Central Massachusetts Regional Stormwater Coalition

Case Studies of Stormwater Management Approaches Used In Massachusetts & Wrap-Up

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What's the Connection?

- Stormwater runoff can carry contaminants that flow to surface water and infiltrate to ground water sources. Ex: sodium and chloride from deicing materials, sediment, nutrients that create harmful algae blooms.
- Impervious cover increases flooding events and pollutant transport and also decreases local ground water recharge, but….
- …vegetation and BMPs can slow the flow of stormwater, help filter contaminants, and increase recharge.
- Public education and outreach can address SW and DW.

Bad stormwater management can be *harmful* to DW
Good stormwater management can be *beneficial* to DW

Greater Leicester Water Resource Group

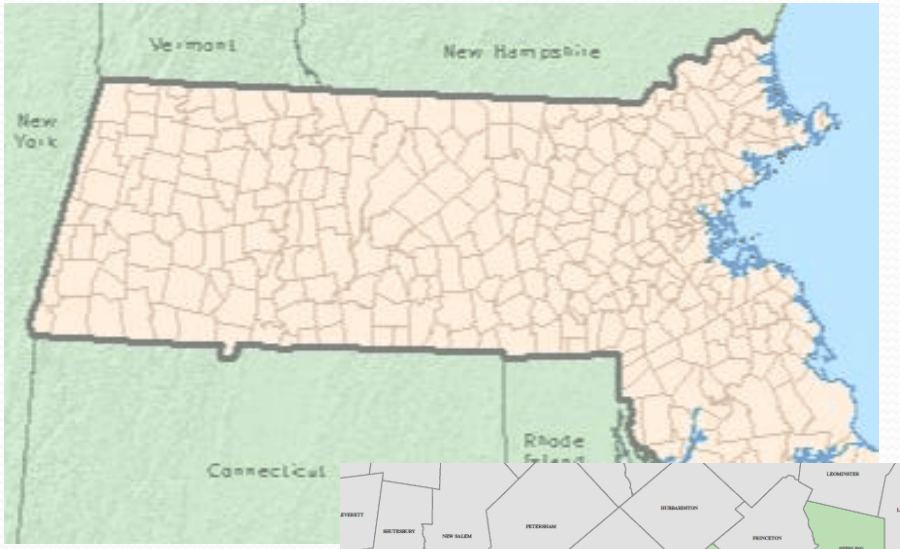
- Seven towns (Leicester, Worcester, Paxton, Spencer, Charlton, Oxford, and Auburn) met five times between August and December 2010.
- Single over-arching goal:

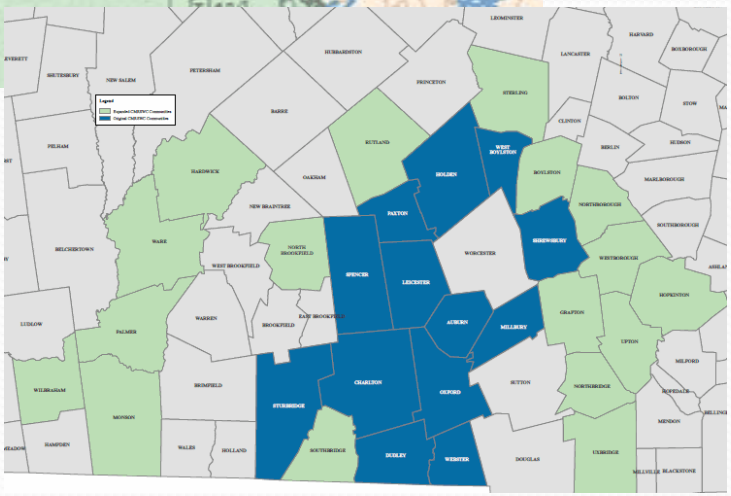
To efficiently manage water resources (water, wastewater, and stormwater) in the seven-town region through management, mitigation, and protection.

- Five objectives established to reach stated goal.
  1. Establish a line of communication with peers in the other towns.
  2. Exchange information on a regular basis.
  3. Identify resources that may be accessed both by individual towns but also possibly regionally.
  4. Prepare for alternative scenarios.
  5. Identify town and region strengths, weaknesses, opportunities and threats.

CMRSWC Communities: FY2012 & 2013

Holden
West Boylston
Shrewsbury
Auburn
Millbury
Oxford
Northborough
Uxbridge
Upton
Westborough
North Brookfield
Palmer
Rutland
Southbridge
Hopkinton





Paxton
Spencer
Leicester
Charlton
Sturbridge
Dudley
Webster
Grafton
Monson
Boylston
Hardwick
Northbridge
Sterling
Ware
Wilbraham

Establishment of the Project

- USEPA Municipal Separate Storm Sewer System (MS4) Permit is an unfunded mandate.
- MS4 Permit requirements will soon increase and expand to more communities.
- All 13 FY2012 communities agreed that they presently underfunded stormwater management activities.
- FY2012 $310,000 CIC Grant developed and implemented 19 tasks in three categories:
    1. Collaborative Education and Training
    2. Regionalized Data Management Systems
    3. Standardized Policies and Procedures

Goals and Objectives

- Select scope with regionalization as the primary driver. Work products need to be easily transferrable to more communities (FY2013).
- Identify and get buy-in from other communities needing to develop stormwater management tools.
- Get all 13 FY2012 communities to comply with the requirements of the MS4 Permit and get to a common benchmark.
- Develop tools that will prepare communities for future permit requirements ("grow with the needs").

