Municipality/Organization: Town of West Boylston

EPA NPDES Permit Number:

Mass DEP Transmittal Number: X265882

Annual Report Number: Year Twelve (12)
& Reporting Period: 1 APRIL 2014 – 31 March 2015

NPDES PII Small MS4 General Permit
Annual Report

Part I. General Information

Contact Person: Anthony M. Sylvia Title: Director of Public Works

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Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: *Anthony M. Sylvia*

Printed Name: Anthony M. Sylvia

Title: Director of Public Works

Date: 30 April 2015

Part II. Self-Assessment

West Boylston instituted a Pay-As-You-Throw (PAYT) program for municipal solid waste management on July 1, 2009, and the Program continues with success. Recycling went from 20% to 32%, and remain stable. In 2011, the Town implemented Single-Stream recycling as well, and recycling levels continue at levels consistently above 31%.

West Boylston is committed to full compliance with its Notice of Intent (NOI), and looks forward to complying with the new Permit anticipated to be finalized in 2015-16. The Town invested $180K in a new street sweeper in 2013, and $120K in a new catch basin truck that is scheduled for delivery in May-June 2015 – to further mitigate stormwater pollution. Also of note was DPW's revised approach to snow and ice control. The cognizant change was to eliminate use of sand as much as possible, and use an EPA-designated DFE product ("Clearlane") in winter 2013-14, and Ice-B-Gone in winter 2014-15 which is essentially a NaCl treated with MgCl. Clearlane and Ice-B-Gone performances have been very good in our first and second years of use, in terms of reduced sandy roads, quicker ice melting, and lower temperature melting. Sand was needed on a few occasions due to icy precipitation and National salt shortages in January/February 2014 and 2015. This difficult industry pattern has been cause to consider upsizing and replacing DPW's, 40+ year-old salt shed. The overriding goal remains to eliminate as much sand as possible from deicing operations, and in doing so, remove that host for non-point source pollution. Side benefits will be reduced street sweeping and catch basin cleaning time, effort, expense and residuals.

Listed below are all of the activities that were required in this most-recent year of the permit and the activities that have taken place. Activities that are not required at this time have not been listed. Details of those activities can be found in the Permit.

I note appreciation for assistance by the Board of Selectmen, the Town Administrator, the Board of Health, the Public Works Department, the School Department, the DCR's Water Quality Department, and the rest of the Municipal Team and other individuals that have contributed to the Town's Stormwater Program. Protection of water resources, whether surface or groundwater is a high priority for the Town of West Boylston, so we appreciate assistance by other organizations as noted above. Public education continues in order to foster respect for the Wachusett Reservoir as a potable water source for the MWRA, and for the brooks and streams tributary to the Reservoir.

