Detail how the Town will obtain all the required water pumpers (10) to access Plunkett Reservoir's water supply should Belmont Reservoir not be usable. Information should be contained in the Belmont Reservoir Dam Emergency Action Plan.</p>
<p>Partner with Pittsfield and Dalton on a study to determine how to protect their sewage infrastructure in the event of flooding events at their water supplies.</p>
<p>Enforce Department of Environmental Protection water protection area surrounding each water supply reservoir, including their respective watersheds, per 320 CMR 22.00<sup>24</sup>.</p>

<p><b>Medium Priority Actions</b></p>
<p>Partner with neighboring communities to develop a proposal to the State for a comprehensive approach to managing all water bodies in Berkshires due to their connection and the impact that one project will have on the greater water system. Engage with state legislators on sponsoring legislation to prioritize funding of water body-related projects based on the interconnectedness of the water system in Western MA and the calculated impact/benefit of the project within the greater system.</p>
<p>Develop a Regional Communication Improvement Plan. The passing of information between Pittsfield, Hinsdale, and Dalton is vital and should be</p>

<sup>24</sup> Massachusetts Department of Environmental Protection: Dam Safety. Mass. Stat. Chapter 310 §22.00 (2020).

included in any future climate change planning, particularly regarding flooding issues.
Engage with other municipalities to consider enacting uniform By-Laws mandating CSX's cooperation with them on safety planning and maintenance activities.
Review conservation By-Laws as related to building in wetlands to ensure ongoing protections.
Continue to explore opportunities to improve the safety of bridges and culverts through MassWorks.
Create a robust vegetation management plan for all the railroad tracks running through Town, ideally in partnership with CSX and regional partners, to establish clear responsibilities and timelines for CSX and municipalities.
As part of the beaver management plan, engage with Problem Animal Control Agents (PACs) and licensed trappers to manage the Town's beaver population during trapping seasons as recommended.
Continue with plan to cap the landfill located above Plunkett in the summer of 2022.
Consider expansion of Zoning By-Law Section 12 <sup>25</sup> , <i>Drinking Water Supply Protection</i> , to include Plunkett Reservoir, Cleveland Brook Reservoir, and/or Upper Sackett Reservoir and their water source bodies.

<b>Low Priority Actions</b>
Seek funding to study how waterway diversions could be employed to avoid water concentrating in critical areas (e.g., residential, infrastructure) during heavy rain or flooding.

<sup>25</sup> Town of Hinsdale. (n.d.). *Town of Hinsdale: Town Bylaws*. Retrieved on August 31, 2022, from [https://www.hinsdalemass.com/sites/g/files/vyhlf7501/f/uploads/town\\_bylaws.pdf](https://www.hinsdalemass.com/sites/g/files/vyhlf7501/f/uploads/town_bylaws.pdf)

<p>Ongoing assessment of culvert conditions across Town to identify priority culverts for replacement or repair.</p>
<p>Explore local policy solutions, including By-Laws, preventing homeowners from changing topography especially in regard to waterways on local land and establishing paving guidelines to limit or offset runoff concerns. Private dams need to be assessed in this as well for flood control of the entire area. Communication to private dam owners to participate in the process. Enhance cooperation from local property owners for the inspection and maintenance of dams, culverts, and waterways on private land.</p>
<p>Limit new roadways and residential development as well as sewage system expansion in locations near Plunkett Reservoir.</p>
<p>Enforce existing By-Laws concerning building permits and removal of gravel, stone, loam, and sand to ensure restoration of disturbed earth and erosion mitigation measures (planting of vegetation) preventing alteration of land features that could contribute to localized flooding.</p>
<p>Educate private landowners on the Board of Health's authority to determine whether a beaver situation constitutes a threat to public health and/or safety (M.G.L. c. 131, s. 80a) and grant a 10-day Emergency Permit to private citizens to abate the situation.</p>
<p>Fund and install berms on roads to redirect water away from people's houses in low elevation or floodplain areas.</p>
<p>Continue to ensure that all dams are inspected every two years.</p>
<p>Continue to engage with the Office of Dam Safety outside of emergency situations to create a working partnership and consider leveraging state legislators or sister-agency connections to assist in this process as necessary.</p>
<p>Develop an outreach plan to residents that live in flood-prone areas and a comprehensive plan for evacuation, including accommodations for climate vulnerable populations.</p>

## Workshop Invitees, Participants, and Project Team

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Invitee Name	Affiliation	Workshop Attendance	Core Team & Role
Bob Graves	Hinsdale Town Administrator	Yes	Yes, Local Project Lead
Bonnie Connor	Hinsdale Finance Committee & Selectboard, Member	Yes	Yes, Core Team Member
Ray Bolduc	Hinsdale Selectboard, Secretary	Yes	Yes, Core Team Member
Susan Rathbun	Hinsdale Police Chief	Yes	Yes, Core Team Member
Caleb Mitchell	Hinsdale Conservation Commission Agent	Yes	Yes, Core Team Member
Clarissa Mitchell	Hinsdale Assistant to the Selectboard	No	N/A
Richard Scialabba	Hinsdale Selectboard, Chairman	Yes	Yes, Core Team Member
Mary Rice	Hinsdale Finance & Water and Sewer Committees	Yes	Yes, Core Team Member
Bart Collins	Hinsdale Selectboard, Member	Yes	Yes, Core Team Member
Aimee Henderson	Eversource, Community Relations Specialist	Yes	N/A
Earl Peck	Hinsdale Selectboard, Member	No	Yes, Core Team Member

Carrienne Petrik	EEA Regional MVP Coordinator	Yes	N/A
Dick Eastland	Hinsdale Water and Sewer, Cable TV, & Community Center Committees	No	N/A
Jason Murphy	Pittsfield Water Division	No	N/A
Larry Unbehnd	Pittsfield Water Division	No	N/A
Dan Filiault	Town of Dalton Emergency Management Director	No	N/A
Bud Hall	Town of Dalton Highway Superintendent	No	N/A
Ricardo Morales	Town of Pittsfield Commissioner of Public Utilities	No	N/A
Bart Collins	Hinsdale Selectboard, Member	No	N/A
Doreen Defazio	Lead Facilitator and Principal, Commonwealth Municipal Consulting	Yes	Yes, Lead Facilitator
Rob Polsinelli	Director of Policy, CMC	Yes	Yes, Facilitator
Sophie Protano	Sustainability Specialist, CMC	Yes	Yes, Facilitator

## Citation

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**Suggested Citation:**

Commonwealth Municipal Consulting, LLC. (2022). *Community Resilience Building Workshop Summary Findings: Appendix to the Town of Hinsdale Hazard Mitigation Plan (2019)*. Town of Hinsdale, Massachusetts.