Grant Awards and Work Plans

- FY2012: 13 Towns- Grant Application 1: submitted November 2011: $310,000- Received

- FY2013: 17 new Towns added = 30 total- applied for $200,000 but received $115,000; Difference made up by Towns ($2,833 each)

- FY2014: 30 Towns- Grant Application 1: submitted November 2013: $200,000- In process- waiting for award

Grant Award and Work Plan- FY2012 & 2013

- Three lead communities: Charlton, Leicester, and Spencer
- Spencer = contracts, budget, reporting
- First Grant announced March 17; first group meeting on May 24, 2012.
- Project success has depended on using a Steering Committee approach, consistent core leadership, good communication, and getting a professional involved early to advise the group.

Regionalized Data Management Systems

1. Online Database for Data Management

- PeopleGIS (Arlington, MA)
- Integrates forms developed under "Common Benchmark task"
- Municipalities can share data

2. Integrated StormwaterMapping System

- Existing mapping varied: several consulting firms, MassDCR, Town staff, CMRPC- provided each town with
- T&H defined a project standard
- Integrates stormwater mapping done by all 30 communities

Thread: stormwater doesn't stop at municipal boundary!

Standardized Policies and Procedures

1. Sump Pump Discharge Policy

- Reasonable, consistent approach for allowing connection to storm drain system

2. Stormwater Pollution Prevention Plan (SWPPP) Template

- Appropriate for any municipal facility
- InteractiveWord document total customization

3. Salt/Sand Application Benchmarking

- Aimed at reducing chloride loadings to surface waters
- Benchmarks current loadings, suggests reduction, defines calibration procedure

Standardized Policies and Procedures

1. **Request for Proposals (RFP) for field work**
   - Select consultant for future field work, depending on needs of new MS4 permit. Funded with future grant
2. **15 Standard Operating Procedures**
   - Outfall & BMP inspections, oil/water separator maintenance, vehicle washing, IDDE, many more
3. **Stormwater BMP Toolbox**
   - Encourages stormwater BMPs for single-family homes and small development/re-development.
   - Defines maintenance, documentation, communication with contractor/designer/developer

Additional Purchases

- Leica CS25 GIS devices (2)
  - Connected to RTK satellite network for high accuracy
  - Integrated WiFi = connects directly to PeopleGIS platform for real time mapping & inspection
- ASUS Transformer tablet computers (13)
  - Connect directly to PeopleGIS platform
  - Portable WiFi devices
- Water quality meters
- Enviroscape table

Cost-Saving Example 1

Stormwater Pollution Prevention Plan Template

	Individual Approach	Regional Approach
Consultant Fee	$8,000	$16,000
#of Towns Benefitting	1	30
Cost per Town=	$8,000	$533
Both Approaches require 16 hours of staff time		

Cost-Saving Example 2

Online Mapping and Inspection Platform

	Individual Approach	Regional Approach
Consultant Fee	$5,000	$16,000
Vendor	$9,500	$52,875
Vendor Service, Years 2&3	$11,000	$0
GIS Conversion		$1,850
Total Cost	**$25,500**	**$70,725**
# of Town Benefitting	1	30
Cost per Town=	**$25,500**	**$2,358**

Regional Approach = decreased cost per Town

Project Challenges

- How to coordinate administrative and technical staff for so many communities.
- How to channel feedback in an effective manner.
- How to have “something for everyone”.

How were these accomplished?

1. Consistent core leadership: spearhead grant; reach out to communities; finalize scope; and implement work.
2. Get a professional involved early to identify common successes and common challenges.
3. Define a Steering Committee to represent the best interest of all 13 communities.
4. Focus on personal communication and networking.

Core Project Partners

- Since 2012, CMRSWC has attracted the attention of many communities and organizations because of its effective working relationship. Core project partners now include :
  1. Massachusetts Department of Environmental Protection (MassDEP);
  2. Worcester Polytechnic Institute (WPI);
  3. Massachusetts Department of Conservation and Recreation (MassDCR);
  4. Central Massachusetts Regional Planning Commission (CPRPC);
  5. Metropolitan Area Planning Council, representing a new partnership with the Neponset River Watershed Association;
  6. United States Environmental Protection Agency's Region 1 Technical Assistance group, and
  7. The Regional Highway Equipment Cooperative (RHE COOP).

Project Summary

- The value of the project was obvious to neighboring Towns, thus expanding it was a “no brainer”
- Partnerships developed have additional financial benefit

  that’s hard to quantify
- Not all tasks lead to regionalization – get professional

  assistance to evaluate what will work

Questions?

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