Town of Sunderland

Municipal Vulnerability Preparedness (MVP) Program

MVP Resiliency Plan

October 2020

Facilitated by the
Franklin Regional Council of Governments
A State-Certified MVP Provider

MVP Resiliency Plan

Including the Summary of Findings from the
Community Resilience Building Workshop
October 2019

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Town of Sunderland
Community Resilience Building Workshop
Summary of Findings

Overview:

Throughout Franklin County, Massachusetts, communities are experiencing more extreme weather events – especially heavy rains and flooding – along with higher temperatures and other climate-related conditions. These types of conditions are predicted to increase as a result of climate change. According to down-scaled climate data from resilientMA.org,[1] the major climate change drivers in Franklin County and Sunderland are: an increase in average temperature, as well as more extreme heat and extreme temperature fluctuations; an increase in annual precipitation and an increase in very heavy precipitation events – where more rain, snow, or ice falls in a short period of time – interspersed at times with very dry periods, and a change to more rain and ice in winters; and, due to an overall warmer climate with more moisture in the atmosphere, stronger storms with higher winds.

In the face of these changes, municipalities have more of a sense of urgency to increase their resilience and adapt to extreme weather events and mounting natural hazards. Relatively recent events in Franklin County, such as Tropical Storms Irene (August 29-30, 2011) and "Snow-tober"(October 28, 2011), have reinforced this urgency and compelled communities like the Town of Sunderland to proactively plan and mitigate potential risks. This type of planning will reduce the vulnerability of Sunderland's people, infrastructure and natural resources, and will empower Sunderland's officials and citizens to take steps to protect themselves and their community.

In 2019, with funding from the Massachusetts Executive Office of Energy and Environmental Affairs, the Franklin Regional Council of Governments (FRCOG) offered the Town of Sunderland technical assistance in completing their Community Resilience Building Workshop to achieve a designation as a Municipal Vulnerability Preparedness Community or "MVP" Community. As a State-certified MVP Provider, the FRCOG helped Sunderland engage in a community-driven process that brought together climate change information and local knowledge to conduct the workshop, whose central objectives were to:

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

[1] http://www.resilientma.org/map/

- Identify immediate opportunities to collaboratively advance actions to increase resilience.

This report summarizes the findings of the Town of Sunderland's Community Resilience-Building Workshop.

Community Resilience Building Workshop

Summary of Findings

The Town of Sunderland, population 3,684, has conducted a number of planning projects in previous years, including its 2014 Hazard Mitigation Plan (currently being updated), which enabled the Town to identify high priority hazards as well as areas, infrastructure and populations vulnerable to a variety of hazards, and action items to potentially address hazards. Other recent Sunderland plans include: Town of Sunderland Open Space and Recreation Plan (2014-2021); Sunderland Master Plan Transportation and Circulation Chapter (2014); Town of Sunderland Housing Plan (2016); Sunderland Complete Streets Prioritization Plan (2017); and Sunderland ADA Transition Plan (2019).

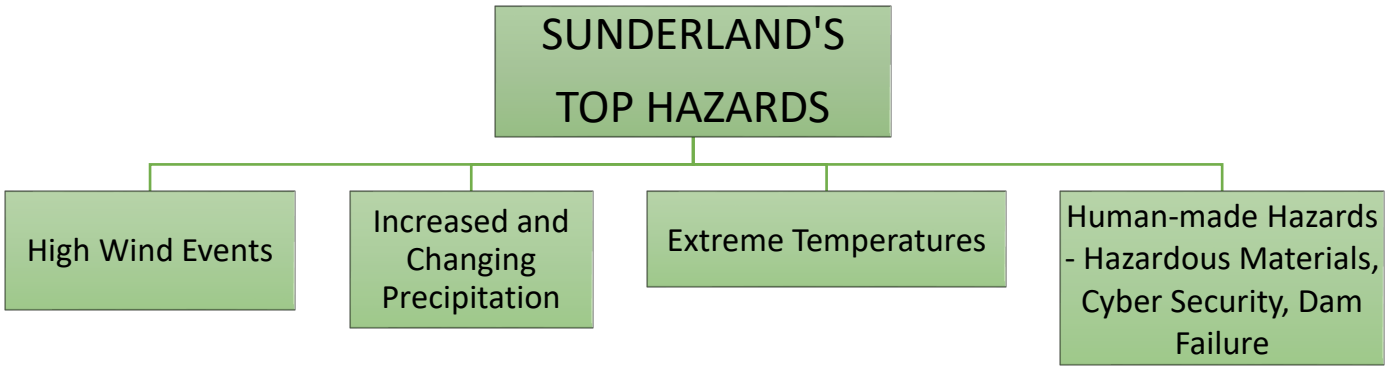
In spite of Sunderland's diligence in completing these planning efforts, there was still a need for the community to conduct a hazard assessment across scales – from individual buildings and bridges to rivers and landscapes, and across sectors – infrastructure, society and environment – looking specifically through the lens of climate change and its likely impacts.

Workshop participants considered climate change impacts most likely to impact Sunderland, including rising and extreme air temperatures, extreme weather events and increased precipitation, both in quantity and intensity.

The workshop was critical to enabling participants to think about and engage with people from different sectors. People representing emergency management, highway, police, fire, administration, planning, water supply, library, energy committee, historic commission, and interested residents came together to determine the most threatening hazards to the Town of Sunderland and to agree upon high priorities and actions to address them.

Top Hazards

Workshop participants discussed a number of hazards that impact Sunderland, deliberating on how frequent, how intense and how widespread each hazard has been and could potentially be in the future. Hazards discussed included: dam failures, severe winter storms/ice storms, earthquakes, hurricanes, wind storms/microbursts, tornados, ice jams, floods, wild fires, landslides, droughts, human-made hazards and extreme temperatures. Top hazards identified by the participants are as follows:



Areas of Concern

Infrastructure and Transportation:
Limited access for emergency personnel when the Sunderland Route 116 Bridge is out; limited emergency access routes for residents; lack of backup power for the DPW, public buildings and the designated cooling shelter; prolonged power outages; reliance on cell and internet infrastructure for public emergency communication; un-maintained drainage ditches on private property; unmapped and/or failing culverts; fire pond in need of dredging.

Facilities and businesses: Lack of identified shelters outside of the floodplain and dam inundation area; businesses, critical facilities, and farmland located within dam inundation area; lack of continuity of operations plan for dam failure event; economic impacts of flooding, drought, and power outages on farms.

Public health: Impact of extreme temperatures on vulnerable populations; transportation of hazardous materials through town on roads and railroad; contamination of private wells and farmland from flooding; insect-borne diseases; high water table in southern Sunderland leading to flooded basements and mold/mildew issues.

People: Effective emergency communications with large renter population; large student population without private transportation; non-English speaking residents without access to emergency information; people living in isolated neighborhoods without reliable communication pathways; elders throughout Town; private homes in the floodplain and/or wildland urban interface.

Ecosystems and natural resources: Wildfire potential on Mt. Toby and more populated flat grasslands; beaver dams; floodplains throughout Town; steep topography

A 2009 "gustnado" destroyed tobacco barns in Sunderland along Route 47.

and unstable slopes; insect borne diseases; impact of flooding, drought, and high wind to farmland and crops.

Current Concerns & Challenges Presented by Hazards

For many in Franklin County, Tropical Storm Irene in 2011 is a bellwether event, demonstrating the extent and severity of extreme weather and increased rain that is predicted to become more frequent in the coming years. Although Sunderland was not impacted nearly as severely as towns to the northwest, the damage and extreme impact from Irene was felt throughout the region.

Participants in the workshop discussed a number of hazards, both natural and human-made which have impacted the community in recent years. Short-term, acute weather events including severe wind events, changes in precipitation including more ice and rain in the winter and increased amounts of precipitation falling in a short period of time, extreme and erratic temperatures, and dam failure and other human-made hazards are of the most concern for participants.

A large portion of Sunderland's populated area lies within or adjacent to a broad, flat floodplain area of the Connecticut River. The town was first known as Swampfield, so named for the abundance of wetlands found by the first English settlers. Ditches were dug to drain the wetlands to the Connecticut River for farming. Sunderland developed as a traditional New England village, with a linear Town Common (unique to Connecticut River communities) surrounded by farms. The introduction of the inter-urban trolley system in the early 1900s expanded residential and development outward in a lineal pattern. Over time, the flat, easily-developable farmland has been the location of most new residential development. As larger farm parcels were subdivided into house lots, the drainage ditches once maintained by farmers began to grow in and become plugged.

Workshop participants identified this broad flat area as prone to high wind events that can damage buildings and crops and result in power outages. High wind could also easily and quickly spread a wildfire across this area, a concern due to the number of people living in the lowland area of town.

Workshop participants expressed concern about heavy rain events and potential future flooding, particularly within the Connecticut River floodplain where a high water table already causes flooded basements and farm fields. As noted above, drainage channels, most on private land, have become disconnected and may not be maintained. The combination of an increase in impervious surfaces in this area from residential development, plugged drainage ditches, a high water table, and heavier rain events leads to localized flooding because the ground becomes saturated and unable to absorb rainfall. Standing water, along with delayed fall frosts, also leads to greater risk to mosquito-borne diseases such as West Nile Virus and Eastern Equine Encephalitis (EEE). Changing precipitation patterns due to climate change were

also a concern. More rain and ice in the winter will result in greater amounts of runoff from Mt. Toby and other high elevation areas in town; long, dry periods could result in drought and higher wildfire potential.

Temperature extremes, such as high heat and freezing temperatures were another top concern. Elderly and low income residents are particularly vulnerable to extreme temperatures and may lack air conditioning or safe ways to adequately heat their homes. Periods of extended high heat or extreme cold may strain the already vulnerable electrical grid in town. Participants noted that a plan for more resilient back-up power and air-conditioning is needed. The elementary school is the designated shelter, but does not have air-conditioning. Extreme heat can also contribute to poor air quality by trapping emitted pollutants close to the ground, impacting people with asthma and other respiratory diseases as well as young children and the elderly.

Participants also identified human-made hazards as a top concern, particularly dam failure, cyber security, and hazardous materials transported by rail or on the roads through the Town. All of the Town's critical facilities are within the high-hazard dam inundation area, as are many residences, businesses, and farms. Evacuation, emergency communications, and sheltering are all a concern in the event of a high hazard dam failure. A plan is needed for this and other hazards that may result in the closure or loss of the Route 116 bridge over the Connecticut River. Additionally, reliance of public emergency communication on cell and internet infrastructure is a vulnerability. Renters in town may not be signed up for Code Red to receive emergency notifications, and may also lack access to personal transportation options. The Town is also not yet equipped to communicate effectively with all non-English speaking residents.

Specific Categories of Concerns and Challenges

Location of Critical Facilities and Limited Emergency Access Routes: Participants raised several concerns with regard to the Town's critical facilities and evacuation options. The primary concern is with the loss or closure of the Sunderland Route 116 Bridge over the Connecticut River. When the Sunderland Bridge closes, all westward evacuation options are lost, including the closest access to I-91. The majority of residents must rely on Routes 47 and 116, as there are very few backroads throughout Sunderland that could be used during an emergency.

In addition, all of the Town's critical facilities, including Police, Fire, Highway, Town Offices, and shelters, are located within the high-hazard dam inundation area. A dam failure during an extreme weather event would likely result in the maximum flooding scenario under the Emergency Action Plans for the high hazard dams, as opposed to a dam failure during normal, or dry, conditions. More extreme weather events due to climate change could increase this risk. The Town does not currently have a continuity of operations plan in the event that all facilities are unusable.

Sunderland MVP workshop participants identifying and prioritizing top hazards.

Resident Turn-Over and Isolated Residents in Sunderland: Participants raised concerns about the frequent turnover of residents in Town, which can make emergency preparedness and response especially challenging. There are four large apartment complexes in Town, including the Mt. Toby Apartments and Cliffside Apartments. An additional 150 apartment units are under construction just off of Route 116 near the southern border of Town. Many of the renters are students at the University of Massachusetts, Amherst, which leads to frequent turnover of the rental units. Workshop participants were concerned that residents living in the apartment complexes for a short time may not have updated contact information in the Town's Code Red system, and may not have access to private transportation in the event of an evacuation order. Sunderland has a Memorandum of Understanding (MOU) with the PVTA for evacuation purposes, but the agreement is in need of updating and could be supplemented with other possible transportation options. The Town is also not yet equipped to communicate effectively with all non-English speaking residents.

Elderly residents, isolated residents, and residents who are dependent on medical devices were also of concern to workshop participants. These residents may not have reliable access to information concerning emergencies or access to regular, reliable public transportation. Further, the Town may not have up to date information on where vulnerable populations are located, which may limit emergency evacuation or response efforts.

