

# Massachusetts Municipal Vulnerability Preparedness (MVP) Program

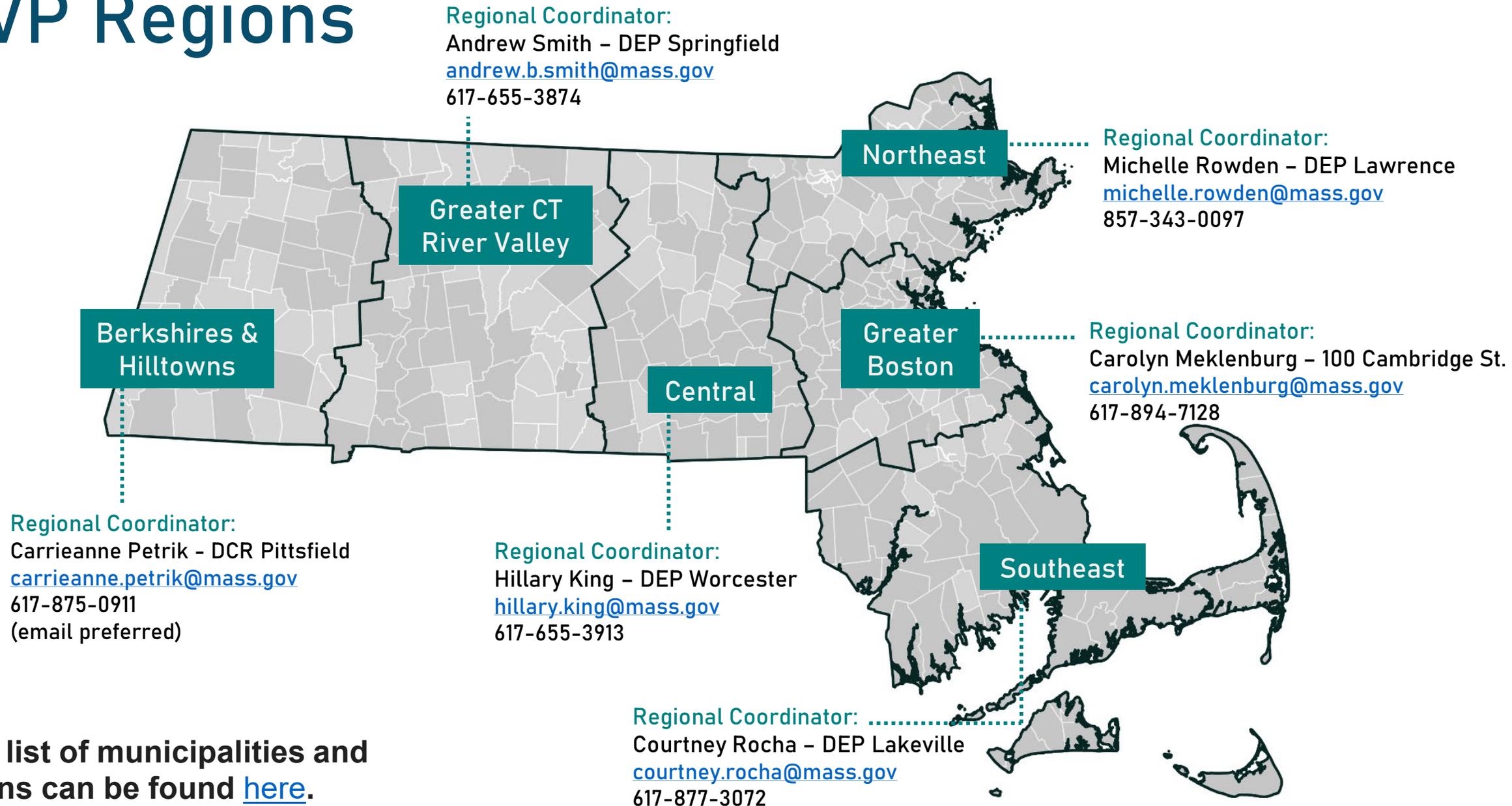
## An Overview

- Brief Program History
- Grant Opportunities
- MVP Core Principles
- Criteria for action grants



Hillary King, MVP Central Regional Coordinator  
MA Executive Office of Energy and Environmental Affairs

# MVP Regions



A full list of municipalities and regions can be found [here](#).