## Acknowledgements

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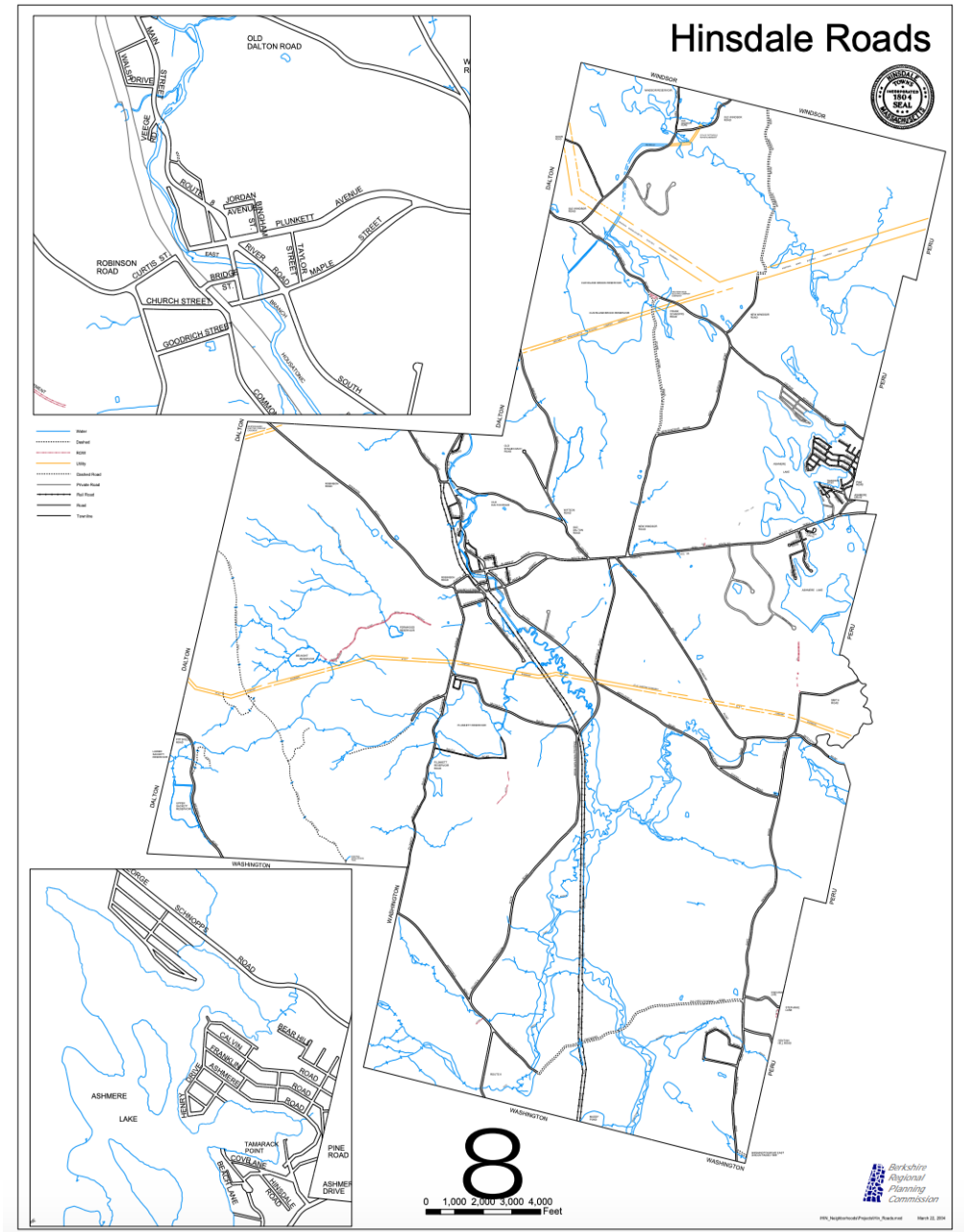
CMC wishes to thank the Town of Hinsdale for supplying the location and equipment for the MVP Workshop. Additionally, the local members of the Core Team, including Ray Bolduc, Bonnie Connor, Bart Collins, Caleb Mitchell, Earl Peck, Susan Rathbun, Mary Rice, and Richard Scialabba, proved a valuable resource in the preparation for the MVP Workshop. Thank you, also, to Bob Graves, Hinsdale's Town Administrator and Core Team Leader as well as the Selectboard and Town Administrator Administrative Assistant, Clarissa Mitchell, for helping coordinate our efforts.

Both CMC and the Town of Hinsdale wish to acknowledge the Massachusetts Executive Office of Energy and Environmental Affairs for providing the MVP Planning Grant that funded this work. Finally, the entire project team wishes to acknowledge Carrienne Petrik, the MVP Berkshires and Hilltowns Regional Coordinator, who has been a tremendous asset throughout the process.