Vulnerability of Communication Systems: Workshop participants also discussed threats to communication systems, including cell phone and internet service. Power outages were noted to be a common event during storms, which can impact residents' ability to receive emergency information. Sunderland actively uses the CodeRed system to contact residents, but this system is not formally tested on a periodic basis.

The current COVID19 pandemic has only highlighted how important communication is during an emergency to provide reliable, accurate information to residents. Members of the Sunderland Emergency Preparedness Team (SEPT) felt that improved communications would help with future communicable disease emergencies.

Sheltering: Although Sunderland has identified the Sunderland Public Library and the Sunderland Elementary School as sheltering options for different natural hazards, workshop participants voiced concern that the facilities are vulnerable to flooding and are within the

dam inundation area. In the past, the Town has worked with the Dean of Students at the University of Massachusetts, Amherst in order to develop an MOU to allow residents to shelter in campus buildings. However, this MOU has not been successfully executed. Participants discussed the need to begin identifying alternative sheltering options.

The elementary school serves as the Town's primary shelter and has a backup generator available for use. However the school's gym does not have air conditioning, which may complicate sheltering during warmer months.

Energy Resilience: The water department, fire department, police department, and wastewater treatment plant all have backup generators. However, workshop participants mentioned that some of these facilities may be in need of new generators, and could benefit from backup battery storage. Additionally, a procedure needs to be established for buildings such as the Highway Department and the Library for using the portable generator. Some of the apartment complexes and housing for migrant farm workers lack back-up power.

Outreach to farms also identified energy resilience as a key concern and need. Some farms have added, or would like to add, on-site renewable energy power sources, like solar PV and solar hot water. Solar-powered back-up battery storage was identified as a need to increase resilience to extended power outages that could be devastating to a farm business. Batteries powered by renewable energy could also allow for more flexible siting of greenhouses, which help protect crops from severe weather, but require a power source.

Impacts of Flooding and Drought on Farms and Residences: The flat low-lying area in Sunderland has drainage ditches on private property, which were established when the Town was first developed. Over time, many of these ditches have become overgrown and plugged and no longer properly drain the area. Standing water can lead to increased risk of mosquito-borne diseases such as West Nile Virus and Eastern Equine Encephalitis (EEE). In addition to issues with the drainage ditches, the naturally high water table and increased precipitation in recent years have caused farmers to lose arable land because their fields are become too wet. Basements in this area are also routinely flooded and private septic systems are vulnerable to failure. Mold and mildew resulting from the wetness in these buildings is a public health concern. Workshop participants mentioned that fixing these drainage issues cannot be a municipal led effort, as the majority of the ditches are located on privately-owned land.

Farms in Sunderland play an important role in the community, providing local food, jobs, and agri-tourism.

Drought is also a problem for farms in Sunderland. Many farms in the Town are located to the east of Route 47, which limits their access to water from the Connecticut River. Irrigation is time consuming and adds hours to an

already full workday. Smaller farms may lack irrigation equipment to make the task more efficient. Drought also places homes at risk in this area of town, where a wildfire could easily and quickly spread.

Vulnerabilities related to wildfire: Participants also voiced concerns with regard to the possibility of a wildfire outbreak and the Town's ability to manage a fire. Overall lack of maintained fire access roads to forested land in town is a concern. Large tracks of forestland around Sunderland Fire Tower on Ox Hill, Roaring Mountain, Middle Mountain Road, Cross Mountain Road, North Mountain Road, and Tower Road are not maintained. Some of these access roads are currently inaccessible to all but the most rugged off-road vehicles or completely impassible due to washouts. Wildland firefighting, as well as search and rescue operations, are severely impeded in these areas. Lack of water for firefighting purposes is also a concern. In the past, the Town Park pond was used for firefighting, but is now silted in due to nearby development.

Since the workshop in the Fall, a June 2020 wildfire in neighboring Leverett that consumed 66 acres demonstrated how even mild drought conditions can lead to serious wildfire conditions.

Current Strengths and Assets

Sunderland's emergency planning and response procedures are regularly reviewed and updated. The Town has taken a proactive approach to emergency preparedness, which was evident at the workshop as participants readily provided known vulnerabilities, but also strengths and actions to address these vulnerabilities. Participants sited several strengths and assets that help keep their community resilient in the face of climate change and other challenges. They include:

Public water supply with backup power: Sunderland has a total of seven public water supply wells, which serve 93% of the residents in town. Additionally, the water supply comes from a mix of groundwater and surface water resources. The Sunderland Water District also has two water storage tanks that can supply emergency back-up water supply to the apartment complexes in the event that well water is not available or cannot be used.

Proactive emergency planning: The Sunderland Emergency Preparedness Team is made up of members from a variety of Town departments, and meets periodically to review Town

emergency procedures and plans. The SEPT is involved in long-term hazard mitigation planning, and members take part in regular trainings and exercises for hazardous material, evacuation, sheltering, and other incidents.

Town sheltering and communication plans: The Town's primary sheltering location, the Sunderland Elementary School, is large, has kitchen facilities and bathrooms, and is equipped with a generator. The Library is also a designated warming and cooling center, and is wired for a portable generator. The Town actively uses CodeRed to alert residents during emergencies. A large logo and link to sign enroll in CodeRed is promoted on the main page of Sunderland's website to encourage increased participation.

Active community groups and volunteers: Sunderland has active community members dedicated on improving the quality of life for residents in a variety of ways. Participants also said that informal neighborhood groups provide support to residents in the event of an emergency or severe weather.

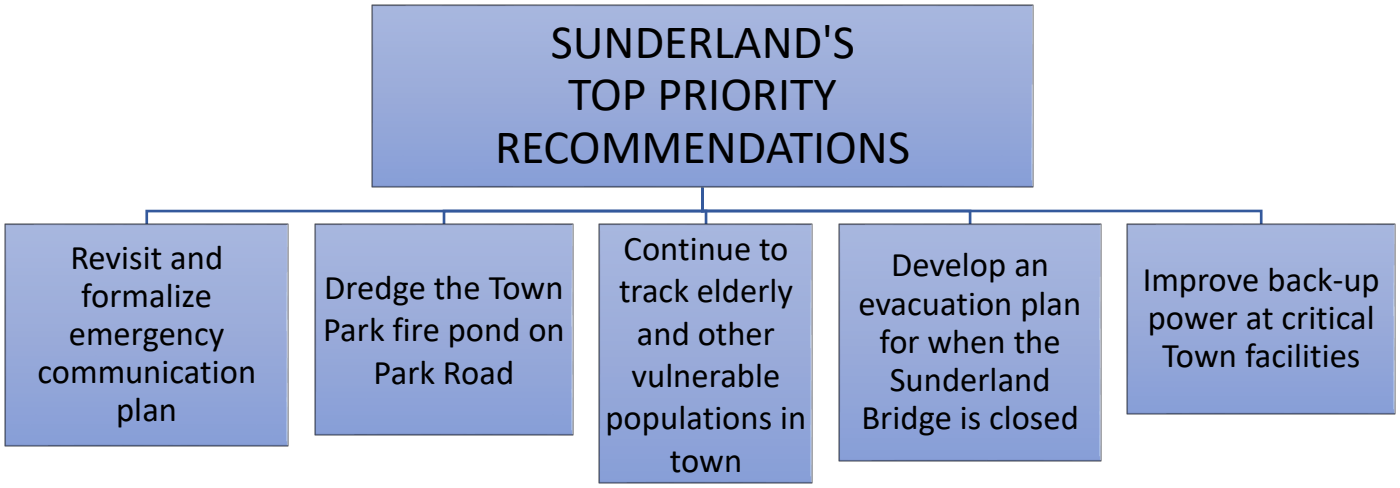
Diverse Natural Resources: Workshop participants noted that there are many protected open spaces throughout the town. Sunderland is home to the Mount Toby State Forest, which covers 755 acres, and many small farms that comprise 11% of the Town's land uses. Agriculture plays an important role in the culture and economy of the town, providing local food, jobs, and cultural activities and tourism. The Town is a designated Green Community, signifying that energy efficiency and renewable energy is important to Sunderland officials and residents. A solar PV array was installed and completed at the Elementary School in January 2017, and as of February 2020 the system has generated 1.15 GWh of electricity.[2]

The solar array adjacent to the Sunderland Elementary School.

[2] Sunderland School Energy Online Dashboard.
http://s38728.mini.alsoenergy.com/Dashboard/2a566973506447374343554b772b71413d

Top Recommendations to Improve Resilience

Sunderland's top priority recommendations, shown below, address key vulnerabilities while building upon current strengths.



Formalizing the emergency communization plan topped the list of highest priority recommendations, with first responders and other workshop participants agreeing that coming up with a plan for when internet service goes out is critical. Developing a backup or analog plan is essential to improving town-wide communications in the event of a hazard. In addition, participants emphasized the need to encourage, or require with rental leases, sign-up for Code Red. Improving the Town's ability to communicate to residents in multiple languages was also emphasized.

Dredging the fire pond on Park Road is also a top priority recommendation, especially to increase Sunderland's capacity to fight a wildfire. Related to this recommendation is to improve and maintain fire access roads in forested areas.

Continuing to track the elderly and vulnerable populations in town is a high priority recommendation. Workshop participants discussed gaining more information on elderly and vulnerable populations so that their needs can be considered and met during any emergency evacuations. This includes isolated residents, residents with medical or other special needs, and residents lacking transportation options.

Developing an evacuation plan to account for a closure of the Sunderland Bridge is essential for the Town. Current evacuation options are limited if the bridge goes out or is closed; as previously discussed in this report, 50% of evacuation routes are cut off if residents and emergency personnel cannot cross the bridge. Once a plan is developed, the Town should coordinate with the South County EMS to run a practice drill. Workshop participants agreed that developing backup evacuation plans are critical to ensure the safety of all residents during severe storms or other hazards.

Improving back-up power resources at critical Town facilities is considered a top priority recommendation. A procedure and maintenance plan is needed for the Town's portable

generators for use at the Highway Garage and Library. The Elementary School serves as the Town's primary sheltering location, and has a large solar array onsite. Workshop participants agreed that adding battery storage at the school would build resiliency into the Town's current sheltering plan. Reviewing other Town buildings for battery storage powered by renewable energy, such as solar or small-scale wind, is also a priority. Sunderland is a Green Community and has invested substantially in energy efficiency improvements at Town buildings. Between FY2011 and FY2019, the Town accomplished an 18% decrease in energy use in municipal buildings. The Town will continue to implement energy efficiency measures in conjunction with exploring renewable energy options.

Community Resilience Building Risk Matrix

www.CommunityResilienceBuilding.org

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

Features	Location	Ownership	V/S	Recommendations	Top Priority Hazards: High Wind	Precip-itation	Extreme Temp-eratures	Human-made Hazards	Priority (H - M - L)	Time (Short Long Ongoing)
Infrastructural										
Power grid / back-up power	Town-wide	Private	V/S	Power comes from multiple directions so it typically comes back on quickly if there is an outage. Provide public education on back-up power options for private property.	**X**	**X**	**X**	**X**	**M**	**S**
	Farms	Private	V/S	Assist farms with assessing and prioritizing energy resilience measures, including renewable energy powered battery storage, and identifying funding for implementation.	**X**	**X**	**X**	**X**	**M**	**S**
Route 116 Bridge	Sunderland Bridge (Route 116)	Town/State	V	Evacuation and emergency access relies on Route 116 bridge, however the bridge has been destroyed in the past during storms. Develop a plan and run an exercise with the South County EMS for a hazard event that results in a Route 116 bridge closure.	**X**	**X**		**X**	**H**	**Ongoing**
Elementary School	Off Old Amherst Road	Public	S/V	The Sunderland Elementary School is a designated shelter. The school has a back-up generator, but lacks air conditioning for sheltering during warmer weather. Equip the school with air conditioning in the gym and cafeteria; explore adding battery back-up at the Elementary School's solar PV array to improve energy resilience.	**X**	**X**	**X**	**X**	**H**	**S**
Public Water Supplies	Town-wide	Town	S	The water district has two generators at well sites and most of the Town is on the municipal water supply.	**X**	**X**		**X**		
Public Buildings	Town-wide	Town	V	The Water District, Fire Department, Police Department and wastewater treatment plant all have backup generators. The Highway Department and Library are equipped to use a portable generator. Evaluate public buildings for onsite power generation using renewable energy, such as solar or small-scale wind, coupled with battery storage to increase resiliency. Consider a mobile battery generator as an option. Continue to implement energy efficiency measures to reduce overall energy use in municipal buildings.	**X**	**X**	**X**	**X**	**H**	**S**
Communications with Residents	Town-wide	Town	S/V	Code Red is maintained but not tested. Additionally, the Town cannot see who is on the list. Continue to register residents and come up with solutions to increase participation, such as requiring renters to sign up as a part of their lease agreement.	**X**	**X**	**X**	**X**	**H**	**Ongoing**
Communications Infrastructure	Town-wide	Public / Private	V	Develop a backup communication strategy when cell and internet service is down. Explore agreements with the UMass radio station or other resources in nearby communities. Consider purchasing a communications trailer.	**X**	**X**	**X**	**X**	**H**	**S**