# WHY MVP?

*The Climate is Changing - by end of century:*

## RISING TEMPERATURES



- 10.8°F increase in avg annual temp.
- Up to 64 fewer days/year with min. temperatures < 32° F
- Up to 64 more > 90°F days/year

## CHANGES IN PRECIPITATION



- 18% increase in consecutive dry days
- 57% increase in days with > 1 in. rainfall
- 7.3 inches additional annual rainfall

## SEA-LEVEL RISE



- 4- to 10.5-feet along the MA coast

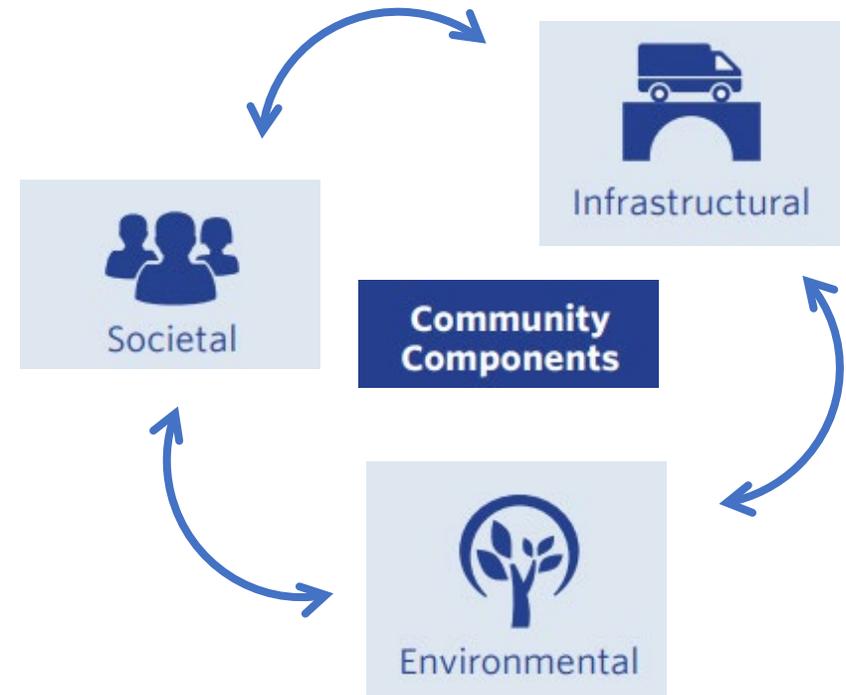
## EXTREME WEATHER



- Increase in frequency and magnitude

# WHY MVP?

Climate resilience is the ability of a community to address the needs of their built, social, and natural environment to anticipate, cope with, and rebound stronger from events and trends related to climate change hazards.



Images from: [www.CommunityResilienceBuilding.org](http://www.CommunityResilienceBuilding.org)

Resilient communities don't just recover— they *continuously build capacity* to reduce the impacts of future climate events.

# BUILDING CLIMATE RESILIENCE IN THE COMMONWEALTH

## Executive Order 569 – 2016



- Comprehensive approach to reduce GHG emissions to combat climate change and prepare for the impacts of climate change
  - State Adaptation Plan
  - Climate Coordinators
  - Agency Vulnerability Assessments
  - Municipal Support

## Environmental Bond Bill – 2018



- \$2.4 billion bond bill with focus on climate change resiliency
- Over \$200 million authorized for climate change adaptation
- Codifies EO 569, including the MVP Program

# BUILDING CLIMATE RESILIENCE IN THE COMMONWEALTH

## CLIMATE MITIGATION

(GWSA & Green Communities)