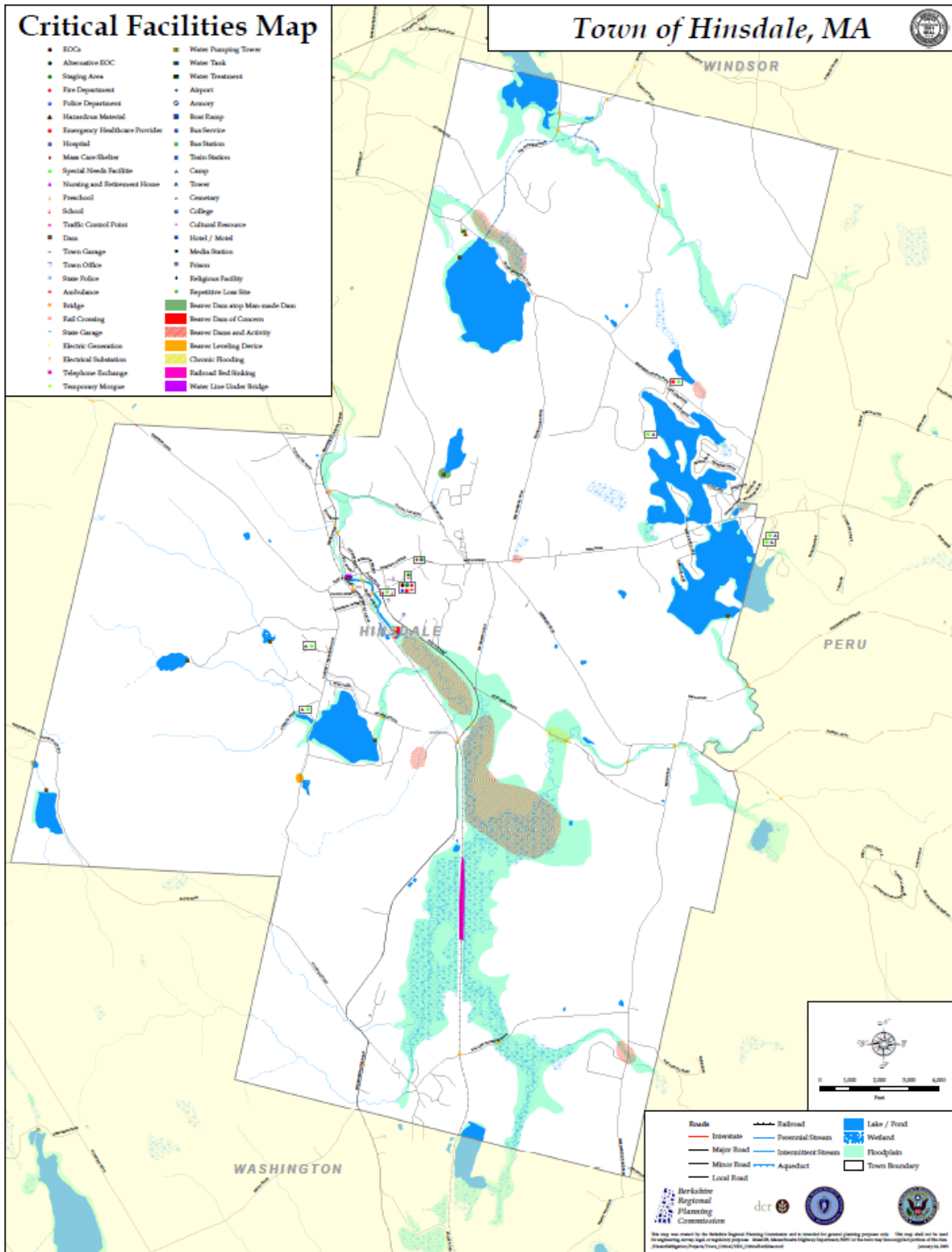


# Appendices

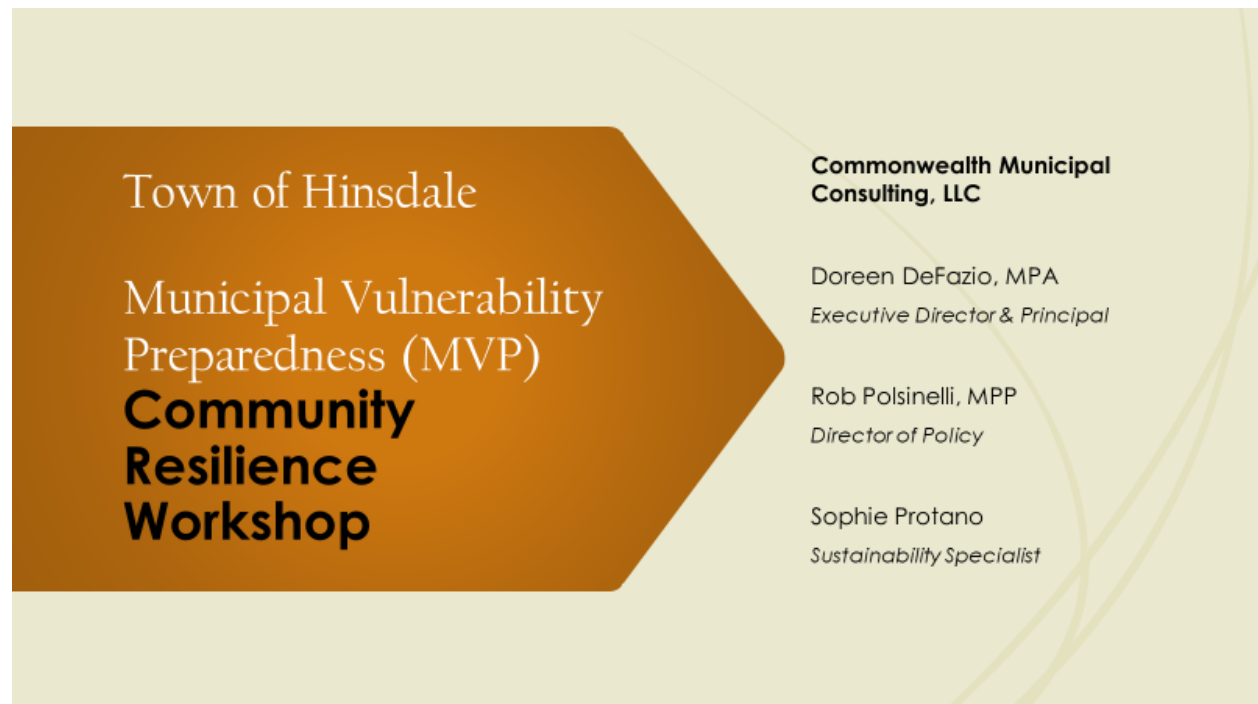
## Appendix A: Base Map Used for Participatory Mapping Exercise



# Appendix B: Critical Facilities Map



## Appendix C: Workshop Presentation



Town of Hinsdale

Municipal Vulnerability Preparedness (MVP)

**Community Resilience Workshop**

**Commonwealth Municipal Consulting, LLC**

Doreen DeFazio, MPA  
*Executive Director & Principal*

Rob Polsinelli, MPP  
*Director of Policy*

Sophie Protano  
*Sustainability Specialist*



2

Today's Objective:

Prioritize actions that Hinsdale can take to decrease its vulnerability to climate change through nature based solutions and climate change adaption

# Contents

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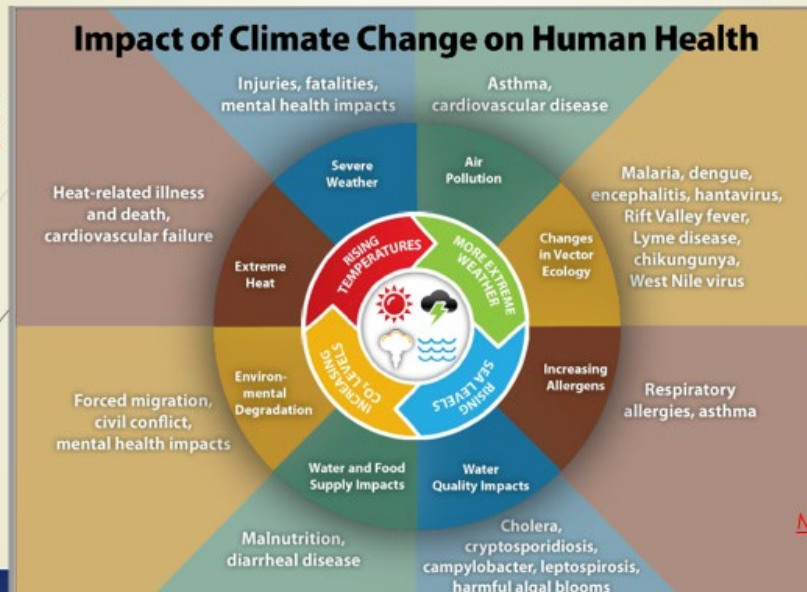
- Welcome, Introductions, and Objective
- Climate Projections
- Review of Core Team's work
  - Hazards
  - Vulnerabilities and Strengths
  - Actions from HMP
- Determine Priorities of Actions
- Discuss Climate Based Solutions to top actions
- Wrap up



## Context: Why care about climate change?

4

Threats to human health



Threats to national security



Climate Security is National Security

Many other threats

Source:



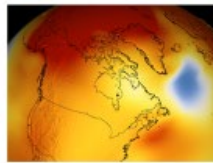


# Context: Global Perspectives on Climate

5



For example:



February 6, 2019

**2018 fourth warmest year in continued warming trend, according to NASA, NOAA**

Earth's global surface temperatures in 2018 were the fourth warmest since 1880, according to independent analyses by NASA and the National Oceanic and Atmospheric Administration (NOAA).

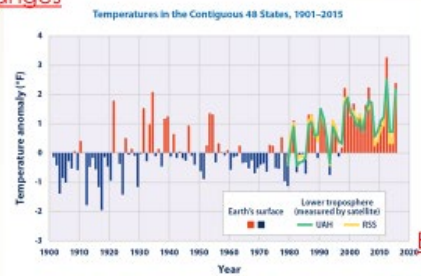
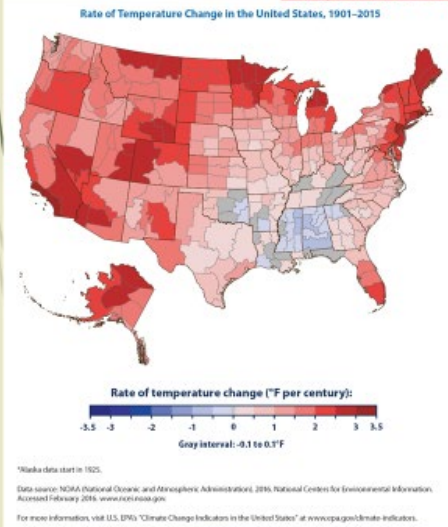


Sources: World Health Organization (WHO) & NASA

# Context: National Perspectives on Climate

6

## Extreme temperatures & temperature changes

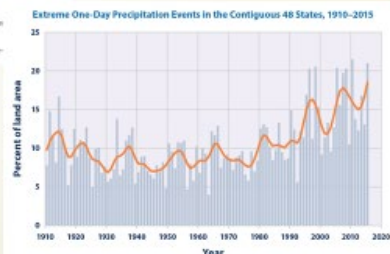


Data source: NOAA (National Oceanic and Atmospheric Administration), 2016, National Centers for Environmental Information, Accessed February 2019, www.noaa.gov.

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



Extreme rainfall / precipitation



Data source: NOAA (National Oceanic and Atmospheric Administration), 2016, U.S. Climate Extremes Index, Accessed January 2019, www.ncdc.noaa.gov/extremes/index.