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Evacuation Options	Town-wide	Public / Private	V	Residents rely heavily on Route 47 + 116; there are few back roads or alternate travel routes. Evacuation agreements with PVTA are in place but need to be updated; agreements with other transit authorities and bus companies should be established. Continue working with MassDOT on a transportation plan.	**X**	**X**	**X**	**X**	**M**	**Ongoing**
Culverts	Town-wide	Town	V	Culverts should be mapped, assessed, and prioritized for maintenance or replacement, taking into consideration increased precipitation projections.		**X**		**X**	**M**	**S / Ongoing**
Railroad / Route 63 and Public Water Supply Aquifer	Northeast Corner of Town	Private / Public	V	Hazardous materials are transported through Sunderland on the railroad and State Route 63. A train derailment or spill from the roadway could seriously impact the aquifer that is used as the water supply for residents in this section of town. Develop a Standard Operating Procedure for responding to a spill in this area of town in order to protect the aquifer.				**X**	**H**	**S**
Fire pond	Park Road	Town	V	Sunderland's fire pond on Park Road needs to be dredged and maintained for firefighting purposes.	**X**	**X**	**X**	**X**	**H**	**S / Ongoing**
Wildland fire access	East / North of Route 116	Public / Private	S/V	Fire roads are not maintained and are lacking in many forested areas of town. Inventory and assess existing fire roads and identify improvements. Coordinate with landowners and foresters when harvests are being planned in order to improve fire access.	**X**	**X**	**X**	**X**	**H**	**S**
Societal										
Evacuation	Route 116; Route 47	Private	V	People living or working in Sunderland without access to personal transportation may need help evacuating. Agreements with transit authorities and bus companies should be updated or established (see also Evacuation Options under Infrastructure)	**X**	**X**	**X**	**X**	**H**	**S / Ongoing**
Frequent resident turnover	Apartment complexes	Private	V	There are more renters (and a larger student population) in Town than in other areas of Franklin County. Apartment managers can send email blasts to residents as one form of communication. Efforts should be made to enroll renters in CodeRED at the time of leasing, and to update 911 information on any special needs to be considered during an emergency or evacuation. (see also Communications with Residents under Infrastructure)	**X**	**X**	**X**	**X**	**H**	**Ongoing**

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Sheltering	Elementary School; Library	Town	S/V	Sunderland does have sheltering options, but options for shelters outside of the dam inundation area should be evaluated. The Maple Ridge Community Church could be looked into further, and establishing agreements with surrounding communities on the same side of the Connecticut River.	**X**	**X**	**X**	**X**	**M**	**Ongoing**
Elderly, isolated, and residents with medical / special needs	Town-wide	Private	V	Promote the formation and maintenance of neighborhood groups. Continue to track vulnerable populations in Sunderland; encourage seniors to sign up with TRIAD.	**X**	**X**	**X**	**X**	**H**	**Ongoing**
Non-English speaking residents	Town-wide	Private	S/V	Continue providing emergency information in multiple languages. Work with UMass translation services or other resources to develop prepared messages in multiple languages that could be used in a variety of emergency situations.	**X**	**X**	**X**	**X**	**H**	**S / Ongoing**
Home heating & cooling	Town-wide	Private	V	Elderly and low-income residents may lack air conditioning and safe ways to heat their homes. Promote Mass Save, including the income-eligible program through Community Action Pioneer Valley, for insulation, air sealing, and heating system/appliance upgrades.			**X**		**H**	**S / Ongoing**
Environmental										
Farms and prime farmland soils	Mainly along Route 47 and southwest section of town	Private	S/V	Farms are vulnerable to extreme weather, flooding, and drought, and many lie within the dam inundation area or floodplain. Assist farms with assessing and prioritizing climate resiliency options to protect crops, farm fields, and farm workers from extreme weather, such as greenhouses, irrigation systems, and innovative drainage solutions, and identify funding for implementation.	**X**	**X**	**X**	**X**	**M**	**S**
Large old trees	Town-wide	Private/Public	S/V	If downed, these trees can impact power lines, homes, and roads. Work with Eversource to identify high hazard trees.	**X**	**X**	**X**	**X**	**M**	**Ongoing**
Public trees	Town-wide	Public	S/V	Ensure that public trees are maintained to reduce the risk of downed limbs. Develop a tree planting plan for areas lacking public shade trees, and to replace aging trees that will need to be removed.	**X**	**X**	**X**		**M**	**S / Ongoing**
Properties in the floodplain	Floodplain	Private	V	As part of the update process to the FEMA floodplain maps, conduct education and outreach to property owners about NFIP flood insurance. Post information about NFIP on Sunderland's Town website.		**X**			**M**	**S**
Insect/animal borne diseases + pest control	Town-wide	N/A	V	Swamps and wetlands increase risk of disease. Consider joining the Pioneer Valley Mosquito Control District. Educate residents about how to be notified of planned spraying by the State, and how to opt-out of spraying.			**X**		**M**	**S**

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Wildland urban interface	Town-wide	Private	V	Conduct public education and outreach to residents to better prepare them for a wildfire.		**X**	**X**		**M**	**S**
Drainage ditches	Town-wide	Private	S/V	Ditches on private property should be maintained. Continue engineering and hydraulic analysis of the ditch system and identify feasible options for maintenance. Reach out and educate landowners.		**X**			**M**	**S**

Highest Priority Recommendations

- Develop a plan and run an exercise with the South County EMS for a hazard event that results in a Route 116 bridge closure.

- Equip the Sunderland Elementary School with air conditioning in the gym and cafeteria; explore adding battery back-up at the Elementary School's solar PV array to improve energy resilience.

- Evaluate public buildings for onsite power generation using renewable energy, such as solar or small-scale wind, coupled with battery storage to increase resiliency. Consider a mobile battery generator as an option. Continue to implement energy efficiency measures to reduce overall energy use in municipal buildings

- Continue to register residents with the CodeRED emergency call system, and come up with solutions to increase participation, such as requiring renters to sign up as a part of their lease agreement / Efforts should be made to enroll renters in CodeRED at the time of leasing, and to update 911 information on any special needs to be considered during an emergency or evacuation.

- Develop a backup communication strategy when cell and internet service is down. Explore agreements with the UMass radio station or other resources in nearby communities. Consider purchasing a communications trailer.

- Develop a Standard Operating Procedure for responding to a hazardous material spill along the railroad or on Route 63 in order to protect the aquifer.

- Sunderland's fire pond on Park Road needs to be dredged and maintained for firefighting purposes.

- Inventory and assess existing fire roads and identify improvements. Coordinate with landowners and foresters when harvests are being planned in order to improve fire access.

- People living or working in Sunderland without access to personal transportation may need help evacuating. Agreements with transit authorities and bus companies should be updated or established.

- Promote the formation and maintenance of neighborhood groups. Continue to track vulnerable populations in Sunderland; encourage seniors to sign up with TRIAD.

- Continue providing emergency information in multiple languages. Work with UMass translation services or other resources to develop prepared messages in multiple languages that could be used in a variety of emergency situations.

- Promote Mass Save, including the income-eligible program through Community Action Pioneer Valley, for insulation, air sealing, and heating system/appliance upgrades.

Moderate Priority Recommendations

- Provide public education on back-up power options for private property.

- Assist farms with assessing and prioritizing energy resilience measures, including renewable energy powered battery storage, and identifying funding for implementation.

- Evacuation agreements with PVTA are in place but need to be updated; agreements with other transit authorities and bus companies should be established. Continue working with MassDOT on a transportation plan.

- Culverts should be mapped, assessed, and prioritized for maintenance or replacement, taking into consideration increased precipitation projections.

- Sunderland does have sheltering options, but options for shelters outside of the dam inundation area should be evaluated. The Maple Ridge Community Church could be looked into further, and establishing agreements with surrounding communities on the same side of the Connecticut River.

- Assist farms with assessing and prioritizing climate resiliency options to protect crops, farm fields, and farm workers from extreme weather, such as greenhouses, irrigation systems, and innovative drainage solutions, and identify funding for implementation.

- Work with Eversource to identify high hazard trees.

- Ensure that public trees are maintained to reduce the risk of downed limbs. Develop a tree planting plan for areas lacking public shade trees, and to replace aging trees that will need to be removed.

- As part of the update process to the FEMA floodplain maps, conduct education and outreach to property owners about NFIP flood insurance. Post information about NFIP on Sunderland's Town website.

- Consider joining the Pioneer Valley Mosquito Control District. Educate residents about how to be notified of planned spraying by the State, and how to opt-out of spraying.

- Conduct public education and outreach to residents to better prepare them for a wildfire.

- Ditches on private property should be maintained. Continue engineering and hydraulic analysis of the ditch system and identify feasible options for maintenance. Reach out and educate landowners.

CRB Workshop Participants: Department/Commission/Representative:

Steven Benjamin, Fire Chief
Phyllis Berman, Resident
Erik Demetropoulos, Chief of Police
George Emery, Highway Superintendent
Aaron Falbel, Energy Committee / Sunderland Public Library
Katherine Hand, Director, Sunderland Public Library
Fred Laurenitis, Sunderland Water District
David Pierce, Selectboard
Larry Rivais, Resident
Stephen Schneider, Zoning Board of Appeals / Historical Commission
Laurie Smith, Emergency Management Director
Laura Williams, Energy Committee

CRB Workshop Project Team: Organization and Role

Town of Sunderland

Cindy Bennett, Administrative Assistant
Geoff Kravitz, Town Administrator (Plan and Listening Session)
Sherry Patch, Town Administrator (Workshop)

Franklin Regional Council of Governments:

Alyssa Larose, Senior Land Use & Natural Resource Planner
Kimberly Noake MacPhee, Land Use & Natural Resource Program Manager
Xander Sylvain, Emergency Preparedness Program Assistant
Allison Gage, Land Use & Natural Resource Planner

Recommended Citation

Larose A. Noake MacPhee K. Sylvain X. Gage A. (2020) Town of Sunderland Community Resilience Building Workshop Summary of Findings. Franklin Regional Council of Governments.

Photo credits:

Page 11: Sunderland Elementary School solar array:
http://www.kearsargeenergy.com/kearsarge-sunderland

All other photos not cited above were taken by the FRCOG

Appendices

Maps

Exercise Outputs

Workshop Presentation

Public Listening Session / Public Comments

Hazards and Infrastructure, Sunderland, Massachusetts

SUNDERLAND

Fire Department water supply

Fire Department water supply needs dredging

Ice Jams

Wildfire Potential

Wildfire Potential

Wildfire Potential

Invasive Species

Microburst/ Tornado

Sewer Treatment Plant

This entire area has high water table and flooding risk

Sunderland Center

Sunderland Center

CLAPP POND

WHITMORE POND

CHAPIN POND

GREENE SWAMP

STODDARD HILL

OX HILL

ROARING MOUNTAIN

BULL HILL

NORTH SUGARLOAF MOUNTAIN

SOUTH SUGARLOAF MOUNTAIN

INGRAH

Flood Related

- Dam
- 100 YR Flood Plain
- Harriman Dam, Moore Dam, Millers River Dam Inundation Zone
- Localized Flooding

Evacuation Route

- Alternative
- Primary
- Secondary
- Tertiary
- Radio Tower
- Public Water Supply
- Sewage Treatment Plant
- Chemical Facility
- Gas Station
- Transmission Line
- Rail Line
- Sewer Line
- Water Line
- School
- Library
- Town Hall
- Fire Station
- Police Station
- DPW
- Ambulance

Water Crossings

Bridge Ownership

- MassDOT
- Municipal
- Major Road
- Gravel Road
- Local Road
- River, Stream
- Water
- Town Boundary
- Building Footprint