- ▶ Energy conservation & efficiency
- ▶ Increased renewables in electric grid
- ▶ Onsite renewable energy
- ▶ Sustainable transportation / improved fuel efficiency
- ▶ Capture and use of landfill and digester gas
- ▶ Carbon sinks

## CLIMATE ADAPTATION

(EO 569 & MVP)

- Utilizing climate projections in planning and design
- ▶ Water/energy conservation
  - ▶ Microgrids
  - ▶ Strategic electrification
  - ▶ Storage for peak demand response
  - ▶ Resilience hubs
  - ▶ Risk & vulnerability assessments
  - ▶ Structure retrofit/relocation
  - ▶ Culvert upgrades
  - ▶ Dam removal
  - ▶ Adaptive resource management
  - ▶ Land acquisition

## HAZARD MITIGATION

(SHMCAP, MEMA/FEMA)

- ▶ Dry floodproofing
- ▶ Dam rehabilitation
- ▶ Slope stabilization
- ▶ Removal or reduction of flammable vegetation
- ▶ Generators for critical facilities

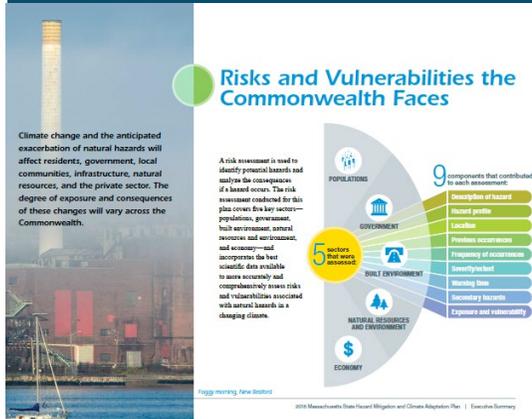
### CROSS-CUTTING STRATEGIES:

- ▶ Smart Growth
- ▶ Community Outreach, Engagement and Education
- ▶ Building Code Updates (including development, enforcement, and public education)
- ▶ Green infrastructure
- ▶ Evaluating adoption and/or implementation of bylaws/ordinances that reduce risk and increase resilience

# BUILDING CLIMATE RESILIENCE IN THE COMMONWEALTH

*State and local partnerships*

## State Hazard Mitigation & Climate Adaptation Plan

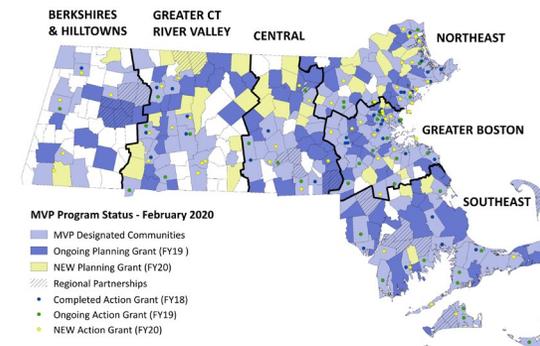


### Mission Statement:

Reduce the statewide loss of life, and protect natural resources, property, infrastructure, public health, and the economy from natural hazards and climate change impacts through the development of a comprehensive and integrated hazard mitigation and climate adaptation plan.

<http://resilientma.org/shmcap-portal/index.html#/>  
<http://www.resilientma.org/shmcap-portal/index.html#/action-team>

## Municipal Vulnerability Preparedness Program



Providing funding for cities and towns across the state plan for climate change impacts and build more resilient communities.

