

The Municipal Vulnerability Preparedness (MVP) Program in Massachusetts: Mainstreaming NbS into Climate Planning and Action at the Municipal Level

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MVP: Supporting MA municipalities adapt to climate change

In **2016**, the state called for the **integration of climate change mitigation and adaptation efforts**, enacting the State Hazard Mitigation and Climate Adaptation Plan (SHMCAP) and the Municipal Vulnerability Preparedness (MVP) program.

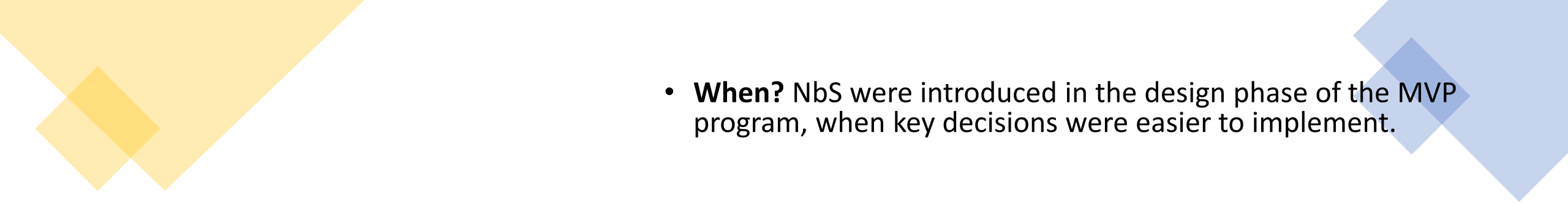
MVP was created as a state-level grant program offered to encourage cities and towns to:

- Engage in **municipal planning processes** for climate change adaptation, and
- Identify **priority projects**.


Sequence of the process: 1) grant for planning, 2) planning process defining priority projects, 3) MVP certification, 4) Action Grant application, 5) adaptation project.


By 2020:

- 312 municipalities achieved certification (89% of the total)
- 168 municipalities received subsequent Action Grants (48%)
- Approx.. USD 44 million have been awarded




NbS became an essential part of the MVP program

- **When?** NbS were introduced in the design phase of the MVP program, when key decisions were easier to implement.
 - **How?** Environmental NGOs were key in the design of the MVP program, avoiding path dependency and introducing innovation into the policy instrument. They acted as *Policy Entrepreneurs* (Kingdon, 1984)
 - **Why?** Organizations supporting the design of the program provided the structure and the training for the planning workshop: The Community Resiliency Building (CRB) framework.
 - **What?** They introduced **content** promoting NbS in the planning workshops and **incentives** for cities to prioritize them among other projects
 - **How much?** The average Action Grant amount in FY20 was USD 195.000
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How present are NbS in MVP?

- In FY20, out of 13 possible project types funded by MVP, 5 were related to NbS
 - NbS is its own category in the Action Grant scoring sheet (10% of total weight)
 - There is a dedicated section for NbS in each planning workshop
 - The program created a NbS toolkit for facilitators and municipalities
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Nature-Based Solutions

[MVP HOME](#)[NATURE-BASED SOLUTIONS](#)[ENVIRONMENTAL JUSTICE & EQUITY](#)[PUBLIC HEALTH & HEALTHCARE](#)[VIRTUAL & REMOTE ENGAGEMENT](#)

Nature-Based Solutions (NBS)

Nature-Based Solutions (NBS) are adaptation measures focused on the **PROTECTION, RESTORATION, and/or MANAGEMENT** of ecological systems to safeguard public health, provide clean air and water, increase natural hazard resilience, and sequester carbon. Incorporating NBS in local planning and design projects produces long-term solutions that benefit human and natural systems.