Part III. Summary of Minimum Control Measures

1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 13
1a	Local cable channel	DPW	Air one new message annually	Message is aired on local cable channel.	➢ Continue to air message(s). ➢ The DPW will air "AFTER THE STORM" video on the local cable channel. ➢ Conduct public service/info interview by DPW Director
1b	Update stormwater information to website	DPW	Complete update.	The town's Stormwater bylaw is posted on the town's website.	Continue to post bylaw.
1d	Inform residents of town recycling programs	DPW	Distribute program schedule to all town residents	➢ The town instituted a Pay As You Throw program for municipal solid waste on July 1, 2009. Recycling > 31%. ➢ The DPW's website contains information on recycling. ➢ Single-stream recycling program implemented	Continue to mail the WEST BOYLSTON RECYCLING INFO to all town residents on an annual basis. Single stream recycling continues. DPW Website updated periodically.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 13
2a	Collect household hazardous waste from residents	DPW, Board of Health	Arrange for hazardous waste collection days	➢ A permanent hazardous waste collection site was constructed by the Department of Conservation and Recreation (DCR) in West Boylston and is called the Wachusett Watershed Regional Recycling Center. West Boylston residents dropped off hazardous waste during public events.	Continue to be a member of the Wachusett Watershed Regional Recycling Center to allow residents to properly dispose of their hazardous waste. There are currently four collection days per year.
2b	Implement annual, volunteer waterways clean-up day	DPW, Board of Health, Sewer Dept, DCR	Hold waterways clean-up day once per year.	The DCR holds an annual clean-up day on Earth Day, and DPW encouraged participation.	Continue to support the DCR's annual clean-up day. Consider event on America Recycles Day in November 2015.
2c	Develop storm drain stenciling program	DPW		DPW and volunteers worked on CB stencil program. Storm drains have been stenciled in the past.	Working with volunteers and DCR to stencil catch basins, and help inspect/photograph outfalls.
2d	Make SWMP available for public review/comment	DPW	Post SWMP on town website and in DPW	The SWMP is available for public review.	The SWMP will continue to be available for public review.
2e	Pet Waste Management in Neighborhoods	DPW & DCR	Monitor less Pet Waste in Catch Basins	Mailed approx. 150 letters to Woodland Heights neighborhood in 2014 to educate on pet waste pollution. DPW removed dozens of pet waste bags from catch basins.	Quantify pet waste findings; revise letter to neighborhood, possibly to thank for cooperation. Occurrence has subsided in this most-recent year.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 13
3a	Map outfalls, receiving waters, and storm drain system	DPW & DCR	Mapping Completed, more planned for pipes	➢ The mapping of the Town's drainage infrastructure is mostly complete, through combined efforts of Weston & Sampson Engineers, DPW and DCR. ➢ The DPW and the Planning Board's inspection engineer, VHB, monitored all subdivision construction and required developers to properly maintain erosion control measures and to take all necessary corrective actions during construction.	Conduct GIS/GPS efforts in conjunction with DCR and Central Mass Regional Stormwater Coalition.
3b	Develop illicit discharge detection & elimination plan	DPW	Make recommendations for proposed sampling plan	The DPW checks catch basins and outfalls for illicit discharge on an annual basis when cleaning its catch basins	Continue annual checks, and work to locate and eliminate pollution sources
3e	Present bylaw for town meeting action	DPW	Evaluate Stormwater Bylaw, and revise as needed	Town meeting approved a "Stormwater Bylaw" in 2010	Plan dry-weather inspection of outfalls to assess existing conditions. SW Bylaw to be edited in 2015.
3f	Water Quality Sampling	DPW	Conduct WQ Sampling		Document zero-minimum pollutants; locate and remove pollution sources identified.

4. Construction Site Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 13
4c	Present bylaw for town meeting action	DPW	Bylaw Enacted	Town meeting approved a "Stormwater Bylaw" in 2010	Continued coordination with the Planning Board for construction inspections, Bylaw update in 2015.
4e	Develop/modify site inspection practices	DPW/Planning Board	If necessary, make recommendations for updating existing practices	No modifications necessary – Planning Board recently updated its Subdivision Regulations to include stormwater BMPs and they are enforced and inspected by their inspection engineer, VHB.	Continue coordination with the Planning Board for construction inspections. DPW assists with inspections as needed.

5. Stormwater Management Program Summary

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 13
5c	Review existing bylaws and regulations	Planning/Zoning/ Building/Sewer	Determine whether existing bylaws/regs are adequate	Town meeting approved a "Stormwater Bylaw" in 2010	Coord w/Planning & Building Depts. Make adjustments for new Permit in 2015.
5e	Develop/modify bylaws for construction site runoff	Planning/Zoning/ Building/Sewer	If necessary, propose recommendations for bylaw updates	Town meeting approved a "Stormwater Bylaw" in 2010	Coord w/Planning & Building Depts. Make adjustments for new Permit in 2015.

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 13
6a	Sweep Streets	DPW	Sweep all streets	The DPW sweeps all of its 55 miles of public roads annually in the spring. Town bought a new street sweeper for $180K in 2013. Approximately 1000 yds of sandy debris was collected via street sweeping in 2014. The State also sweeps its roads in town.	Continue to sweep all public roads annually, April-May. Revised winter deicing operations reduced use of sand, and altered type of salt used – being a mixture of NaCl and MgCl which holds the EPA's DFE-endorsement.
6b	Clean/Repair catch basins	DPW	Clean all catch basins	The DPW attempts to clean all of its catch basins annually after the streets have been swept. Four catch basins were repaired by the DPW in 2014.	Continue to try to clean all catch basins annually. Approximately 300 yds of sandy debris was collected via catch basin cleaning in the reporting year, reduced due to less winter sand, and failing CB Truck.