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

# MVP Planning GRANT

RFR currently open;  
Rolling until August 2020  
\$15,000- \$100,000 per plan  
completed by 6/30/2021  
*\$1M available*



# MVP Action GRANT

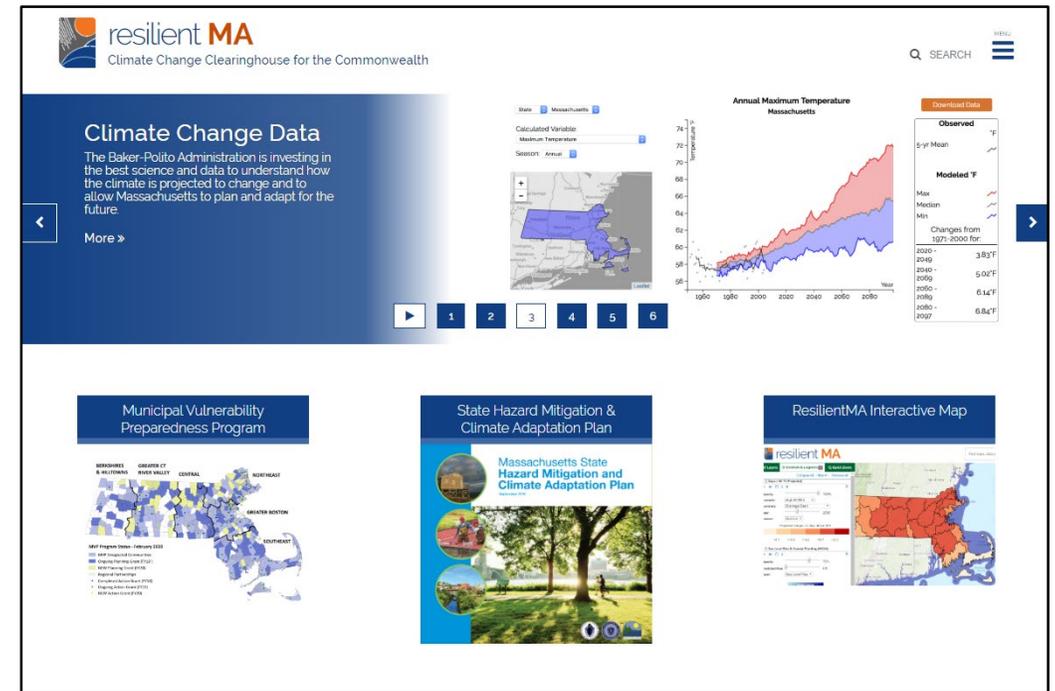
RFR currently open; Applications  
due June 11, 2020  
Open to MVP communities  
\$25,000- \$2M per project,  
completed by 6/30/2021 or  
6/30/2022  
*\$10M available*



# MVP CORE PRINCIPLES

Applying for an MVP Action Grant is a competitive process. The Program aims to fund work that best demonstrates these eight Core Principles.

1. Furthering a community identified priority action to **address climate change impacts**.
2. Utilizing **best available climate change data for a proactive solution**. Data from local-level climate change vulnerability studies may also be used.
3. Committing to **monitoring** project success and **maintaining** the project into the future.