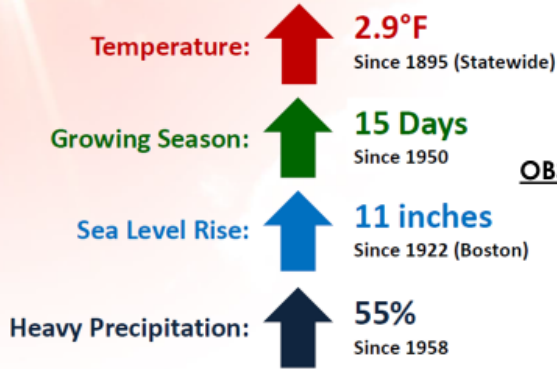
For more information, visit U.S. EPA's "Climate Change Indicators in the United States" at www.epa.gov/climate-indicators.

Source: <https://www.epa.gov/climate-indicators>

## Context: Climate Observations & Projections for Massachusetts

7

### Massachusetts Observed Climate Changes

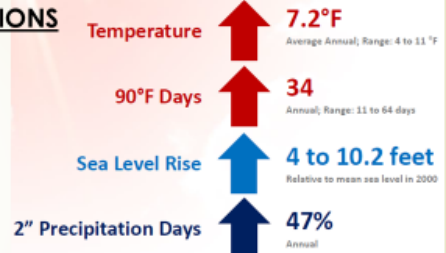


Source: Climate Science Special Report, 2017; NOAA NCEI nClimDiv; NOAA Ocean Service

Source: "Climate Change in Massachusetts" www.resilientMA.org

### PROJECTIONS

### Massachusetts Climate Changes Projected by the 2090s



Source: Northeast Climate Adaptation Science Center

### OBSERVATIONS

#### More Precipitation

Total annual precipitation has increased by:

**15%**

**1.2 trillion more gallons of water equivalent falling on Massachusetts each year.**

**~9,700 filled Prudential Towers**



Changes are calculated from a linear regression of annual data from 1980-2015, 1981-2014, 2000-2015 period. Source: NOAA



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## Context: Climate Observations & Projections for Hinsdale

- Comparisons to other towns:
  - Amongst towns in MA that will experience the **most substantial decrease in days below 0°F** on average in the coming decades
  - Generally consistent with rest of the state
    - Coastal hazards N/A
- Projected change in total precipitation (2050)
  - Annual baseline: 47.43 inches
  - **2050: +3.56 inches**
- Projected change in average temperature (2050)
  - Annual baseline: 44.32 °F
  - **2050: +5.72 °F**
- Projected change in days above 90 °F (2050)
  - Annual baseline: 1.33 days
  - **2050: +15.7 days**



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## MVP Program & the Core Team

EEA created MVP program to assist municipalities in preparing for the effects of climate change

Hinsdale awarded a Reduced Scope MVP Planning Grant due to recent work on HMP

Outcomes based on the findings of the Hinsdale HMP (2019) and historical knowledge and expertise of Core Team members

1. Flood

2. Dam Failure

3. Hurricane, Wind

4. Nor'easter, Severe Winter Weather

## Hinsdale's TOP FOUR HAZARDS

10

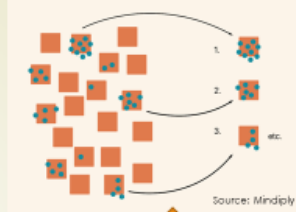
Belmont Reservoir (primary water supply)	Plunkett Lake (secondary water supply)	Substation (electric supply)
Caddy Brook Bridge, Old Windsor Rd	Old Dalton Rd	Middlefield Rd.
Cleveland Dam	Transfer Station (contamination of aquifer)	Pittsfield Chlorination Station

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## Vulnerabilities

## 12 Large Group Activity

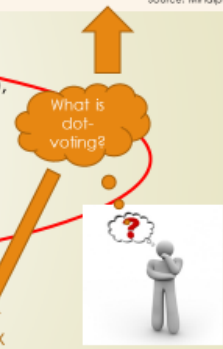
- E** Determine the Overall Priority Actions
  - 1 Identify highest-priority actions.
  - 2 Further define urgency and timing.



Once each small team has presented their priority actions to the large group, the large group "dot-votes", discusses and agrees to the overall priorities:

- **Purpose: to generate a "Highest Priority" action list (3 to 5 items)**

Factor in urgency and timing to help create this more focused list.



Dot-voting is a quiet activity: participants walk around to each Risk Matrix and apply dots to actions they believe are most critical (3 dots total per person, 1 dot per action). When voting is complete, the 3-5 actions with the most dots are considered highest priority. The list is further prioritized based on discussion, factoring in urgency and timing.

# HMP ACTIONS

- Comprehensive Beaver Management Plan
- Flood Proof elevate infrastructure in flats (Plunket and Cleveland)
- Dam Repair/ Maintenance activities/Management
- CSX – Increase emergency response drills for emergency, comprehensive mitigation plan with CSX
- Protect and Sustainable water supplies
- Keep electrical power supply during severe storms
- Mitigate flooding from wetland areas (Caddy Brook Bridge, Old Windsor Road)

Benefits provided by nature-based solutions



	Green roofs	Vertical greening systems	Vertical forest	Urban parks, forests	Green urban furniture	Greening transport	Urban gardens	Inland wetlands	Floodplains	River restoration	Restoration of streams	Re-meandering	Oxbow lakes	Polder areas	Lake restoration	Riparian woodland	Managed realignment	Coastal wetlands	Sand dunes	Shore & beach	Sustainable drainage	Rainwater harvesting	Pervious surfaces	Infiltration basins	Infiltration trenches	Soakaways	Rain gardens	Swales	Planted channels & riffles	Retention basins	Retention ponds	Geocellular storage	Filter strips	Blue roofs	Groundwater recharge	Constructed wetlands		
<b>Main benefit of this solution</b>																																						
<b>Co-benefit: High provision</b>																																						
<b>Co-benefit: Medium provision</b>																																						
<b>Co-benefit: Low provision</b>																																						
<b>Temperature regulation</b>																																						
<b>River flood mitigation</b>																																						
<b>Surface water flood mitigation</b>																																						
<b>Coastal flood mitigation</b>																																						
<b>Water quality</b>																																						
<b>Regulation of the water cycle</b>																																						
<b>Groundwater recharge</b>																																						
<b>Soil quality &amp; erosion prevention</b>																																						
<b>Environmental</b>																																						
Air quality																																						
Noise mitigation																																						
Biodiversity																																						
Pollination																																						
Carbon storage																																						
<b>Social/Cultural</b>																																						
Health and quality of life																																						
Recreation, education & gathering																																						
Regeneration of degraded areas																																						
Spiritual, religious & artistic values																																						
Amenity value																																						
Employment																																						
Food provision																																						
<b>Economic</b>																																						
<b>Water provision</b>																																						
Energy savings																																						
Income generation																																						
Increased value of land/property																																						
Increased tourism																																						

15

## Discussion of Large Group Findings



Top 3-5 Priorities



Climate Adaptation Discussion



Action Grants

## What Happens Next?

F

Put It All Together

G

Move Forward

① Generate final workshop products.

① Continue community outreach and engagement.

② Secure additional data and information.

③ Inform existing planning and project activities.

Any questions?

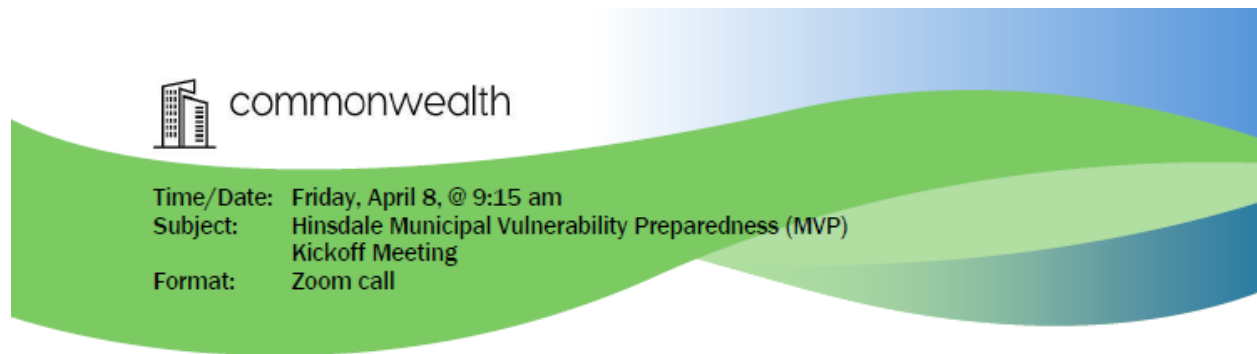
16

Thank you all for your participation!