*data for crossings within Deerfield watershed only

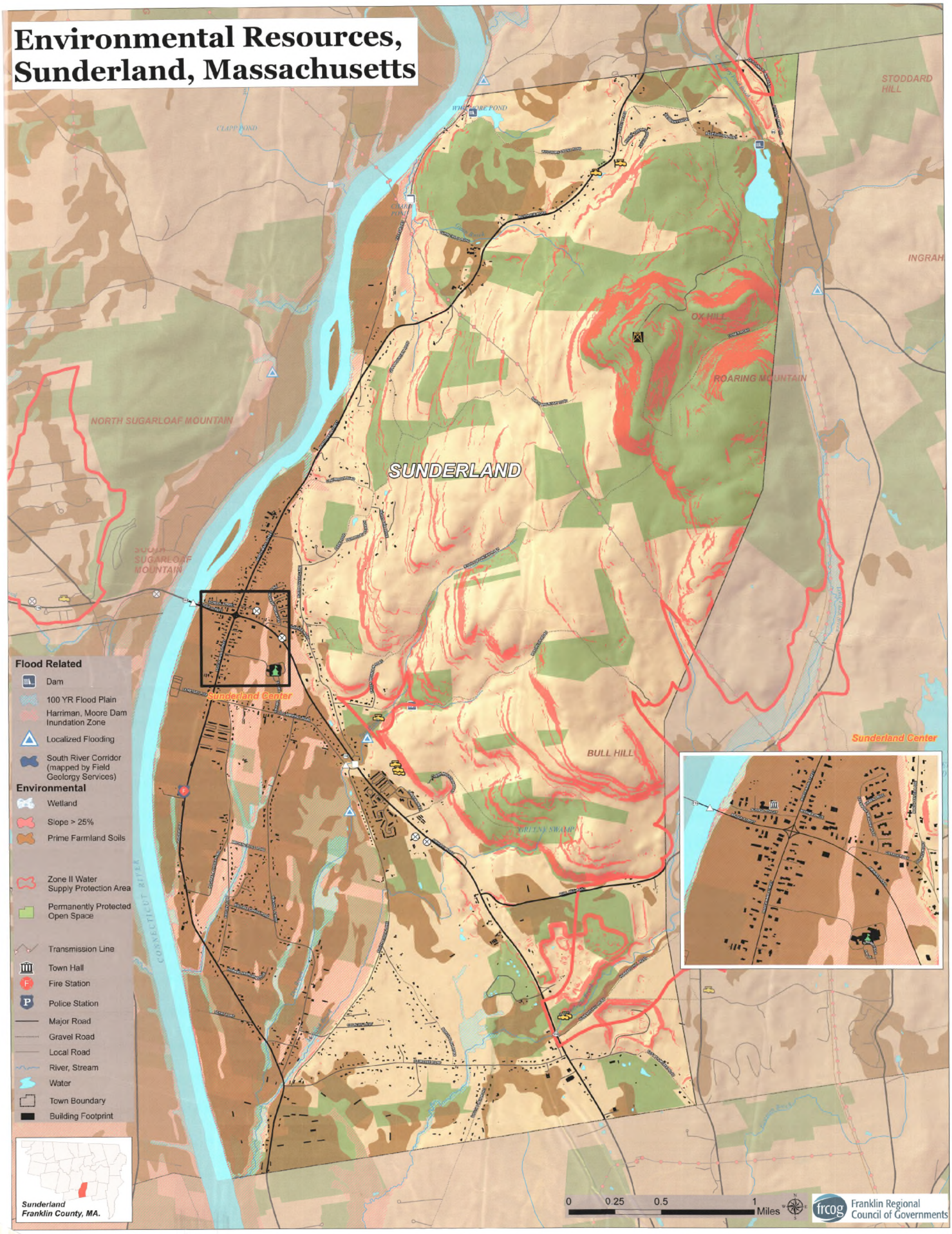
Sunderland
Franklin County, MA.

0 0.25 0.5 1 Miles

N W E S

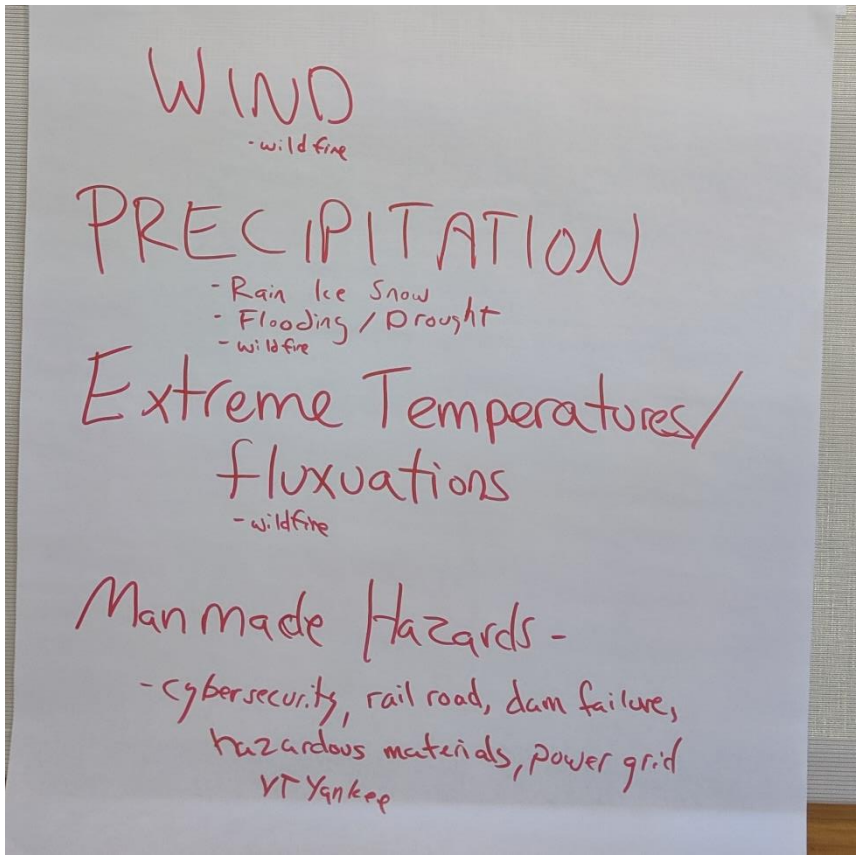
Franklin Regional Council of Governments

Environmental Resources, Sunderland, Massachusetts

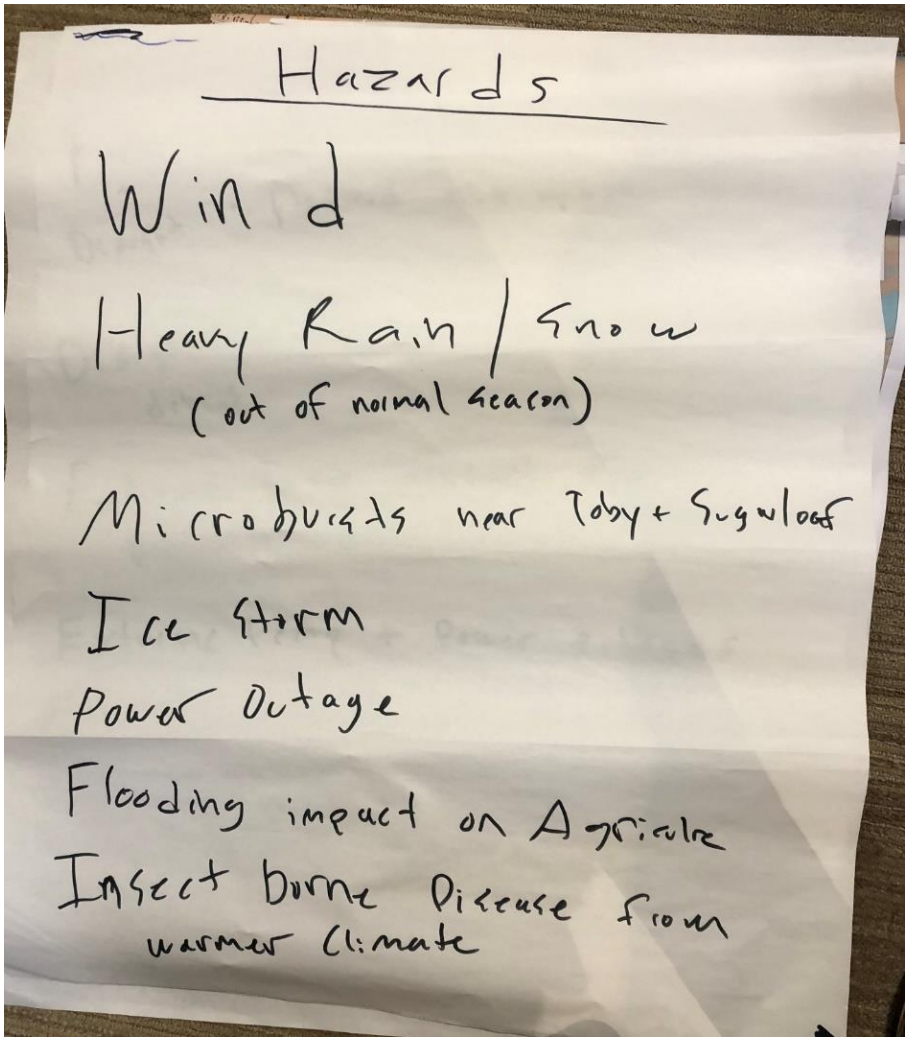


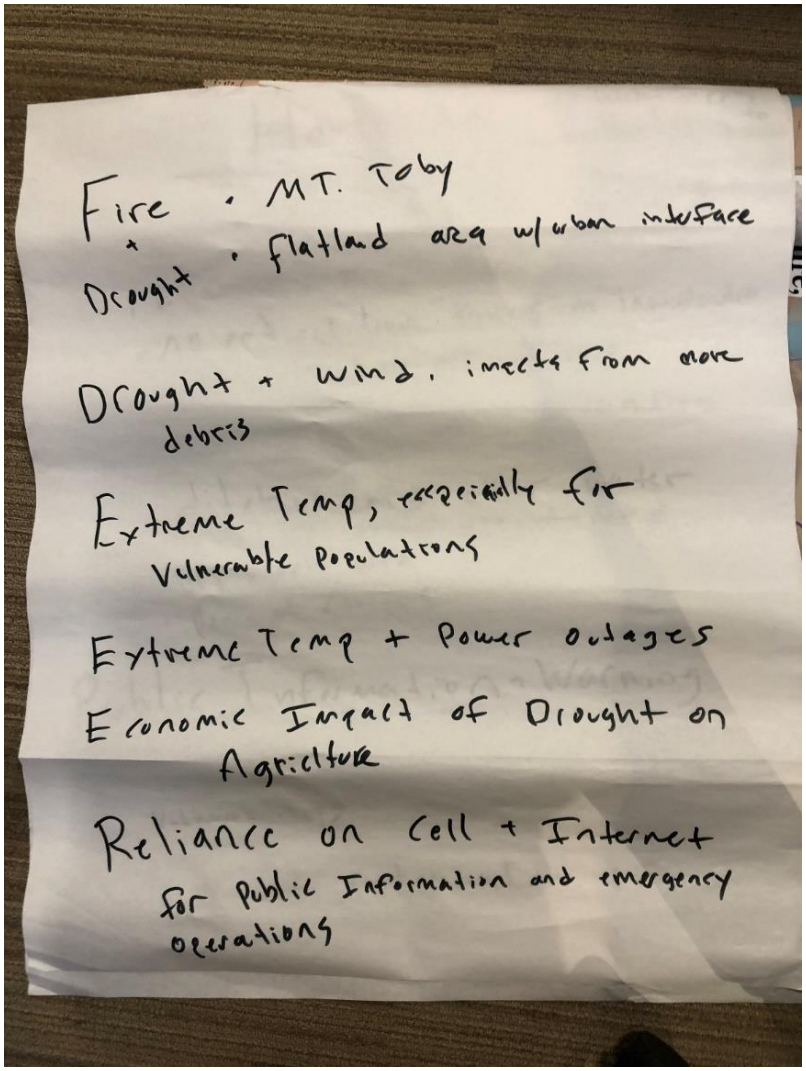
EXERCISE OUTPUTS

Top Hazards

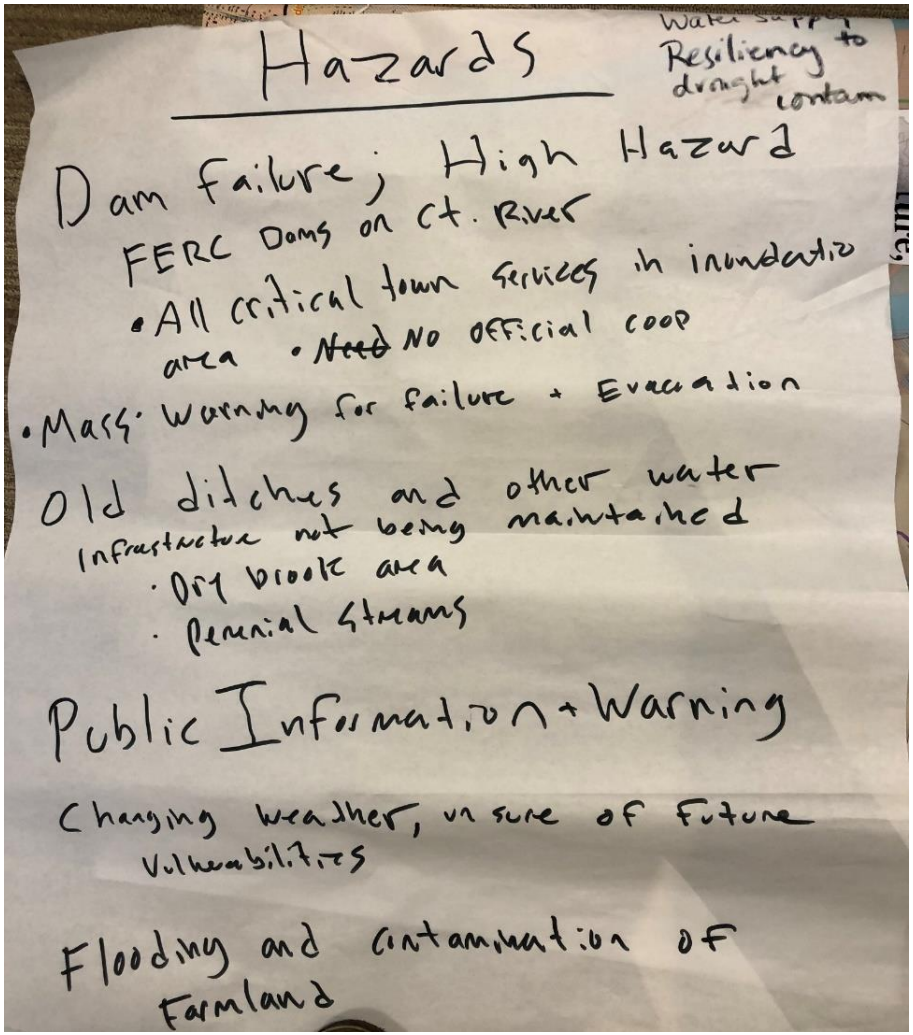


Hazards


Hazards
Wind
Heavy Rain / Snow
(out of normal season)
Microbursts near Toby + Sugarloaf
Ice Storm
Power Outage
Flooding impact on Agriculture
Insect borne Disease from
warmer Climate