APPENDIX 1

The following information describes the cooperative efforts between the Department of Conservation and Recreation (DCR) and the Town of West Boylston from April 2014 – March 2015, and indicates a combined commitment to protecting and restoring water resources proximate to the Town, through its Stormwater Management Program. Many of the MS4 control measures continue to be addressed cooperatively by area communities through efforts of the Central Massachusetts Regional Stormwater Coalition. The DCR Division of Watershed Management continues to work with communities and independently to address stormwater issues.

Public Education and Outreach (CM1)

The permittee shall implement an education program that includes goals based on specific stormwater issues within the small MS4 community. The ultimate goal is to create a change in public behavior and knowledge so that pollutants in stormwater are reduced.

The DCR Division of Water Supply Protection continues to assist watershed communities with public education and outreach efforts. The following took place in West Boylston during the current reporting period – Year 12.

West Boylston:

- 200 copies of updated DCR dog waste brochures with MS4 letter mailed to Town Clerk for distribution
- Bulletin board in meeting room at John Augustus Hall had information on pet waste, nutrient pollution, salt and sand BMPs and Climate Change effects on surface waters
- Participated in West Boylston scarecrow festival with a scarecrow and a clean water message
- DCR kiosk at Oakdale Rail Trail parking lot updated with stormwater info, including a stronger pet waste notice/message
- 100 copies of DCR General Construction Site Supervision Stormwater tips brochure sent to Conservation Commission for distribution with letter explaining MS4 program
- 100 copies of DCR Importance of Stormwater Basin Maintenance brochure sent to Conservation Commission for distribution with letter explaining MS4 program
- Pharmaceutical disposal brochures were made available at the Recycling Center
- Household Stormwater Pollution Prevention brochures available at the Recycling Center
- Fire Department stormwater brochures mailed to West Boylston FD
- Student pet waste brochures handed out at Major Edwards School
- Letters and 'Stormwater Tips for Businesses' were mailed out to businesses located along Route 12
- Provided West Boylston DPW Director a copy of DCRs BMP and Good Housekeeping PowerPoint for training purposes

Watershed-wide:

- Mass Envirothon - stormwater is now a part of the statewide curriculum. Approximately 400 copies each of Pet Waste, Household Stormwater Pollution Prevention, and Non-permitted Discharges brochures were distributed.
- Created a "Stormwater Pollution Prevention Public Service Announcement" to be read by Ranger Staff at all public interpretive programs.
- Participated in Mass Municipal Association annual conference workshops on stormwater by assisting with outreach materials and expanded dog waste outreach materials (attended by watershed municipal officials)
- All DCR kiosks updated twice during 2014 with information related to stormwater
- All DCR stormwater brochures made available at Nashua Riverfest
- Participated in Thomas Prince Arts festival; DCR stormwater brochures
- 500 copies of DCR Non-permitted discharges brochure were distributed at the DPW Expo and copies were also mailed with entrance tickets to watershed DPWs
- 500 copies of DCR Importance of BMP Maintenance brochure were distributed at the DPW Expo and copies were also mailed with entrance tickets to watershed DPWs
- 200 copies of DCR Stormwater Tips for the Business Community brochure and MS4 letter sent to Wachusett Area Chamber of Commerce for distribution to members
- 200 copies of DCR Household Stormwater Pollution Brochures made available at Tower Hill Botanic Garden
- 200 copies of DCR Dog waste and Surface waters brochure made available at Tower Hill Botanic Garden
- DCR dog waste brochure was e-mailed to all residents of the Lofts at Lancaster Mills (Clinton) by complex management and also posted in all common areas
- DCR partnered with NRWA on a MET Grant project to provide pharmaceutical drop boxes in all watershed police departments and also with public outreach on the dangers of improper disposal
- DCR provided all stormwater outreach materials at a table at the Massachusetts Envirothon competition in Leominster, attended by panelist of judges from local area.