NBS offer numerous co-benefits that address challenges faced by communities:

- **CLIMATE RESILIENCE** by reducing risks from flooding, erosion, drought, and heat islands, keeping our most vulnerable neighbors and community assets safer;
- **COST-EFFECTIVE ALTERNATIVES** to the large investments needed to modernize our aging infrastructure, or providing unanticipated repair work and safety improvements resulting from climate change hazards;
- **SUPPORTING ECOSYSTEM SERVICES** through biodiverse systems, nature provides clean air, clean water, and food security;
- **SPURRING ECONOMIC ACTIVITY** creating jobs in local natural resource-based industries (including agriculture, forestry, construction and maintenance, outdoor recreation and tourism); and
- **ENRICHING HUMAN HEALTH AND WELL-BEING** by providing opportunities for outdoor physical activity and visual and physical connections to restorative outdoor spaces.

Whether a municipality is embarking on the initial [MVP Planning Grant](#) process or is ready to implement priority actions with an [MVP Action Grant](#), consider the steps outlined in this toolkit as possible ways to include Nature-Based Solutions into your planning and projects.

Case study: Falmouth

Project: Coonamessett River Restoration

The grant funded the phase 2 **restoration of the river and associated wetlands**, including:

- Dam removal
- Replacing culverts
- Other site restorations



Case study: Mattapoisett

Project: The Pine Islands Pond Watershed Lands Project

The grant funded the **purchase of 120 acres/28 hectares** of pristine forest, streams, freshwater wetlands and coastal salt marsh.

- It includes a conservation restriction.
- Additional co-benefits include air and water cleansing, wildlife protection, and expanded recreational opportunities.



Case study: Deerfield Town

Town of Deerfield Green Infrastructure and Climate Resiliency Policy *Draft updated 2/18/2020*

Section 1. Goals:

The goals of this Town of Deerfield policy are to:

1. promote the use of green street facilities and green infrastructure in public and private development as a cost-effective and sustainable practice for stormwater management in current and future projects wherever possible. This includes: road construction and reconstruction projects; sewer projects; and new development and redevelopment projects.
2. promote climate resiliency in public buildings and infrastructure and private development.

Section 2. Definitions:

Green Infrastructure: Keeps rain close to where it falls, using structures to improve on-site infiltration, such as rain gardens, green roofs and permeable pavements, to promote cleaner, slower, and smaller storm flows to nearby rivers and streams.

Green Streets: Green Streets are a subset of Green Infrastructure in which the street handles significant amounts of stormwater on site through use of vegetated and/or soil-infiltration facilities. Green Streets can include landscaped street-side planters or swales or tree box filters or porous pavement that capture stormwater runoff and allow it to soak into the ground as soil and vegetation filter pollutants.

Section 3. Policies:

WHEREAS,

The Town of Deerfield recognizes:

1. Stormwater runoff from streets, roads, parking lots, and other impervious urban surfaces is a significant source of water pollution to our rivers, streams and water bodies;
2. The local impacts of climate change in Deerfield include more frequent 100-year floods and more severe storms; an increase in insect populations and insect-borne diseases; rising water tables and increases in invasive species.
3. Green Streets can provide cost-effective infrastructure solutions to reduce and manage stormwater runoff and flooding from more intense storm and flooding events and can reduce localized flooding from surcharging, providing some adaptation to climate change.
4. Green Streets can improve water quality by filtering stormwater, removing contaminants, including total suspended solids (TSS), organic pollutants, oils, and heavy metals, and cooling the stormwater before it encounters groundwater or surface water bodies, which benefits watershed health.

Project: Deerfield Resiliency Policy

The grant funded the **design of a Green Infrastructure and Climate Resiliency Policy**, aimed at:

- **Promoting the use of green street facilities and green infrastructure** in public and private development as a cost-effective and sustainable practice for stormwater management in current and future projects, wherever possible.
- Including: road construction and reconstruction projects; sewer projects; and **new development and redevelopment projects**.

Some insights about NbS from our research assessing the MVP program

- Who supports?
- Who resists?
- Why did some organizations have influence in the design and not others?
- Does it enable collaboration or private involvement?
- Environmental Justice: competition or complementarity?

Thank you!