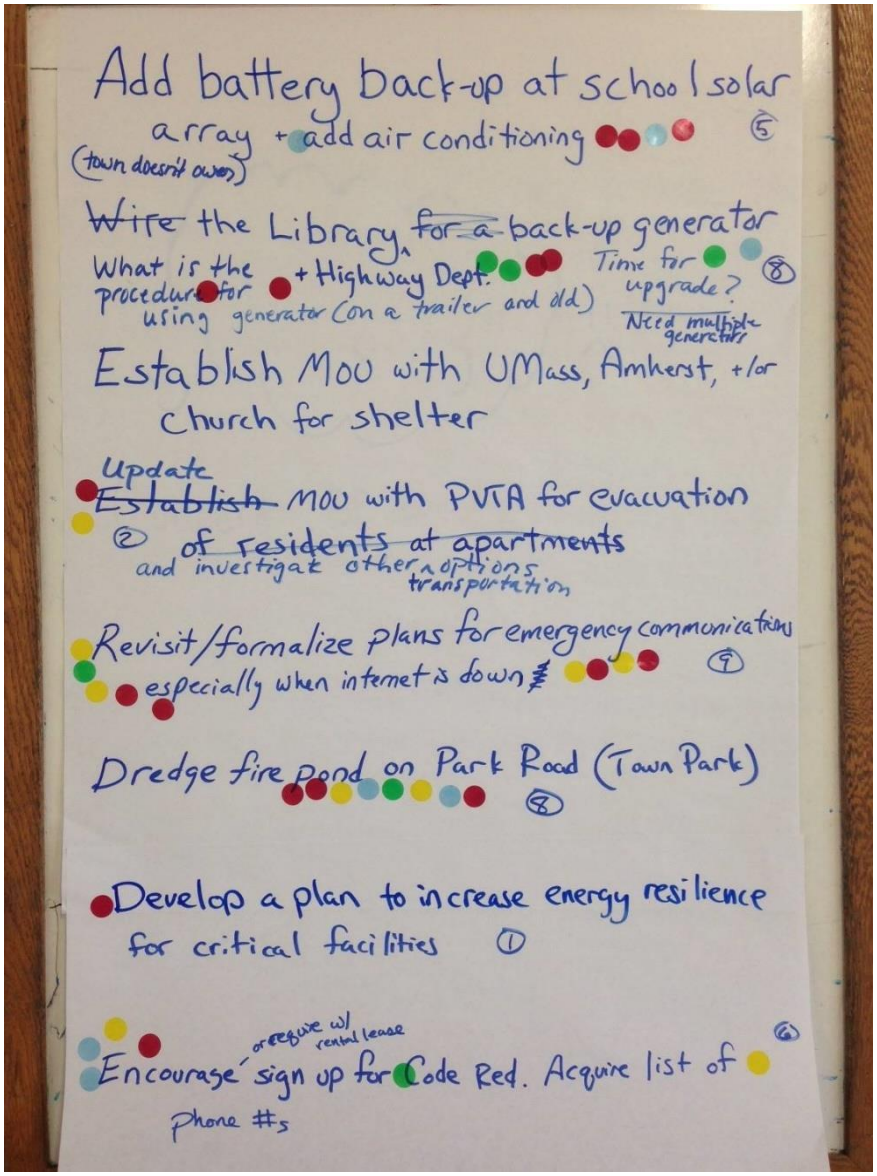

Fire
+
Drought
· MT. Toby
· flatland area w/ urban interface
Drought + wind. insects from more
debris
Extreme Temp, especially for
vulnerable populations
Extreme Temp + Power outages
Economic Impact of Drought on
Agriculture
Reliance on Cell + Internet
for Public Information and emergency
operations

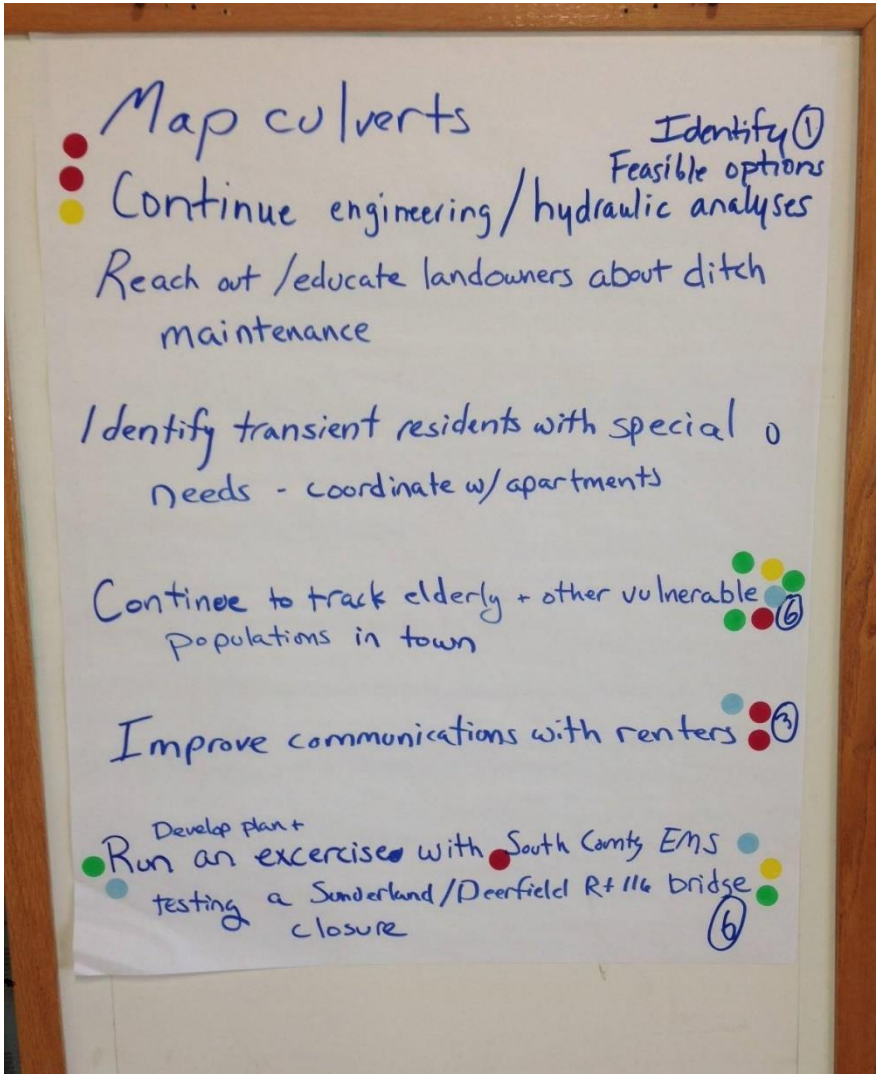
Hazards (cont.)



EXERCISE OUTPUTS (CONT.)

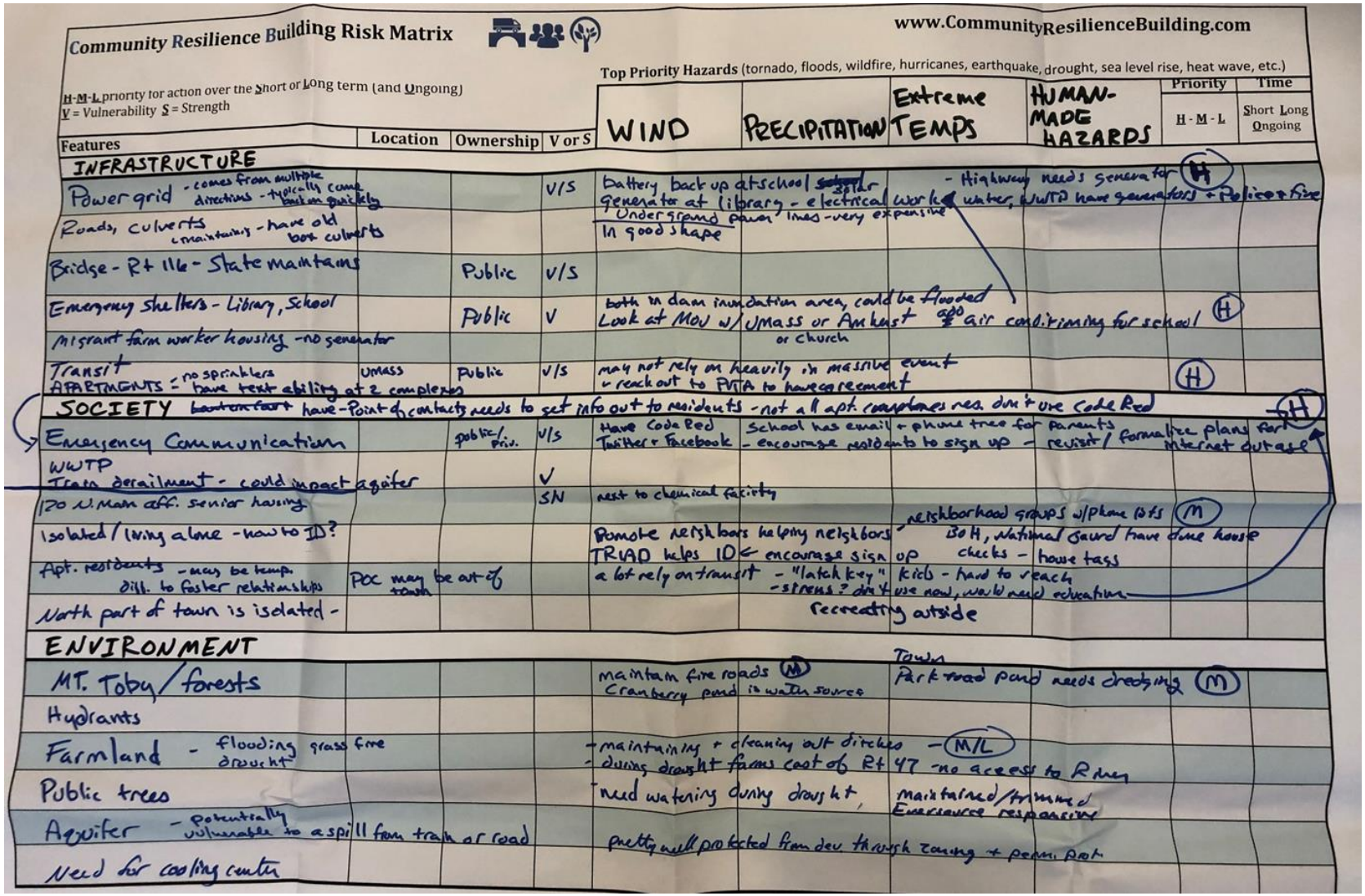
Recommendation Prioritization





EXERCISE OUTPUTS (CONT.)