Interaction with an additional 2500 students, teachers, and members of the public occurred at more than forty events and workshops across the watershed during the reporting period. Topics presented in Holden and Rutland included area history, wildlife, recreation, and how a watershed works. As part of all interactions, staff took the opportunity to remind people about protection of the environment and the water supply and provided specifics about stormwater issues and solutions.

Public Involvement and Participation (CM2)

The permittee shall provide opportunities for public participation in the review and implementation of the SWMP.

Opportunities for public involvement and participation in stormwater management decisions and activities have increased as a result of the efforts of the Central Massachusetts Regional Stormwater Coalition. Actions taken by the group are cooperative measures focused on more efficient and cost effective efforts to manage stormwater and should be very familiar to town officials.

DCR staff participated in the Wachusett Reservoir Dam Openings in late May 2014 and October 2014 by having a table with stormwater education materials. The event was attended by more than 3,000 people. 'We All Live Downstream' wristbands, stormwater brochures (Household Stormwater Pollution Prevention, Dog Waste, Non-Permitted Discharges to the Storm Drain System) and coloring sheets, activity sheets, and 'Dwayne, the Storm Drain' books for children were available at both of these events. EPA 'After the Storm' and 'Be a Solution to Stormwater Pollution' brochures were also distributed.

DCR staff participated in West Boylston Fall Festival (+400 attendees) where 'Dwayne, the Storm Drain' activity books and brochures on Pet Waste, Household Stormwater Pollution Prevention, Non-Permitted Discharges to the Storm Drain System were made available.

DCR staff participated in the annual Johnny Appleseed Festival (+4,000 attendees) by having a table with stormwater education materials. The event was attended by more than 3,000 people. 'We All Live Downstream' wristbands, stormwater brochures (Household Stormwater Pollution Prevention, Dog Waste, Non-Permitted Discharges to the Storm Drain System) and coloring sheets, activity sheets, and 'Dwayne, the Storm Drain' books for children were available at both of these events. EPA 'After the Storm' and 'Be a Solution to Stormwater Pollution' brochures were also distributed.

The DCR remains open to any and all proposals to work cooperatively with citizens in the watershed communities on activities that engage the public in efforts to control stormwater runoff and protect surface water quality.

Illicit Discharge Detection and Elimination (IDDE) Program (CM3)

The permittee shall implement a program to eliminate sources of non-stormwater from the storm sewer system and prevent illicit connections and discharges. The permittee must develop a storm sewer system map with locations of all outfalls and names of all waters that receive discharges. The permittee must effectively prohibit, through ordinance or other regulatory mechanism, non storm water discharges into the system and implement appropriate enforcement procedures.

The DCR and WBDPW have done extensive mapping of catch basins and stormwater drainage structures to meet this requirement.

DCR and WBDPW staff continue to improve and update maps by adding connectivity information and directional flow and will coordinate continued teamwork efforts.

DCR personnel continue to look for illicit discharges or other stormwater problems during routine stream investigations and will pass on any relevant information to the WBDPW. Likewise, WBDPW stays alert to abnormal discharges while conducting concerted stormwater investigations or any other O&M throughout the Town.

Construction Site Stormwater Runoff Control (CM4)

The permittee shall continue to enforce a program to reduce pollutants in stormwater runoff discharged to the MS4 from construction activities that result in a land disturbance of more than one acre. The program should include an ordinance that requires use of sediment and erosion control practices at construction sites.

Routine inspections of construction sites that disturb more than one acre are done by the DCR during dry and wet weather. In accordance with Town Bylaw, WBDPW or its designee inspects construction sites that disturb land of 10,000 SF or greater. Records of such inspections are with DPW, Planning Board or Zoning Board, in-line with the highest project approval. The following site inspections were completed by the DCR during the April 2014-March 2015 period. No significant problems were identified and all minor necessary remedial activities were completed promptly. Monthly summaries of inspections and any remediation efforts are on file at DCR offices in West Boylston and are available for review.