17



## Appendix D: Agendas from Core Team Meetings



*Attendees: Doreen DeFazio, Rob Polsinelli, Bob Graves, Carrieanne Petrik, Susan Rathbun, Dick Scialabba, Raymond Boulduc, Caleb Mitchell, Clarissa Mitchell*

- |   |                         |
|---|-------------------------|
| <p><b>1. Introductions/Reconvene of Core HMP team and introduce Additions for MVP</b></p> <ul style="list-style-type: none"> <li>• Doreen DeFazio &amp; Rob Polsinelli, CMC</li> <li>• Carrieanne Petrik, MVP Regional Coordinator</li> <li>• Bob Graves, Town Administrator</li> <li>• Clarissa Mitchell, Executive Assistant to TA</li> <li>• Susan Rathbun, Police Chief</li> <li>• Dick Scialabba, Selectboard Chairman</li> <li>• Raymond Boulduc, Selectboard Secretary</li> <li>• Caleb Mitchell, Conservation Commission Agent</li> <li>• Mary Rice Sauders – Finance and Water &amp; Sewer Committees</li> <li>• Bonnie Conner – Finance and Former Select Board Chair</li> <li>• Dick Eastland – Water and Sewer Committee, Cable TV Committee, Community Center Committee</li> </ul> | <p>CMC/Core team</p>    |
| <p><b>2. Overview of the process: MVP vs. HMP</b></p> <p><b>Review Reduced Scope Contract</b></p> <ul style="list-style-type: none"> <li>• MVP Program overview/responsibilities</li> <li>• Bob, Clarissa, and Rob are main points of contact</li> <li>• CRB Workshop Participants</li> <li>• Collecting Public Input</li> </ul>  | <p>Rob &amp; Doreen</p> |
| <p><b>3. Scheduling</b></p> <ul style="list-style-type: none"> <li>• Provided timeline schedule and review</li> <li>• Stakeholders and materials</li> <li>• Workshop preparation</li> <li>• Writing up Appendix</li> </ul>  | <p>Doreen</p>           |
| <p><b>4. Q &amp; A</b></p>  | <p>Doreen &amp; Rob</p> |



**Time/Date:** Friday, April 15, @ 9:15 am  
**Subject:** Hinsdale Municipal Vulnerability Preparedness (MVP)  
 Core Team Meeting  
**Format:** Zoom call & in-person @ Town Hall

**Attendees:** Doreen DeFazio, Rob Polsinelli, Bob Graves, Dick Scialabba, Raymond Boulduc, Caleb Mitchell, Bonnie Connor, Mary Rice

- |    |  |        |
|----|--|--------|
| 1. | <b>Overview of responsibilities</b> <ul style="list-style-type: none"> <li>● Review Open Meeting Law</li> <li>● Hour tracking for Town</li> </ul>  | Doreen |
| 2. | <b>Contract/Task list review (Phase 1)</b> <ul style="list-style-type: none"> <li>● Initial review of task list derived from contract, covering Phase 1 tasks, timelines, and responsible parties               <ul style="list-style-type: none"> <li>○ ResilientMA.org overview</li> <li>○ Climate Resilience Design Standards Tool overview</li> </ul> </li> </ul>  | Doreen |
| 3. | <b>Hazards</b> <ul style="list-style-type: none"> <li>● Review previous findings</li> <li>● Seek additional hazards not prioritized</li> </ul>   | Rob    |
| 4. | <b>Scheduling</b> <ul style="list-style-type: none"> <li>● Site visit date, April 22 - Confirm date and availability of volunteer(s) to coordinate with CMC on important locations in Town</li> <li>● Workshop Date, May 18 – Confirm date and time               <ul style="list-style-type: none"> <li>○ Who will be invited?</li> <li>○ How will invitations be made/format?</li> <li>○ Who will invite?</li> </ul> </li> </ul> | Rob    |
| 5. | <b>Q &amp; A</b>   | All    |



**Time/Date:** Friday, April 22, @ 9:15 am  
**Subject:** Hinsdale Municipal Vulnerability Preparedness (MVP)  
Core Team Meeting  
**Format:** Zoom call & in-person @ Town Hall

**Attendees:** Doreen DeFazio, Rob Polsinelli, Bob Graves, Dick Scialabba, Raymond Bolduc, Bonnie Conner, Mary Rice

1. **Follow-up/questions from last week's meeting** All
  
2. **Task list review (Phase 1 and 2)** Rob
  - Community Stakeholders
    - o Final list by April 29
    - o Invitation timeline
  - Workshop Logistics
    - o Location
    - o Materials (tables, projector, etc.)
    - o Remote participation option
    - o Food
  - Review goals for Workshop from task list (i.e., Phase 2)
  
3. **Hazards** Doreen
  - Additional materials from Town
  - Continue last week's discussion on potential hazards
  
4. **Q & A** All



commonwealth

Time/Date: May 6, 2022 9:15am  
Subject: Hinsdale Municipal Vulnerability Preparedness (MVP)  
Core Team Meeting  
Format: Zoom call

1. **Call to Order**
  - Attendance
  
2. **Review Site Visit Discussion**
  - Review list of vulnerabilities
  - Review vulnerabilities of HMP
  
3. **Community Participation**
  - Identify Stakeholders for Workshop Meeting
  - Discuss documents to be shared on website for resident communication/PR of project
  
4. **Schedule**
  - Extension/New Workshop Date
  - Schedule next core team meeting
  
5. **Q & A**
  
6. **Adjourn**



Time/Date: May 25, 2022 9:15am  
Subject: Hinsdale Municipal Vulnerability Preparedness (MVP)  
Core Team Meeting  
Format: Zoom call

1. **Call to Order**
  - Attendance
2. **Community Participation**
  - Update on Stakeholder outreach for Workshop Meeting
3. **HMP Updates\***
  - Discuss any new information about the vulnerabilities identified in the HMP
  - Discuss any action items completed or in process since completion of HMP
4. **Schedule**
  - New Workshop Date - June 15 (tentative)
  - Schedule next core team meeting
5. **Q & A**
6. **Adjourn**

\*As time permits. This topic can be tabled and resumed at the next meeting if necessary.



Time/Date: June 15, 2022 @ 9:15 am  
Subject: Hinsdale Municipal Vulnerability Preparedness (MVP)  
Core Team Meeting  
Format: Zoom call

1. **Call to Order**
  - Attendance
2. **Workshop Participants**
  - Update on stakeholder outreach and RSVPs for Workshop
  - Assistance with follow-up of stakeholders in Hinsdale
3. **Workshop Preparation**
  - Risk matrix review
  - Locations – How best to measure/quantify?
  - Strengths of the community
4. **EJ Survey**
  - Collection of data
  - How to promote for feedback
  - Additional items to add to website page for public information
5. **Workshop**
  - Overview of what to expect during workshop
  - Logistics and materials
6. **Q & A**
7. **Adjourn**

## Appendix E: Climate Vulnerable Populations Survey

# Hinsdale Environmental Justice Survey

This survey aims to collect data surrounding environmental justice populations in the Town of Hinsdale, MA. Responses to this survey will assist in filling gaps in data surrounding environmental justice in Massachusetts and provide a valuable starting point for work that Commonwealth Municipal Consulting can do to best address these stressors. This survey will take approximately 5 minutes and consists of 14 questions requiring you to choose from a multiple-choice list. If you are not comfortable answering specific questions please feel free to skip them. Answers to this survey are completely anonymous, and there is no risk of a respondent's identity being revealed. Furthermore, your answers will be protected through the website where this online survey will be conducted. This survey is intended for residents of Hinsdale, Massachusetts and may only be completed one time per resident. If you are assisting a resident in completing this survey please indicate that below.