Matrices

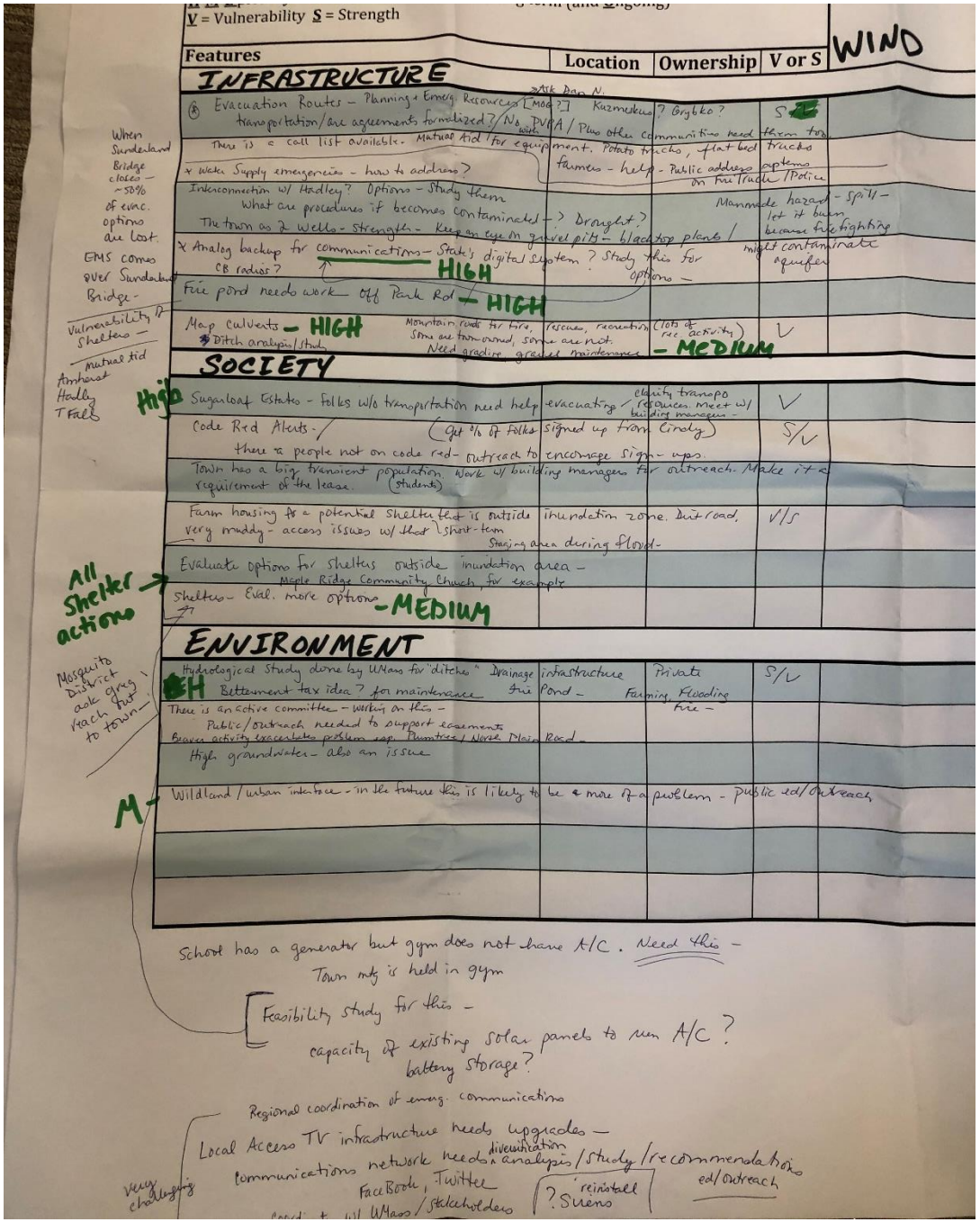


Community Resilience Building Risk Matrix — www.CommunityResilienceBuilding.com

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

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

Features	Location	Ownership	V or S	WIND	PRECIPITATION	Extreme TEMPS	HUMAN-MADE HAZARDS	Priority H-M-L	Time Short Long Ongoing
INFRASTRUCTURE									
Power grid - comes from multiple directions - typically come back on quickly			V/S	Battery back up at school / ~~school~~ solar Generator at library - electrical		work	- Highway needs generator (H) water, would have generators + Police + fire		
Roads, culverts - maintaining - have old box culverts				Underground power lines - very expensive In good shape					
Bridge - Rt 116 - State maintains		Public	V/S						
Emergency shelters - Library, School		Public	V	both in dam inundation area, could be flooded Look at MOU w/ UMass or Amherst or Church			app's air conditioning for school (H)		
Migrant farm worker housing - no generator									
Transit									
APARTMENTS - no sprinklers - have text ability at 2 complexes	UMass	Public	V/S	may not rely on heavily in massive event - reach out to PVTA to have agreement				(H)	
SOCIETY ~~bottom feet~~ have - Point of contacts needs to get info out to residents - not all apt. complexes res. don't use Code Red									(H)
Emergency Communication		public/priv.	V/S	Have Code Red Twitter + Facebook	School has email + phone tree for parents - encourage residents to sign up		- revisit / formalize plans for internet outage		
WWTP			V						
Train derailment - could impact aquifer									
120 N. Main apts. senior housing			SN	next to chemical facility					
Isolated / living alone - how to ID?				Promote neighbors helping neighbors TRIAD helps ID ← encourage sign up			neighborhood groups w/phone trees (M) both, National Guard have done house checks - house fires		
Apt. residents - may be temp. - dill. to foster relationships	POC may be out of touch			a lot rely on transit - "latch key" - stress? don't use now, would need education			kids - hard to reach		
North part of town is isolated -					recreating outside				
ENVIRONMENT									
MT. Toby / forests				maintain fire roads (M) Cranberry pond is water source			Town Park road pond needs dredging (M)		
Hydrants									
Farmland - flooding grass fire drought				- maintaining + cleaning out ditches - during drought farms east of Rt 47 - need watering during drought,			- (M/L) - no access to Riley		
Public trees							maintained/trimmed Emergency response		
Aquifer - potentially vulnerable to a spill from train or road				pretty well protected from dev. through zoning + perm. prot.					
Need for cooling center									


V = Vulnerability S = Strength
WIND
Features
Location
Ownership
V or S
INFRASTRUCTURE
SOCIETY
ENVIRONMENT
HIGH
HIGH
MEDIUM
MEDIUM
All Shelter actions
Regional coordination of emerg. communications
Local Access TV infrastructure needs upgrades —
communications network needs diversification analysis/study/recommendations
FaceBook, Twitter
? reinstall Sirens
ed/outreach

Community Resilience Building Risk Matrix www.CommunityResilienceBuilding.com

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

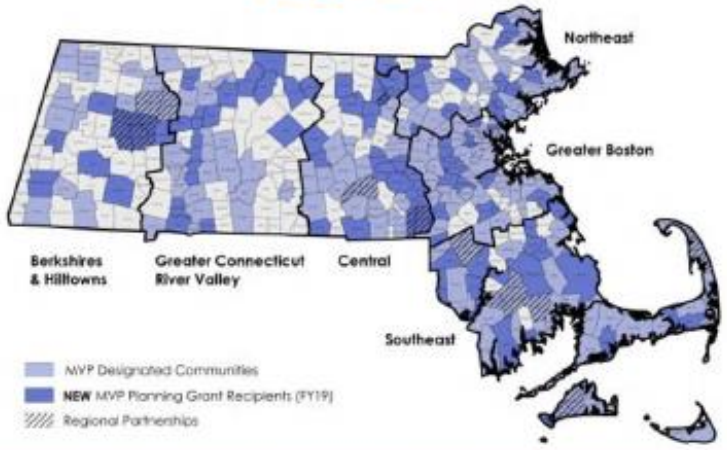
Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)

Features	Location	Ownership	V or S	WIND	Precipitation	Extreme TEMPS	Human Caused Hazards	Priority H - M - L	Time Short Long Ongoing
INFRASTRUCTURE									
Roads + Blue Bridge		Town/State	✓	FC + EMS on other side of Bridge	Bridge has been taken out multiple times (ice breakers) → Abutments	More Road maintenance from Ice waves, Erosion + washouts	116/47 intersection is always backed up. Many traffic accidents	H +	ongoing
Power lines & Solar		Private / Public		Storms and heavy rain/flooding can knock out power. Outages are common	Town owns a number of solar panels that are susceptible to hazard damage	Town relies on solar and heavy snow / cloud cover impacts energy production		H	
Water and Sewer lines		Town	S	Water Dept has 2 generators @ well sites and most of town on town water	Residents on Private wells are Electrical grid dependent	Aquifers and water tanks are potentially vulnerable to vandalism or sabotage		M	
Public Buildings		Town		look into back-up plans/locations for key Public buildings.			CJ in Dam inundation area. Back up Buildings needed.	M	
Communications			S + V	Code Red is maintained but not tested & town can't see who's on the Alert	Library used for Direct communication - Generator for needed / overuse for non-emergencies		Dam failure warning to residents	H	
Transportation				Reliance on 47 + 116 - Few back Roads or Alternate Travel Routes	• Not a walkable town Bus or car • Dangerous for pedestrians	Continue working with MA DOT on transportation Plan	Frequent accidents 116/47 and traffic	M	Active / Ongoing
SOCIETY									
Non English Speaking Residents	Town-wide			Continue providing emergency information in multiple languages.	Consider looking into technology and other systems for communicating w/ non English speakers.				
Transient Population (Ag students, Parks)	Town-wide			Identifying transient Residents w/ special needs	Rental Properties not always update residents of safety info.	No way to communicate with many renters. Town Reg that asks rental companies to supply names + contacts of all Renters.		H	
Many residents without vehicles	Mostly @ complexes but also Town-wide	Private							
Elderly Residents + Medical Device Dependent + Residents with other Disabilities			V + S	Continue to track Elderly and other vulnerable Populations in town			Town clerk has a list, studies + surveys it maintained	H	
Rental Properties + Town Regulations	Town wide		✓	Actively looking into communicating w/ Renters. Public health, safety code compliance, and lack of knowledge about residents + public Information + warning to renters.				H	
ENVIRONMENT									
Large Old Trees	Along Roads + Homes	Private		can impact power lines, homes, and Roads from wind.	work with Eversource to ID High Hazard trees	Renters not maintaining properties			
Wildland / Urban Interface									
Homes near/in Flood Plain	Flood Plain			Mortgage lenders require Flood Insurance	Information about Flood Plains on town website + NFIP info			M	
Animal Borne Disease / Pest Control	Town-wide	Private		Swamps + wetland on Private land increase risk of Disease → Cost Analysis for Mosquito + other disease in town				M	

WORKSHOP PRESENTATION

MVP Program Launched 2017

$25 Million Committed through Program



Build Resilience and Preparedness - to more frequent and intense weather events.

Improve pre-event planning, response & recovery, and long-term actions.

A prepared and resilient town will be able to maintain functions, protect its residents and emerge stronger and better prepared for future storm events and a changing climate.

Workshop Process and Outcomes

- Review natural hazard background information to provide context for all participants
- Identify and map vulnerabilities and strengths:
  - Infrastructure
  - Societal
  - Natural resources
- Develop and prioritize actions and clearly delineated next steps

Massachusetts' Changing Climate

- **Changing weather**
  - Higher temperatures
  - Shorter winters
  - More frequent & intense storms
  - Droughts
- **Amplifies existing risks**
  - Community and regional infrastructure
  - Local and regional economies
  - Public health
  - Natural resources and our environment

Goal for Building Resilience to a Changing Climate:

Protect life, property, natural resources and the economy

Higher Temperatures

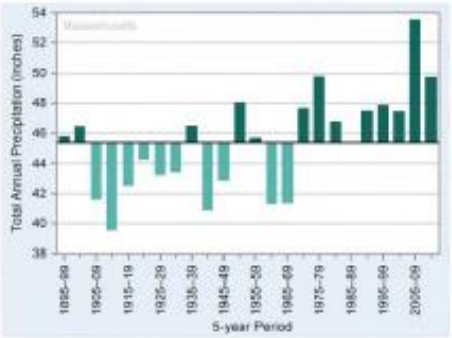
Change in Observed Number of Extreme Heat Days (>90 degrees)

Heat Waves

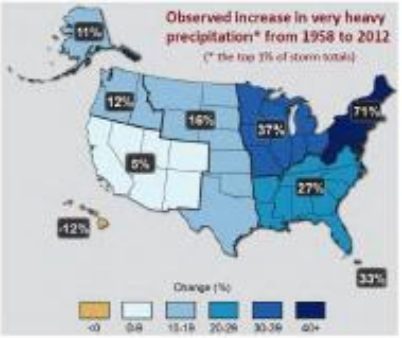
- Number of days >90° are predicted to increase.
- By 2050 - 6 to 25 more days
- By 2100 - 9 to 60 more days

Heavy Precipitation

Observed Annual Precipitation



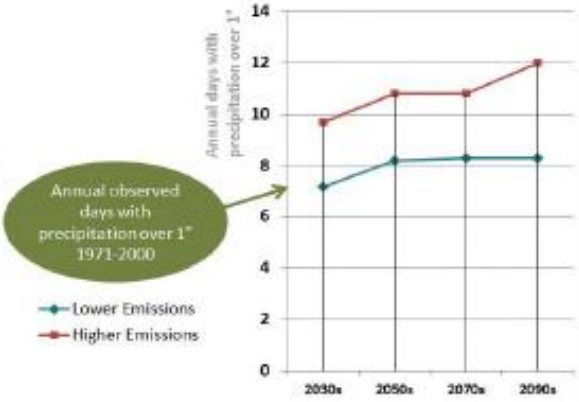
Observed Increase in Heavy Precipitation



Heavy Precipitation

Predictions

By the end of the century, our area could have 5 additional days of rainstorms that dump over 1 inch of rain.