# MVP CORE PRINCIPLES

## 4. Employing nature-based solutions.



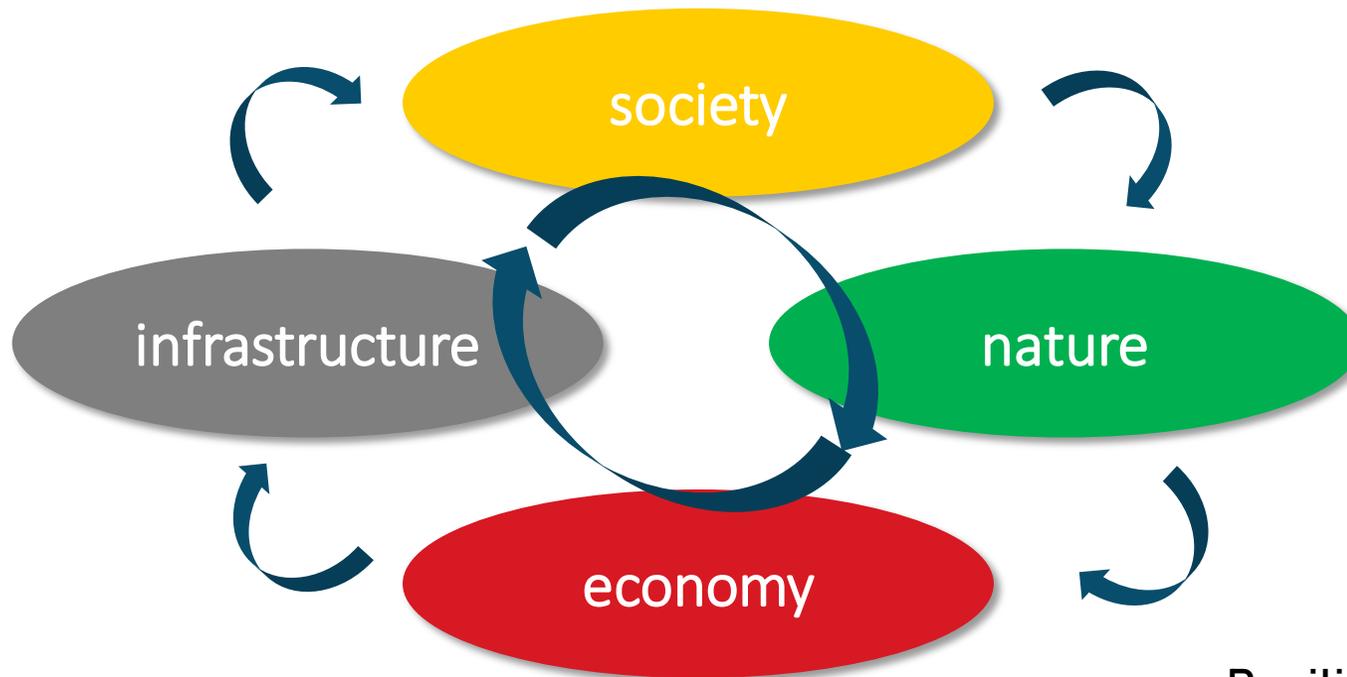
What are NBS?

Projects that **restore, protect,** and/or **manage** natural systems and/or mimic natural processes to address hazards like flooding, erosion, drought, and heat islands in ways that are **cost-effective, low maintenance,** and **multi-beneficial** for public health, safety, and well-being.

With Permission: illustration from *The Curious Garden*, by Peter Brown

# MVP CORE PRINCIPLES

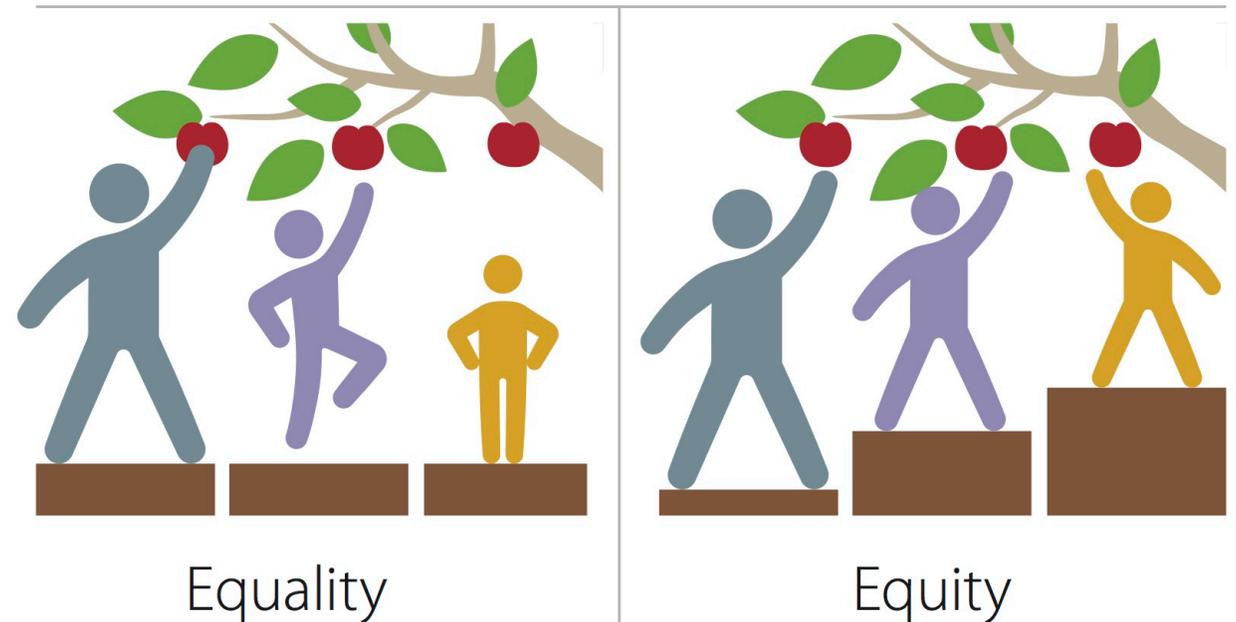
## 5. Achieving **broad** and multiple community benefits.