If you have any questions or concerns please feel free to reach out to the principal investigator, Sophie Protano, at [sophie.commonwealth@gmail.com](mailto:sophie.commonwealth@gmail.com).

---

### \* Required

1. Please check the box to confirm that you have read the above information and would like to proceed with taking this survey.

*Check all that apply.*

I have read the above information and would like to proceed with taking this survey

2. Please check the box to confirm that you are a resident of the town of Hinsdale and that you pledge to only complete this survey one time.

*Check all that apply.*

I am a resident of the town of Hinsdale

I am assisting a resident of Hinsdale in completing this survey because they are unable to complete it on their own.

I pledge to only complete the survey one time



3. Q1: How old are you?

*Mark only one oval.*

- Under 18
- 18-24 years old
- 25-34 years old
- 35-44 years old
- 45-54 years old
- 55-64 years old
- 65-74 years old
- 75 years or older

4. Q2: Approximately how long have you been a resident of Hinsdale?

*Mark only one oval.*

- Less than 1 year
- 1-4 years
- 5-9 years
- 10-14 years
- 15-19 years
- 20-29 years
- 30-39 years
- 40-49 years
- 50+ years

5. Q3: Do you currently own or rent your home?

*Mark only one oval.*

- Own
- Rent

6. Q4: Are you of Hispanic/Latinx/Spanish origin?

*Mark only one oval.*

Yes

No

7. Q5: How would you best describe yourself? (Select only one.)

*Mark only one oval.*

Two or more races

American Indian or Alaskan Native

Asian

Black/African American

Native Hawaiian or other Pacific Islander

White

Other: \_\_\_\_\_

8. Q6: What is your annual household income?

*Mark only one oval.*

Less than \$20,000

Between \$20,000 and \$34,999

Between \$35,000 and \$49,999

Between \$50,000 and \$74,999

Between \$75,000 and \$99,999

Between \$100,000 and \$150,000

Over \$150,000

9. Q7: Do you have a chronic physical disability? (Examples include a visual impairment, hearing impairment, motor impairment including the need for physical assistance or use of a wheelchair, walker, or cane.)

*Mark only one oval.*

Yes

No

10. Q8: Do you have an intellectual disability? (Examples include a mental health disorder, cognitive impairment, or developmental disability.)

*Mark only one oval.*

Yes

No

11. Q9: Since being a resident of Hinsdale have you experienced a hazardous event within the town? (Examples may include flood, dam failure, hurricane, severe winter weather, severe weather, drought, fire, earthquake, and landslide.) If no, skip to question 12.

*Mark only one oval.*

Yes

No

12. Q10: If you answered yes to the previous question, how would you best categorize the hazardous event(s) you have experienced in Hinsdale. Select as many as applicable.

*Check all that apply.*

- Flood
- Dam failure
- Hurricane
- Severe winter weather
- Severe weather
- Drought
- Fire
- Earthquake
- Landslide
- Other: \_\_\_\_\_

13. Q11: If you answered 'yes' to question 9, choose your level of agreement with this statement: During a time of hazardous event within the town of Hinsdale, I was able to receive the necessary resources and/or assistance to mitigate harm.

*Mark only one oval.*

- Strongly agree
- Agree
- Disagree
- Strongly disagree

14. Q12: Choose your level of agreement with this statement: If the town of Hinsdale were to experience a hazardous event then I would be able to receive the necessary resources and/or assistance to mitigate harm.

*Mark only one oval.*

- Strongly agree  
 Agree  
 Disagree  
 Strongly disagree

15. Q13: If the town of Hinsdale were to experience a hazardous event, do you expect to have more difficulties accessing or receiving necessary resources and/ or assistance to mitigate harm than others based on one of the following factors? (You may select multiple answers.)

*Check all that apply.*

- Yes, because of my income  
 Yes, because of my race or ethnicity  
 Yes, because of my age  
 Yes, because of a disability  
 No, my experience would not be affected by any of the factors listed above

16. Q14: Rank these hazard categories from most to least dangerous in terms of your personal \* vulnerability

Mark only one oval per row.

	Flood	Dam failure	Hurricane	Severe winter weather	Severe weather	Drought	Fire	Earthquake
<b>Most dangerous</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>2nd most dangerous</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>3rd most dangerous</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>4th most dangerous</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>5th most dangerous</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>6th most dangerous</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>7th most dangerous</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>8th most dangerous</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Least dangerous</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Debrief

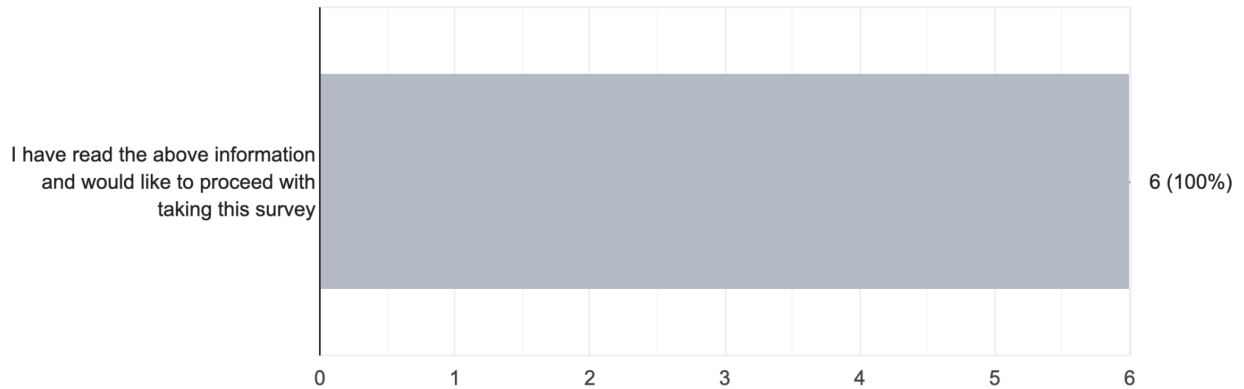
Thank you so much for taking the time to participate in this survey. To reiterate, your responses are completely anonymous and there is no risk of a respondent's identity being revealed. Any questions or concerns do not hesitate to reach out to [sophie.commonwealth@gmail.com](mailto:sophie.commonwealth@gmail.com). Your participation is much appreciated!



## Appendix F: Survey Results

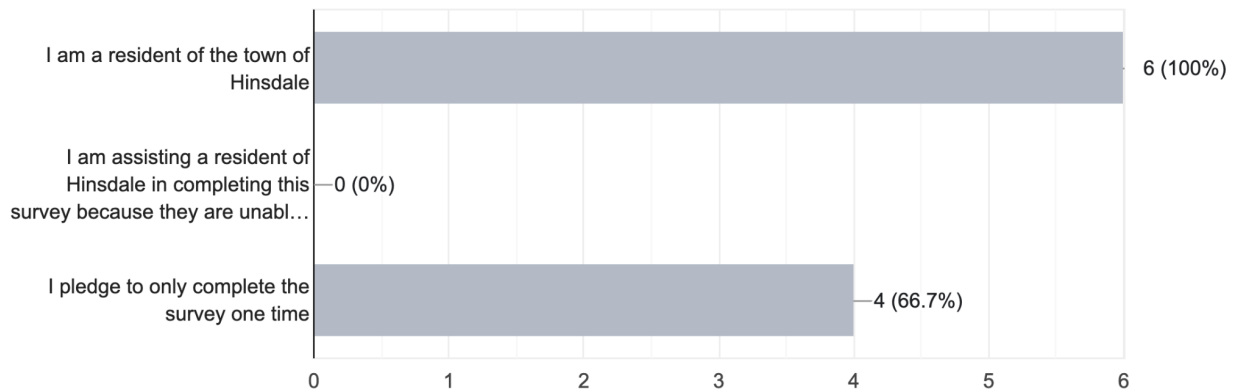
Please check the box to confirm that you have read the above information and would like to proceed with taking this survey.