Extreme Weather Events

- Tropical storms
- Tornadoes
- Thunderstorms
- Snow storms
- Drought

- The frequency, intensity, duration and geographic extent of these extreme storms is likely to increase.




Greenfield: 2.59"
Orange: 2.78"

News Flash! October 30, 2017

Heavy rains bring flash flood warnings and high winds knock out power to thousands. Roads flood .....


Pictures by Recorder Staff/Paul Franz

Recent Severe Storms
2019 Microburst

Microburst wreaks havoc in Deerfield, Montague - The Recorder 7/31/2019

Montague and Deerfield took heavy damage from Tuesday afternoon's storm, with Eversource reporting about 800 power outages from downed trees and utility poles between the two towns.

In addition, the storm damaged crops and greenhouses.

Recent Severe Storms
2008 Ice Storm

Recent Severe Storms
2017 Conway Tornado

Recent Severe Storms
2011 Tropical Storm Irene

Snowtober!!! 2011 Historic Nor'easter

THE RECORDER

Snowstorm slams region

Thousands without power

THE RECORDER LOCAL

100 percent of Gill still without power

THE RECORDER

Storm recovery slow

Widespread tree damage hampers line repairs

■ Storm

THE RECORDER

Area cold seek shelter

Residents flock to Turners high school

■ **Shelter:** People get warm, charge devices

TOWN OF SUNDERLAND LOCAL NATURAL HAZARD MITIGATION PLAN 2019 UPDATE

- Inventories *historic* hazard events – frequency, magnitude and damages
- Considers impacts of climate change and probability of *future* events
- Prioritizes *all* hazards and includes action items for each hazard

2019 **DRAFT** Natural Hazard Mitigation
Hazard Vulnerability Assessment

Type of Hazard	Location of Occurrence	Probability of Future Events	Impact	Overall Hazard Vulnerability Rating
Severe Winter Storms	Large	Very High	Limited	High
Hurricanes / Tropical Storms	Large	Moderate	Catastrophic	High
Extreme Temperatures	Large	Moderate	Limited	High
Invasive Species	Medium	Very High	Limited	High
Flooding	Isolated	Moderate	Limited	Medium
Tornadoes	Isolated	Moderate	Limited	Medium
Dam Failure	Medium	Very Low	Catastrophic	Medium
Severe Thunderstorms / Wind / Microbursts	Isolated	High	Limited	Medium
Earthquakes	Large	Very Low	Critical	Medium
Drought	Large	Moderate	Minor	Medium
Wildfires	Isolated	Moderate	Minor	Low
Landslides	Isolated	Very Low	Minor	Low

Workshop Agenda

- **Identify Past, Current and Future Hazards**
- **Determine Top Priority Hazards**
  - Which 4 hazards pose the greatest threat to the town currently and in the future?
- **Brainstorm resiliency actions for Infrastructure, Societal and Environmental vulnerabilities.**
  - Examples:
    - Upgrade culverts, flood-proof drinking water supplies
    - Evacuation drills and extreme weather communications protocols to protect vulnerable populations
    - Protect wetlands and floodplains to improve flood resiliency
- **Determine top priority Resiliency Actions for Sunderland**

Infrastructure

A changing climate is exposing us to greater risk.

What is it?

- Roads and bridges
- Power grid
- Drinking Water
- Wastewater Treatment
- Communications
- Housing
- Emergency Response
- Schools

Vulnerabilities

- Increase in Precipitation and Extreme Storm Events
- Damages from Flooding, Wind Storms, Snow/Ice Storms, & Extreme Temperatures

Expected Impacts from Higher Temperatures

Infrastructure

Energy

- Increased demand will strain energy infrastructure
- Disrupt service (potential for widespread brownouts or blackouts)

Transportation

- More frequent maintenance required to address:
  - deterioration of asphalt roads
  - buckle railroad tracks
  - thermal expansion of bridges

Societal (Sunderland Residents)

A changing climate is exposing us to greater risk.

What is it?

- Availability of health care services
- Access to lifelines (food/water, emergency response personnel, etc.)
- Support networks that connect and maintain the supply of goods and services to vulnerable populations.

Vulnerabilities

- Vulnerable populations
  - Elderly
  - Low/moderate income
  - Special needs
  - Languages spoken

Sunderland Vulnerable Populations

VULNERABLE POPULATION CATEGORY	Number	Percent of Total Population (3,662)
Population Age 65 Years and Over	416	11%
Population with a Disability	196	5%
Population who Speak English Less than "Very Well"	504	14%
VULNERABLE HOUSEHOLD CATEGORY	**Number**	**Percent of Total Households (1,597)**
Low Income Households (annual income less than $35,000)	633	40%
Householder Age 65 Years and Over Living Alone	166	10%
Households Without Access to a Vehicle	119	7%
Living in a Home Built Prior to 1970	641	40%
Living in a Mobile Home	0	0%

Source: 2013-2017 U.S. Census American Community Survey 5-Year Estimates

Effects of Climate Change on Town Residents (societal)

A changing climate is exposing us to greater risk.

- Heat-Related Illness and Death
- Danger from Storms & Flooding
- Insect-Borne Diseases
- Allergies & Pollen
- Waterborne Disease & Algal Blooms
- Vulnerable populations
- Shelters & services

Health Impacts from a changing climate are magnified by individual health issues and circumstances of vulnerable populations

Environment

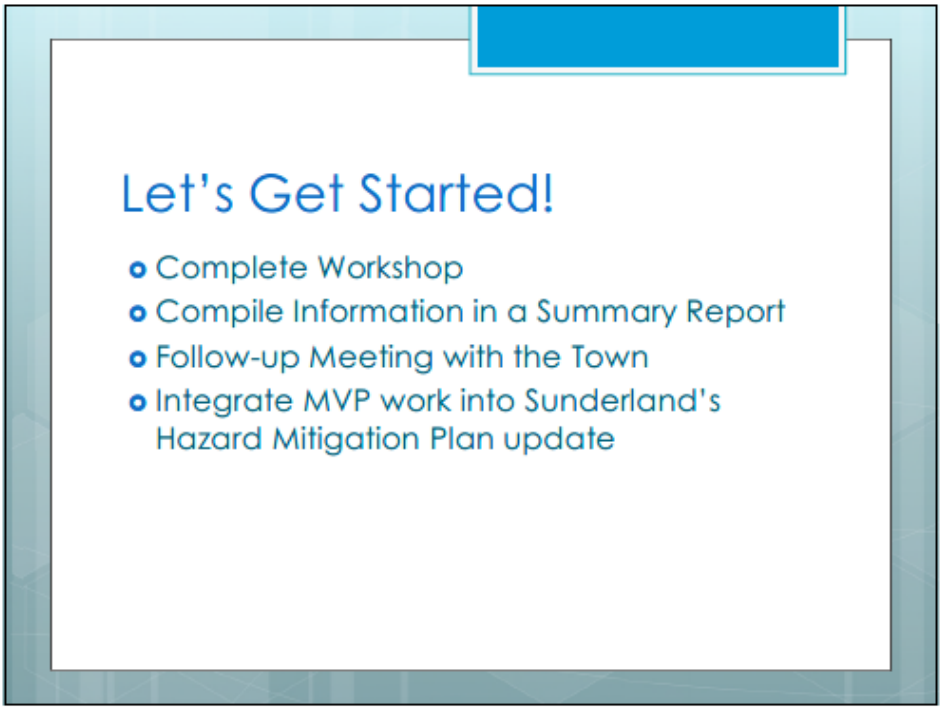
A changing climate is exposing us to greater risk.

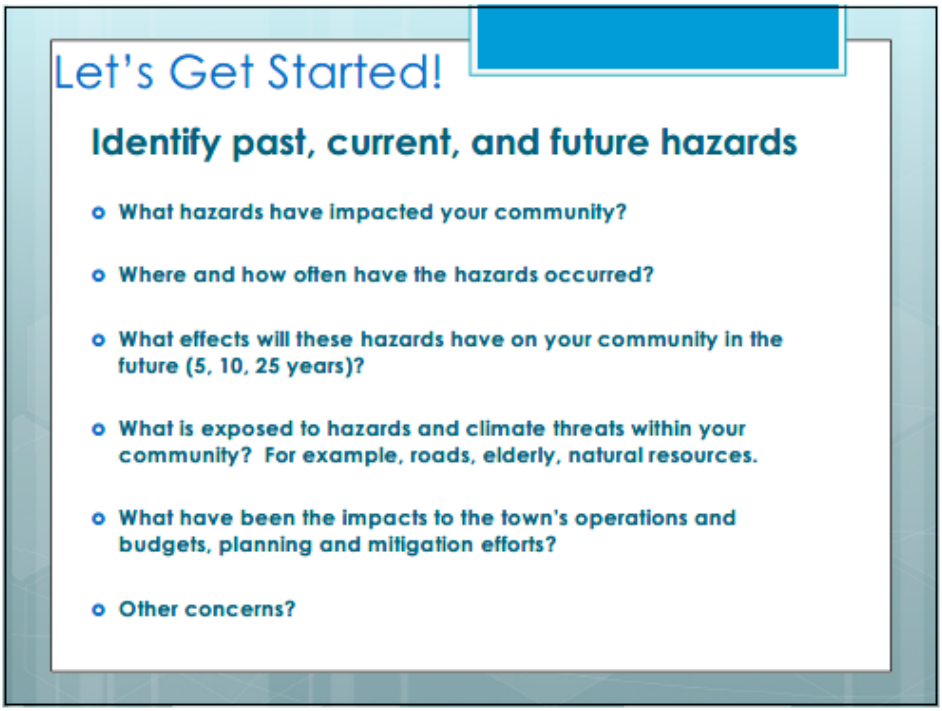
Natural Resources

- Connecticut River
- Coldwater streams
- Forests
- Farmland
- Floodplains
- Habitat
- Wetlands
- Aquifers

Vulnerabilities

- Flooding
- Erosion
- Impacts to water quality and quantity
- Loss of species diversity
- Invasive pests and plants
- Wetland soils become less absorptive
- More stormwater runoff, less groundwater recharge


Let's Get Started!
Complete Workshop
Compile Information in a Summary Report
Follow-up Meeting with the Town
Integrate MVP work into Sunderland's Hazard Mitigation Plan update


Let's Get Started!
Identify past, current, and future hazards
What hazards have impacted your community?
Where and how often have the hazards occurred?
What effects will these hazards have on your community in the future (5, 10, 25 years)?
What is exposed to hazards and climate threats within your community? For example, roads, elderly, natural resources.
What have been the impacts to the town's operations and budgets, planning and mitigation efforts?
Other concerns?

PUBLIC INPUT DOCUMENTATION

Public Listening Session and Public Comment Period

A public listening session and public comment period were held to provide Sunderland residents and Town Officials an opportunity to review and comment upon the draft Sunderland MVP Resiliency Plan.

The public listening session was held in conjunction with the Sunderland Selectboard meeting on August 10 at 7:15 p.m. via zoom. The meeting was recorded and televised on Frontier Cable Access Television. FRCOG staff presented the MVP program as well as findings from the workshop, and Sunderland Emergency Preparedness Team (SEPT) members helped answer questions from attendees.

The Selectboard was present, along with the Town Administrator and members of the SEPT. Members of the public attended and asked questions and provided comments, summarized below. Overall the meeting attendees were happy with the plan and the presentation.

Summary of comments from the August 10, 2020 Listening Session:

- No mention of clean air in the discussion. Air quality seems to be improving due to shut down of coal powered plants, but mention should be made about public health impacts, especially for vulnerable populations.

- Under insect- borne diseases, lyme disease, EEE, and West Nile are concerns. I remember something being mentioned at the workshop about mosquito mitigation. Is that in the plan?

