

South Hadley MVP 2.0 Core Team Meeting

February 6, 2024

Agenda

- Sign In/Share a Meal
- Welcome/Introductions
- Review Engagement Plan
- Climate Resilience Input Activity
- Next Steps & Meeting Evaluation





Community Agreements

- Share your perspectives
- Listen to understand
- Participate as peers
- Disagree respectfully
- Meet people where they are
- Explain acronyms
- Respect differences (experiences, opinions, etc.)
- Share the air
- Open yourself to learning
- Have courage to ask questions when something is unclear



Topics for Feedback



Community

Housing

Transportation

Jobs & Economy

Health

Food & Water

Infrastructure

Ecosystems



Upcoming Events

5/15/24: South Hadley
Council on Aging (6-8 PM)

6/4/24: Buttery Brook Park
@ 123 Willimansett St.
(6-8 PM)



Register:
<https://qrco.de/SHMVP1>



Register:
<https://qrco.de/SHMVP2>

Attendees will receive dinner + \$10 gift card!

Contact Information & Resources

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PLANNING FOR CLIMATE CHANGE

MVP 2.0
Community
Meeting
April 25, 2024





What is Climate Change?

The change in usual climate conditions:

- Rising temperatures
- Changing precipitation/rainfall amounts and intensity
- Sea level rise

More extreme weather events:

- High heat/heat waves
- Flooding
- Heavy rain
- High winds

Town of South Hadley



Community Resilience Building Workshop Summary of Findings

October, 2019

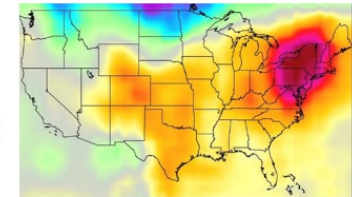


Project No. 20170390.V10

Municipal Vulnerability Preparedness

Top Four Hazards

- Flooding
- Ice and Snow
- Drought and Extreme Precipitation
- Extreme Weather Events



Infrastructure—Highest Priority

- Conduct field inventory/assessment and repair culverts and bridges
- Replace the Route 116/Newton Smith Brook culvert
- Conduct dam assessments, study feasibility of dam removals/repair
- Assess green infrastructure opportunities for stormwater management
- Address flooding on Route 47/Pearl Street near Bachelor Brook
- Pursue microgrid/back-up power for facilities
- Infrastructure improvements at critical facilities
- Accelerate upgrades for sewer/water infrastructure
- Explore options to relocate SHEL D
- Conduct feasibility study to relocate the Emergency Operations Center outside of flood plain (Town Hall)



Environment– Highest Priority

- Develop a tree and forest management program
- Fill Tree Warden position
- Explore stormwater management approaches for Titus Pond and Black Stevens Pond

Society– Highest Priority

- Coordinate across departments/organization to develop an emergency plan
- Education/outreach to residents in flood-prone areas
- Incorporate resiliency into the Falls economic development
- Increase awareness of vector-borne diseases
- Build a Citizen Response Team
- Develop transportation planning for vulnerable populations during hazard events



Moderate and Lower Priority Actions

- Pursue open space acquisition
- Develop a beaver management plan
- Continue exploring regional dispatch options
- Long-term solutions for floodplain management and flood resiliency
- Rebuild/refit Mosier Elementary School
- Develop an Alternate Emergency Staffing Plan
- Communicate with St. Theresa's Parish about emergency sheltering
- Support regional agriculture
- Promote bio-blitzes and citizen science
- Educate private septic system owners/explore 0% interest loan options
- Develop a neighbor-to-neighbor program
- Assess old industrial and automobile sites
- Provide more resilient storage facilities for vital information (Town Hall flooding)



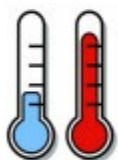
CLIMATE RESILIENCE 101

South Hadley's CLIMATE is CHANGING...

- ↑ Rainfall Intensity
- ↑ Total Precipitation
- ↑ Temperature Extremes
- ↑ Risk to People, Environment, and Infrastructure



As time goes on, South Hadley's climate will begin to look more like the climate in the mid-Atlantic. By the end of the century, our climate here in Western Massachusetts will feel like North Carolina.



26 days of extremely hot weather over 90°F —nearly a month each year—in the 2030s
 12 weeks (basically a whole summer) over 90°F by the end of the century

Up to an 11% increase in annual precipitation by 2030 (5 additional inches of rain) and an 18% increase by 2090 (8.3 additional inches)

A shorter, milder winter, with a month fewer days under freezing by the 2030s and two months fewer days below freezing by the 2090s



- South Hadley is taking proactive steps to protect its residents and Town infrastructure.
- Through MVP funding from the Executive Office of Energy and Environmental Affairs, the Town conducted an assessment of all of its culverts and bridges – places where Town roadways cross over streams.
- Culverts and bridges can be failure points in heavy precipitation events if they are structurally deficient, have risk factors that may cause them to become clogged, or if they are simply too small to accommodate the larger volumes of water that come along with these storms.
- If a culvert or bridge fails, the road can be washed out and become impassable.



