Watershed Associations: A Great Resource for Supporting Community Climate Adaptation

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MMA Annual Meeting
Preparing Your Community for a Changing Climate
January 24, 2019
Charles River Watershed Association

• Founded 1965
• One of the countries oldest watershed associations
• Interdisciplinary staff → Integrated approach
  – Scientists
  – Lawyer
  – Planner
  – Policy experts
  – Director
  – Communications and support staff
• Work closely with EPA Region 1, state agencies, and 35 watershed municipalities
Charles River Watershed Association

• Program Areas
  – Field Science
  – Blue Cities Initiative (low impact development and green infrastructure)
  – Climate Change Adaptation
  – Law, Advocacy and Policy
Massachusetts Watersheds

28 Distinct Watersheds
Charles River Watershed

- 80 miles
- 20 dams
- 308 mi²
- 35 towns
- Over 1 million residents
- CRWA takes a watershed-scale view
The Climate is Changing
Charles River Watershed Association
Climate Adaptation and Resilience Program

• Long-term River Monitoring
• On-the-ground Implementation:
  • Nature Based Solutions
  • Green Infrastructure
  • Low Impact Development
• Charles River Climate Compact
• MVP Program: municipal & state planning initiatives
• Climate Resilience 101: Training for Municipal Elected Officials
• Mitigation: Promoting Wastewater to Energy Projects
Climate Resilience 101

• Please join us!
• Climate basics for municipal elected officials
• Overview of problems and solutions!
• Opportunity to hear from your peers
• Two trainings and >40 individuals trained to date
• Planning 1-2 trainings this spring
Charles River Climate Compact

• Mission: Bring together communities in the Charles River watershed to work on climate adaptation and strategies at a regional scale.

• Address common challenges through joint effort and information sharing.
Charles River Climate Compact

- 20 out of 35 communities currently participating
- 2 more likely joining this month
- Topic areas:
  - Stormwater flooding / MS permit compliance
  - Trees
  - Public engagement
  - Watershed scale modeling / planning
Why a Watershed Compact?

This is your father’s nature based solutions!: Charles River Natural Valley Storage Area

- 8,095 Acres purchased or protected since 1977
  $8,300,000

- Yielded $11,932,000 in flood protective services

- Co-benefits include recreation and natural resource benefits
Why a Watershed Compact?

- Located in 16 watershed communities: Millis, Medfield, Norfolk, Franklin, Holliston, Needham, Sherborn, Bellingham, Dedham, Dover, Medway, Newton, Wrentham, Walpole, Natick, and Boston
- Protects nearly the **entire** watershed
Why a Watershed Compact?

- Army Corp of Engineers: Natural Valley Storage Area
- Mother Brook Diversion: DCR
- Moody St. Dam – DCR
- Watertown Dam - DCR
- New Charles Dam – DCR
- Public/private dams
Nature Based Solutions Online Mapper

• **Coastal Flooding**
  – Climate Ready Boston Flooding Hazard
  – Ch. 91 Flood storage
  – Hurricane Surge

• **Inland Flood Storage**
  – Wetlands with 100ft buffer
  – FEMA floodplain
  – Lowest 10% elevation by subbasin

• **Water Resource Protection**
  – Soil class A,B good for infiltration
  – SWMI categories 4,5
  – Wellhead protection zones

• **High Quality Habitats**
  – Biomap2
  – Above Average Resilience
  – Salt marsh migration areas
  – High Integrity Wetlands
  – Habitat Connectivity

This tool is live at: [http://maps.coastalresilience.org/massachusetts/](http://maps.coastalresilience.org/massachusetts/)
Municipal Partnerships

• Municipal grant programs
• Stormwater planning and permit assistance
• Green infrastructure design and construction
• Drought resilience and water conservation
• Dam removal
• Education and outreach
  – Green landscaping
  – Stormwater management
  – Nutrient pollution reduction
Milford Stormwater Plan

- Develop stormwater management plan for a 1300 acre area in the Town
- Identified over 60 green stormwater infrastructure opportunity sites
- Secured funding to construct at least one system
- Support MS4 compliance
- Partially funded by MassDEP 604b grant program
Water Smart Planning and Practices in Norfolk

- Identified infiltration opportunities in Town Center zoning district to improve groundwater recharge as development occurs
- Support water supply resilience
- Implemented education campaign around green landscaping practices

Funded by MassDEP Water Management Act Grant Program
Cambridge Green Streets

- Developed conceptual designs for greening typical urban street
- Created Green Street Guidance Document for use by multiple community departments
- Modeled impacts of scaling green streets up across the City under future climate scenarios

Funded by MassDEP 604b grant program
Wrentham Dam Removal

• Conducting feasibility study on removal of a small “legacy” dam
• Beginning community conversation about dam removal

Funded by MVP Action Grant Program
THANK YOU FOR YOUR TIME TODAY