Resilience means thinking holistically and working together across our typical silos. No one entity can be resilient on their own.

# MVP CORE PRINCIPLES

6. **Involving Environmental Justice Populations in meaningful decision-making**, as defined and outlined in the [2017 EEA EJ Policy](#), and giving special consideration to Climate Vulnerable Populations.



“Equity vs Equality” flickr photo by MN Pollution Control Agency  
<https://flickr.com/photos/mpcaphotos/31655988501>  
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# MVP CORE PRINCIPLES

- Utilizing regional solutions toward **regional** benefit.
- Pursuing approaches from which other MVP communities and the state can **learn**.

## Urbanization of Forested Areas Has Implications for Bay and Watershed Condition

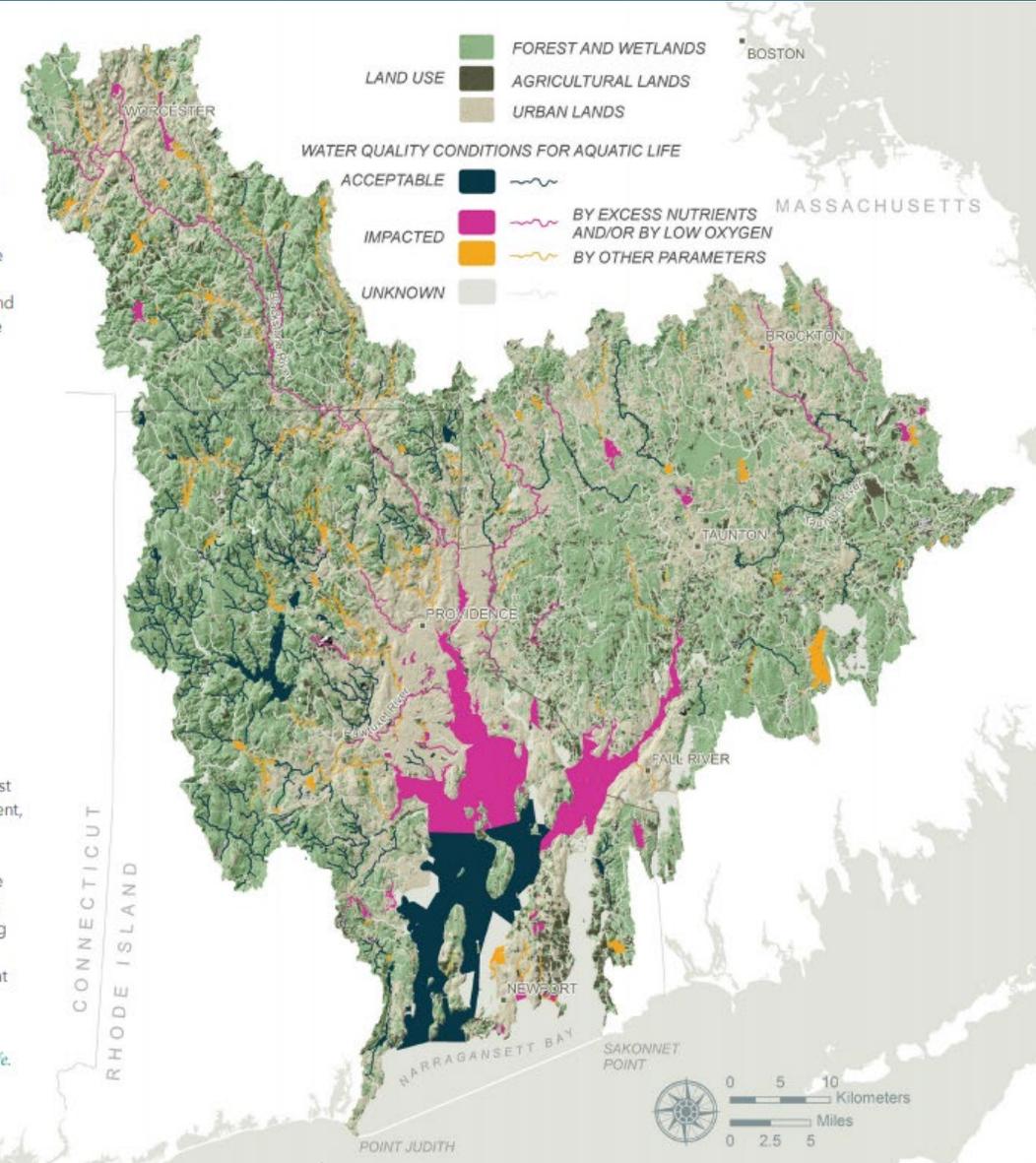
Land development affects how water flows across the land. Conversion of forest land to streets and buildings typically increases the amount of pollutants carried by stormwater into rivers and the bay. These changes in land use also affect wildlife and habitat conditions. State assessments found that water quality conditions in 162 miles of streams, 57 square miles of estuarine waters, and over 4,800 acres of ponds and lakes were unacceptable for aquatic life, such as fish communities, because of excess nutrients and/or low oxygen levels.