  Answer: Yes – mosquito control district recommendation and ditch maintenance

- Definitely concerned about seniors, people with disabilities, and evacuation challenges, so I am glad to see these issues in the plan. LifePath has an emergency plan for seniors and person with disabilities. It may be good for the town to collaborate with them.

- I live on Cross Mountain Road and wildfire is definitely a concern.

The public comment period was held from August 10 through August 31, 2020, during which the public was invited to submit comments via email or phone to the Town Administrator. No comments were received.

The public listening session and public comment period were advertised on the Town of Sunderland's website. The press release, shown below, was provided to the local newspaper and the event was also advertised via a flyer distributed to Town boards and departments, also shown on the following page.

FOR IMMEDIATE RELEASE

CONTACT: *Geoff Kravitz, Sunderland Town Administrator, townadmin@TOWNOFSUNDERLAND.US OR 413-665-1441 x9*

SUNDERLAND RESIDENTS INVITED TO VIRTUAL MVP LISTENING SESSION

The Town of Sunderland is hosting a public meeting to review the results of the Municipal Vulnerability Preparedness (MVP) Community Resilience Building Workshop, as well as the draft MVP Resiliency Plan, on Monday, August 10 at 7:15 p.m. as part of the Sunderland Selectboard Meeting. Participants at the workshop, held in October 2019, included representation from the Sunderland Fire, Police, Highway, and Library Departments, Selectboard, Emergency Management, Energy Committee, Zoning Board of Appeals, Historic Commission, Sunderland Water District, as well as interested residents. Workshop participants helped to define the top local natural and climate-related hazards of concern, identified existing and future strengths and vulnerabilities, and identified and prioritized actions and projects the Town can implement to increase resilience to climate change.

The MVP grant program, a program of the MA Executive Office of Energy and Environmental Affairs, 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 MVP public meeting will be held via zoom in conjunction with the Sunderland Selectboard meeting. Public comments will be accepted during the meeting, and during a public comment period until August 31. View the public meeting notice, draft MVP Plan, and public comment information on the Town's website at https://www.townofsunderland.us/.

SUNDERLAND
MUNICIPAL VULNERABILITY PREPARDENESS (MVP) PLAN
Summary of Findings from the Community Resilience Building Workshop

Massachusetts' MVP Program

Build Resilience and Preparedness to more frequent and intense weather events; Improve pre-event planning, response & recovery, and long-term actions.

A prepared and resilient town will be able to maintain functions, protect its residents and emerge stronger and better prepared for future storm events and a changing climate.

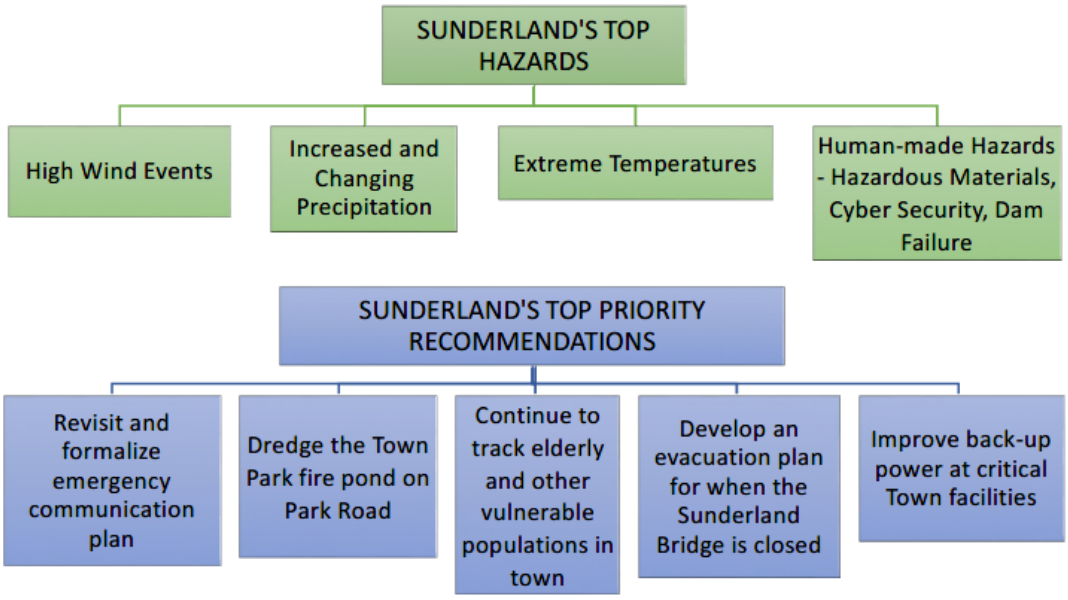
MVP Planning & Designation Process:

- Community Resilience Building Workshop
- Action Plan and Summary Report
- Listening Session

Once designated, communities can apply for MVP Action Grants to implement high priority actions.

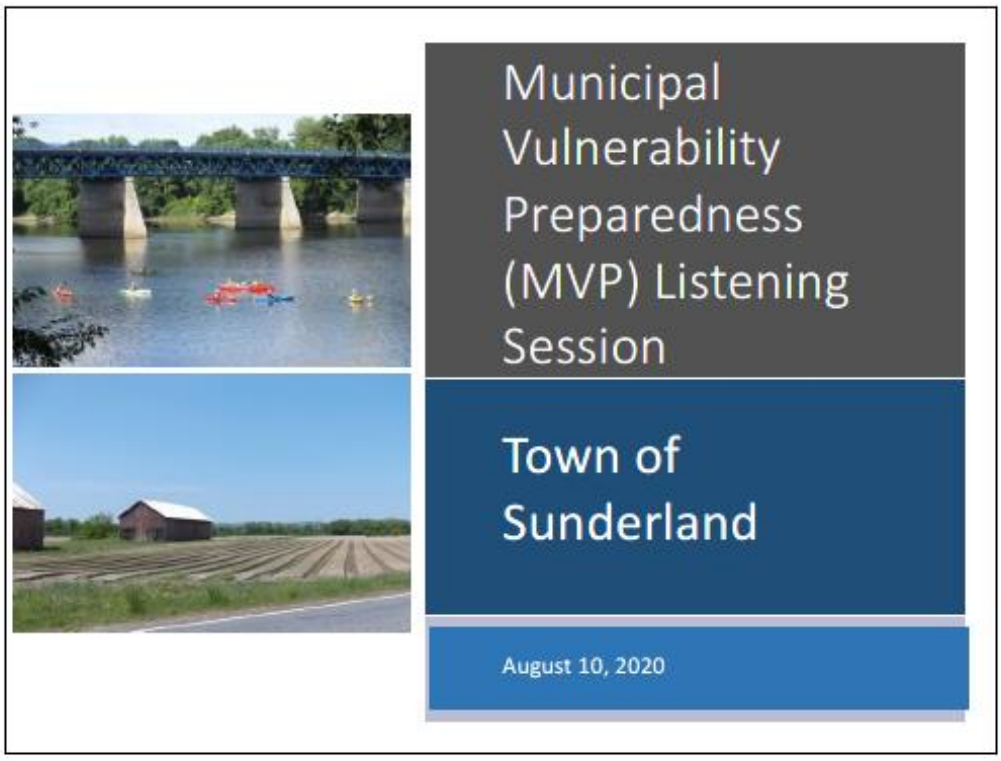
The Town of Sunderland is working towards becoming an MVP Community through the State's Municipal Vulnerability Preparedness program. A Community Resilience Building Workshop was held in October, 2019 at the Sunderland Elementary School, to identify Sunderland's top hazards, vulnerabilities, and strengths related to climate change, and to develop action items to achieve greater resiliency.

Results of the workshop are summarized below, and in the draft MVP Resiliency Plan, which can be viewed on the Sunderland town website at https://www.townofsunderland.us/



NEXT STEPS: A Virtual Public Listening Session is scheduled for Monday, August 10, at 7:15 p.m. as part of the Selectboard Meeting, to present the summary and gather public comments. A public comment period is open until August 31. Please go to https://www.townofsunderland.us/ for meeting details or to provide comments.

Sunderland MVP Public Listening Session Presentation Slides



Massachusetts Municipal Vulnerability Preparedness (MVP) Program Launched 2017

MVP Program Overview

Build Resilience and Preparedness to more frequent and intense weather events.

Improve pre-event planning, response & recovery, and long-term actions.

A prepared and resilient town will be able to maintain functions, protect its residents and emerge stronger and better prepared for future storm events and a changing climate.

MVP Planning & Designation Process:

- Community Resilience Building Workshop
- Action Plan Matrix and Summary Report
- Listening Session

Once designated, communities can apply for MVP Action Grants to implement high priority actions.

MVP Community Resilience Building Workshop – October 19, 2019

Workshop Process and Outcomes

- Sunderland Fire, Police, Highway, and Library Departments, Selectboard, Emergency Management, Energy Committee, Zoning Board of Appeals, Historic Commission, Water District, and interested residents
- Reviewed climate change and natural hazard background information
- Identified and mapped vulnerabilities and strengths:
  - Infrastructure
  - Society
  - Natural resources
- Developed and prioritized actions

Consider Impacts To:

Critical Facilities / Infrastructure:

- Roads and bridges
- Power grid
- Drinking Water
- Wastewater Treatment
- Communications
- Housing
- Emergency Shelters / Town Buildings
- Schools
- Access to Hospitals / Medical Facilities

Population / Society:

- Public health
- Access to lifelines (food/water, emergency response personnel, etc.)
- Vulnerable populations
- Public services
- Local / regional economy

Environment:

- Invasive species
- Wildlife and plant life
- Forests and farms
- Water quality
- Water supply
- Urban forests / street trees

Sunderland's Top Hazards

High Wind Events:
- Microbursts
- Power outages
- Wildfire

Increased / Changing Precipitation:
- Heavy rain, ice, snow
- Flooding
- Drought
- Wildfire

Extreme Temperatures:
- Insect borne diseases
- Extreme fluctuations
- Wildfire

Human-Made Hazards:
- Hazardous Materials
- Dam Failure
- Cyber Security
- Power Grid
- VT Yankee

Picture by Recorder Staff Max Marcus

Sunderland's Top Strengths

Public water supply with back-up power	Proactive emergency planning	Communication and Sheltering Plans in place	Active community groups and volunteers	Abundant farms and natural resources

Sunderland's Top Priority Recommendations

Revisit and formalize emergency communication plan	✓ Develop a back-up or analog plan ✓ Encourage / require Code RED sign up with rental leases ✓ Improve the Town's ability to communicate to residents in multiple languages
Dredge the Town Park fire pond on Park Road	✓ Increase Sunderland's capacity to fight a wildfire ✓ Improve and maintain fire access roads in forested areas
Continue to track elderly and other vulnerable populations in town	✓ Needs can be met during emergencies and evacuations ✓ Isolated residents, residents with medical or other special needs, and residents lacking transportation options
Develop an evacuation plan for when the Sunderland Bridge is closed	✓ Coordinate with the South County EMS to run a practice drill ✓ Update agreements with PVTA and other bus companies and transit authorities for evacuation
Improve back-up power at critical Town facilities	✓ Procedure and maintenance plan for generators ✓ Explore adding battery storage at elementary school solar array ✓ Review other Town buildings for battery storage powered by renewable energy

Next Steps

- Public Comment Period through August 31
- The full draft plan is available at: https://www.townofsunderland.us/ under News and Announcements
- Submit comments to Geoff Kravitz, Town Administrator, at 413-665-1441 x9 or townadmin@townofsunderland.us

Town of Sunderland

Municipal Vulnerability Preparedness (MVP) Program

MVP Resiliency Plan

Draft: August 2020

Facilitated by the Franklin Regional Council of Governments
A State-Certified MVP Provider

TOWN OF SUNDERLAND

Office of the Selectboard
12 School Street, Sunderland, MA 01375
PHONE: (413) 665-1441 Ext. 1
FAX: (413) 665-1446

CERTIFICATE OF ADOPTION
TOWN OF SUNDERLAND, MASSACHUSETTS
SELECTBOARD
A RESOLUTION ADOPTING THE TOWN OF SUNDERLAND
MVP RESILIENCY PLAN

WHEREAS, the Town of Sunderland participated in the MVP Community Resilience Building Workshop on October 19, 2019; and

WHEREAS, the Town of Sunderland MVP Resiliency Plan contains projects to mitigate potential impacts from climate change in the Town of Montague, and

WHEREAS, a duly-noticed public meeting was held by the SELECTBOARD on October 19, 2020, and

WHEREAS, the Town of Sunderland authorizes responsible departments and/or agencies to executes their responsibilities demonstrated in the plan, and

NOW, THEREFORE BE IT RESOLVED that the Town of Sunderland SELECTBOARD adopts the MVP Resiliency Plan, in accordance with M.G.L. Ch. 40.

ADOPTED AND SIGNED this October 19, 2020.

David J. Pierce

Scott A. Bergeron

Thomas D. Fydenkevez