6 responses



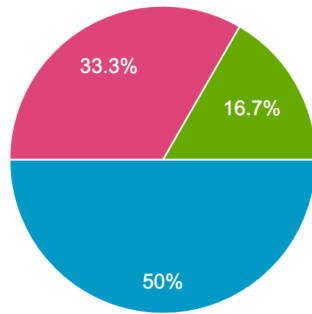
Please check the box to confirm that you are a resident of the town of Hinsdale and that you pledge to only complete this survey one time.

6 responses



Q1: How old are you?

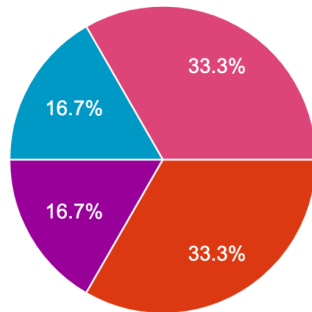
6 responses



- Under 18
- 18-24 years old
- 25-34 years old
- 35-44 years old
- 45-54 years old
- 55-64 years old
- 65-74 years old
- 75 years or older

Q2: Approximately how long have you been a resident of Hinsdale?

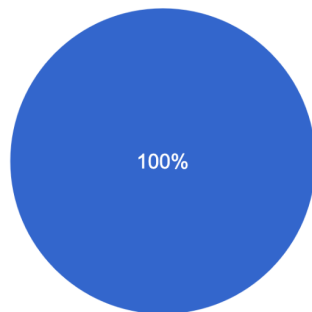
6 responses



- Less than 1 year
- 1-4 years
- 5-9 years
- 10-14 years
- 15-19 years
- 20-29 years
- 30-39 years
- 40-49 years
- 50+ years

Q3: Do you currently own or rent your home?

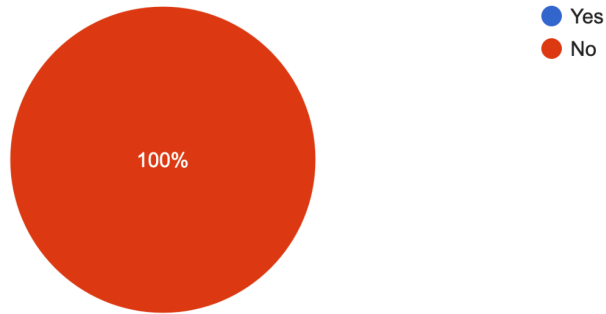
6 responses



- Own
- Rent

Q4: Are you of Hispanic/Latinx/Spanish origin?

6 responses



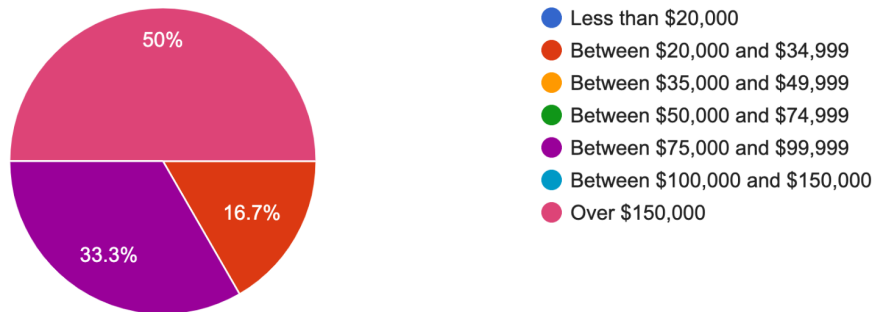
Q5: How would you best describe yourself? (Select only one.)

6 responses

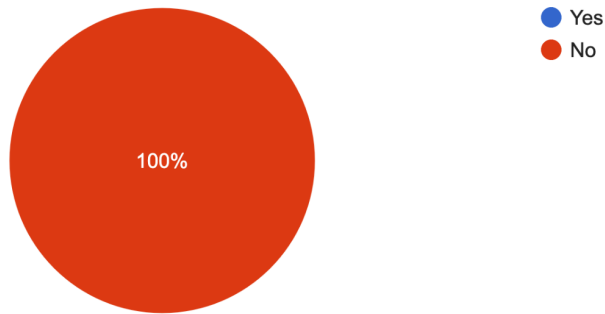


Q6: What is your annual household income?

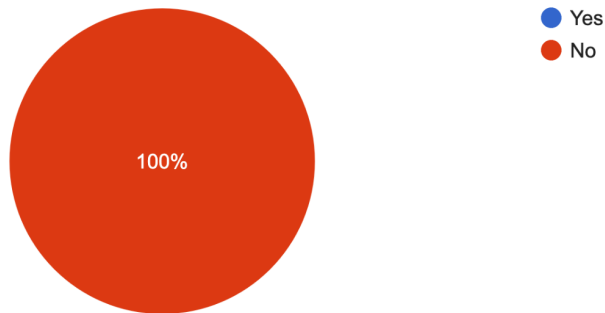
6 responses



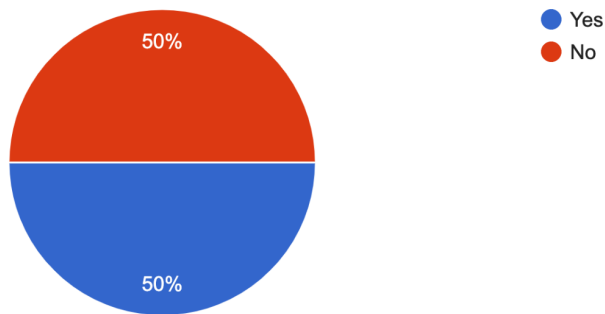
Q7: Do you have a chronic physical disability? (Examples include a visual impairment, hearing impairment, motor impairment including the need for assistance or use of a wheelchair, walker, or cane.)  
6 responses



Q8: Do you have an intellectual disability? (Examples include a mental health disorder, cognitive impairment, or developmental disability.)  
6 responses

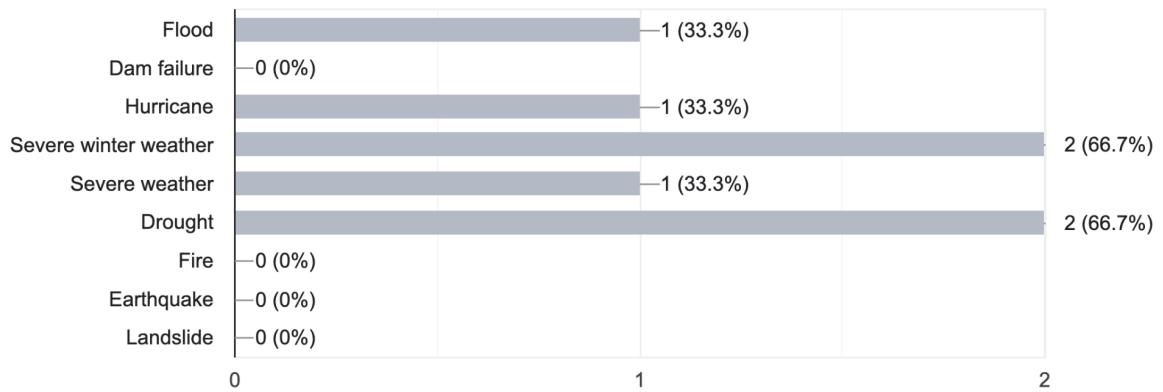


Q9: Since being a resident of Hinsdale have you experienced a hazardous event within the town? (Examples may include flood, dam failure, hurricane...quake, and landslide.) If no, skip to question 12.  
6 responses