### Conversion of Forest to Urban Lands

As of 2011, the watershed contained 35 percent urban and 39 percent forested lands. From 2001 to 2011, forest lands around Narragansett Bay decreased by four percent, lost primarily to urban lands, which increased by 8.5 percent. In 2011, coastal subwatersheds were 65 to 85 percent urban, whereas headwater subwatersheds were 70 percent forest. The Taunton River Basin experienced especially dramatic changes, with forest land decreasing by nine percent around the upper Taunton River and Ten Mile River, and urban lands increasing by 18 percent around the middle Taunton River.

MAP: Land use and water quality conditions for aquatic life.  
PHOTO: Brook trout, North Kingstown, RI.



# MVP ACTION GRANT EVALUATION CRITERIA

- Project Description, Rationale, and Climate Data (13 points)
- Nature-Based Solutions and Environmental Co-Benefits (18 Points)
- Environmental Justice and Public/Regional Benefits (14 points)
- Public Involvement and Community Engagement (12 points)
- Project Transferability, Measurement of Success, and Maintenance (6 points)
- Need for Financial Assistance (6 points)
- Project Feasibility, Support, and Management (6 points)
- Timeline, Scope, and Budget (15 points)
- Overall Project Quality (10 points)

[The MVP Action Grant Request for Responses \(RFR\) is OPEN](#) until June 11, 2020 at 2pm.

# WHAT ARE NATURE-BASED SOLUTIONS?

Projects that **restore, protect,** and/or **manage** natural systems and/or mimic natural processes to address hazards like flooding, erosion, drought, and heat islands in ways that are **cost-effective, low maintenance,** and **multi-beneficial** for public health, safety, and well-being.

From - **Conserving Land** -  
to - **Restoration and green stormwater management** -  
And anything in between!