- Flood waters can also back up behind a culvert, causing flooding of the road or of adjacent properties.
- South Hadley now has a list of priority culvert replacement projects to improve resilience and prevent flooding.



NATURE-BASED Solutions

1. "RIGHT-SIZING" CULVERTS is a key Nature-Based Solution

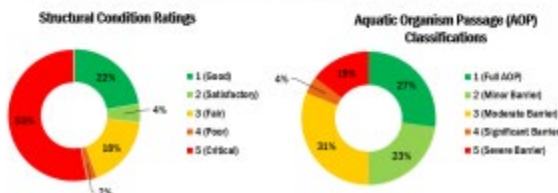
- ↓ Risk of Flooding
- ↓ Maintenance Effort
- ↑ Habitat Connectivity
- ↑ Aquatic Organism Passage
- ↑ Water Quality



- Too narrow to safely pass water from large rain events
- Freefall at outfall causes erosion and restricts fish movement upstream
- Right-sized culvert spans full stream and banks
- Allows water and storm debris to pass with no flooding or clogs
- Fish can swim easily upstream and small animals can cross under the roadway

More than 25,000 culverts across Massachusetts are in need of replacement. In South Hadley:

- 50% of culverts are undersized to pass smaller storms as well as rarer, large storm events
- 50% of culverts have structural deficiencies
- 20% of culverts block access to upstream habitat



Nature-Based Solutions (NBS) are adaptation measures focused on the PROTECTION, RESTORATION, and/or MANAGEMENT of ecosystems to safeguard public health, provide clean air and water, and increase climate resilience. Using NBS in local projects produces long-term solutions that benefit humans and nature.

2. STABILIZING STREAM BANKS prevents erosion and storm damage

Natural woody materials anchor soil in place and help to accumulate and hold new bank material over time




3. CONSERVATION of RIPARIAN AREAS and buffer zones reduces runoff, provides shade, and protects water quality



- Plant native trees and shrubs along streams and in wetland buffer zones
- Contact South Hadley Conservation Commission before doing any work near streams or wetlands



Projects Since 2020 Assessment

- Assessed 50 road-stream crossings
 - Design and engineering to replace Queensville Dam at Titus Pond (Newton Street)
 - Design and engineering to restore Titus Pond
 - Design and engineering culvert replacements on Joffre Ave and Mountain Ave
 - Replaced Newton Street culvert at Black Stevens Pond
 - Design and engineering to replace Pearl Street culvert at Elmer Brook
 - Updated Stormwater Management Bylaw
 - Tree Planting Campaign
- 

MVP 2.0

Improving Social Resilience to Climate Change

Focus on Social Equity and
Quality of Life

Identify who is most vulnerable
to climate change impacts

Priority Populations

- Elderly
- Disabled
- Lack transportation
- Lack safe and secure housing
- May be food insecure
- Families with young children/school age children

MVP 2.0 Process



1

Phase I – Learn how priority populations are impacted by extreme weather:

- What contributes to vulnerability?
- What improves resilience?

2

Phase II – Update Climate Resilience Priorities

3

Phase III – Identify a “Seed Project” to improve Social Resilience

4

Phase IV – Implement Seed Project (July 2024-June 2025)

More Information

MVP 2.0 Process Guide

<https://www.mass.gov/doc/mvp-20-process-guide/download>

ResilientMass

<https://resilient.mass.gov/mvp/>

South Hadley MVP Projects

<https://www.southhadley.org/1263/Municipal-Vulnerability-Preparedness-MVP>

Rising Temperatures

Connecticut Basin	Observed Baseline 1971-2000	Projected Change in 2030s	Projected Change in 2050s	Projected Change in 2070s	Projected Change in 2090s
Average Annual Temperature (°F)	46.98	2.18 to 4.46	3.00 to 6.43	3.57 to 9.00	4.04 to 10.94
Annual Days with Maximum Temperature over 90°F (Days)	6.41	6.36 to 19.72	9.87 to 35.35	11.98 to 57.07	14.50 to 76.01
Annual Days with Minimum Temperature below 32°F (Days)	158.63	-10.58 to -28.13	-18.57 to -37.28	-22.18 to -50.76	-22.88 to -59.79

Changing Precipitation

Connecticut Basin	Observed Baseline 1971-2000	Projected Change in 2030s	Projected Change in 2050s	Projected Change in 2070s	Projected Change in 2090s
Total Annual Precipitation (Inches)	46.39	-0.40 to 4.99	1.25 to 6.22	1.95 to 7.26	1.68 to 8.30
Annual Consecutive Dry Days (Days)	16.41	-0.18 to 1.34	-0.42 to 1.75	-0.73 to 2.26	-0.35 to 2.44