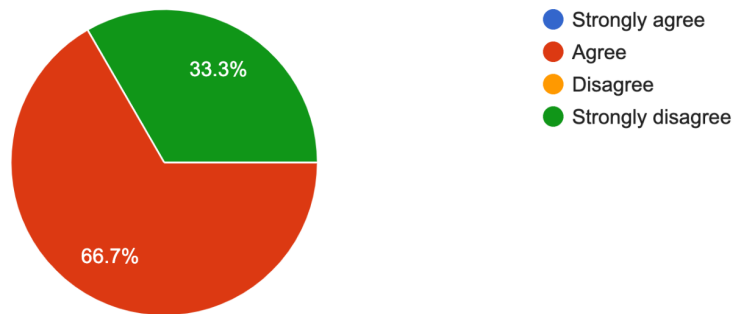
Q10: If you answered yes to the previous question, how would you best categorize the hazardous event(s) you have experienced in Hinsdale. Select as many as applicable.

3 responses



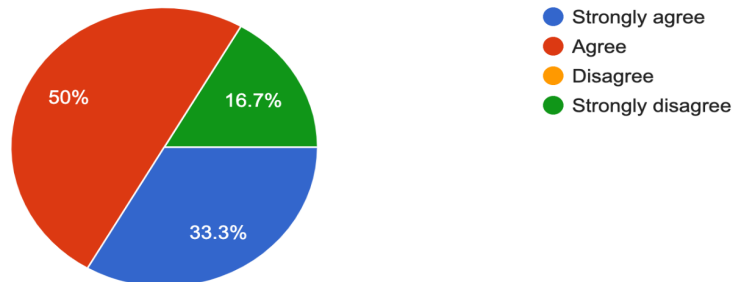
Q11: If you answered 'yes' to question 9, choose your level of agreement with this statement: During a time of hazardous event within the town ...ary resources and/or assistance to mitigate harm.

3 responses

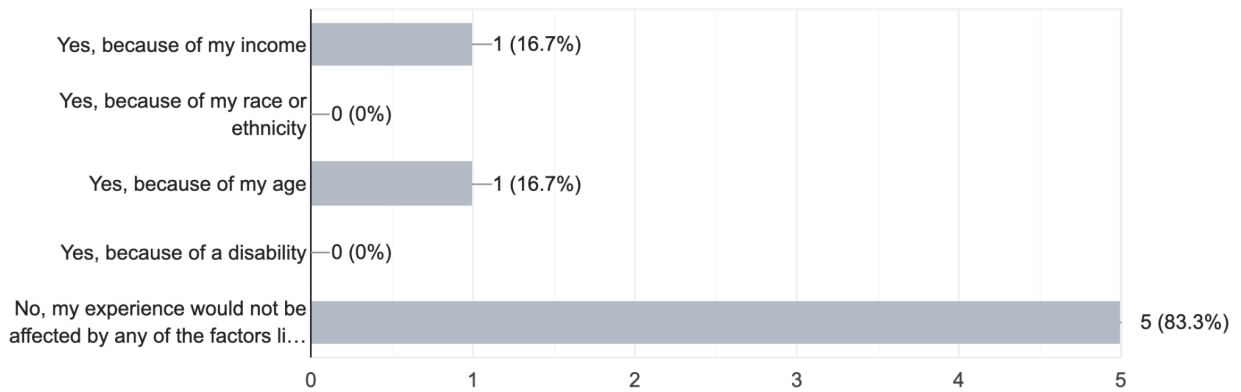


Q12: Choose your level of agreement with this statement: If the town of Hinsdale were to experience a hazardous event then I would be able...ary resources and/or assistance to mitigate harm.

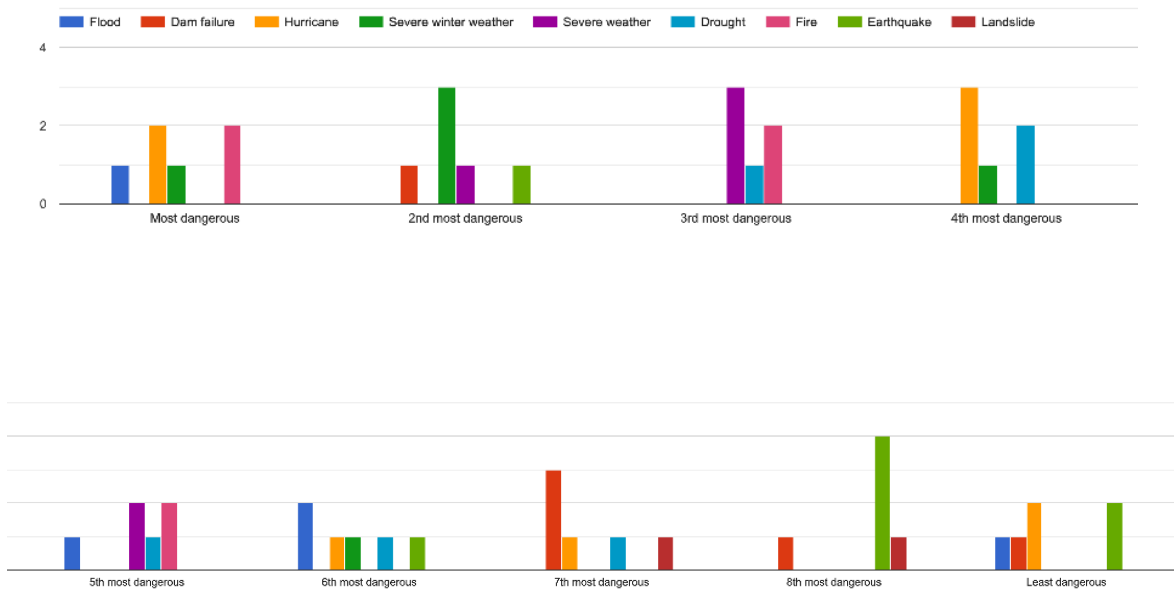
6 responses



Q13: If the town of Hinsdale were to experience a hazardous event, do you expect to have more difficulties accessing or receiving necessary resources due to the following factors? (You may select multiple answers.)  
6 responses



Q14: Rank these hazard categories from most to least dangerous in terms of your personal vulnerability





## Appendix G: Public Notice(s) of Public Comment Session



### Public Notice

This is a notice to the public that on **Wednesday, September 21<sup>st</sup> at 6:30PM** there will be a Public Meeting to discuss the proposed MVP plan.

The Municipal Vulnerability Preparedness grant program (MVP) provides support for cities and towns in Massachusetts to begin the process of planning for climate change resiliency and implementing priority projects. The state awards communities with funding to complete vulnerability assessments and develop action-oriented resiliency plans. Communities who complete the MVP program become certified as an MVP community and are eligible for MVP Action Grant funding and other opportunities.

The link for the online meeting is listed below.

We ask that anyone who cannot attend the meeting but has questions regarding the MVP plan to please submit your questions in writing to [Doreen.commonwealth@gmail.com](mailto:Doreen.commonwealth@gmail.com) before September 19th at 3:00pm and they will be answered at the public meeting.

Join Zoom Meeting

<https://us02web.zoom.us/j/88555205328?pwd=SG0yZ2dUVEFsbmQ5KzJuT2w5WitYUT09>

Meeting ID: 885 5520 5328

Passcode: 405239

One tap mobile

+13126266799,,88555205328#,,,,\*405239# US (Chicago)

+16465588656,,88555205328#,,,,\*405239# US (New York)