TOWN	# OF SITES	TOTAL # OF DRY INSPECTIONS	INSPECTIONS DURING STORM EVENT
West Boylston	7	27	5

Post Construction Stormwater Management – New Development/Redevelopment (CM5)

The permittee shall continue to implement and enforce a program to address post construction stormwater runoff from new development and redevelopment projects that disturb one or more acres and discharge into the municipal stormwater system. The objective of this control measure is for the hydrology resulting from new development to mirror or improve pre-development hydrology of the site and reduce discharge of stormwater. An ordinance or other regulatory mechanism to address post construction runoff from new development and redevelopment should be in place.

The DCR continues to monitor structural best management practices (BMPs) in the watershed and determine maintenance needs. DCR interviewed and hired an additional environmental analyst in 2014 to work specifically on stormwater issues and to interact

with watershed communities. In 2014, DCR staff inspected 499 stormwater structures at 65 sites within the watershed. Very few require maintenance beyond vegetation and/or sediment removal. Four detention basins in West Boylston were cleaned at DCR's request and re-inspected.

All agricultural sites are regularly monitored by DCR staff for stormwater related issues such as erosion and manure runoff. Most sites do not pose a risk to storm drain systems or surface waters. During the reporting period inspections were done at eighteen sites in Sterling, thirty eight sites in Holden, one site in West Boylston, seven sites in Boylston, six sites in Rutland, and two sites in Paxton. No problems were noted at the West Boylston site during the past twelve months.

Good House Keeping and Pollution Prevention for Permittee Owned Operations (CM6)
The permittee shall implement an operations and maintenance program for municipal operations that includes a training component and will prevent or reduce pollutant runoff and protect water quality.

The DCR continues to offer a Stormwater Pollution Prevention Training Program for DCR maintenance staff and municipal employees in watershed communities. Trained DCR Water Supply Protection labor and supervisory staff on BMPs and Good Housekeeping practices (Approximately 50 employees)

DCR staff continued to work with the West Boylston DPW director on cooperative efforts to manage stormwater, identify and maintain BMPs throughout town, and at the DPW yard, where a sediment collection system is monitored and maintained on a regular basis by the Town.

APPENDIX 2

Summary of Activities by the Central Massachusetts Regional Stormwater Coalition (CMRSWC)
Year 12: April 1, 2014 – March 31, 2015

In Year 12, the Town of West Boylston continued to be an active participant in the Central Massachusetts Regional Stormwater Coalition (the Coalition) in application of our Community Innovation Challenge (CIC) Grant. The Coalition's work in Year 12 was funded by an $80,000 fiscal year 2014 (FY2014) Community Innovation Challenge (CIC) grant from the Massachusetts Executive Office of Administration and Finance. This grant was supplemented by a contribution of approximately $4,000 from each of the 28 participating Towns, including West Boylston.

Overview of the Coalition
The FY2014 Coalition included 28 towns: Auburn, Boylston, Charlton, Dudley, Grafton, Hardwick, Holden, Hopkinton, Leicester, Millbury, Monson, Northbridge, Northborough, Oxford, Palmer, Paxton, Rutland, Shrewsbury, Southbridge, Spencer, Sturbridge, Upton, Uxbridge, Ware, Webster, West Boylston, Westborough, and Wilbraham.

The Coalition was officially formed in FY2012 with 13 members, expanding to 30 in FY2013. Its FY2014 work expanded efforts initiated in previous years to comply with requirements anticipated in the new Massachusetts MS4 Permit when it becomes final, which is expected sometime in 2016 or 2017. The Coalition's FY2014 efforts were facilitated by the consulting firms of Tata & Howard, Inc., and Verdant Water, supported by vendor PeopleGIS. However, the Coalition members themselves continue to be responsible for putting the tools developed by the Coalition to use.

The Coalition was honored as a recipient of the first Annual "Best Stormwater Idea in New England", also known as a STORMY Award (*see image below*). This honor was bestowed by the New England Stormwater Collaborative, a joint effort of the New England Water Environment Association (NEWEA), the New England Chapter of the American Public Works Association (APWA), and the New England Water Works Association (NEWWA). A representative from the Town of Uxbridge accepted this honor at a ceremony in Worcester, MA on April 1, 2015.

Figure 1: CMRSWC's "STORMY Award" for Collaborative Efforts in Stormwater Management

The Coalition's Partnerships in Central Massachusetts

The Coalition continues to be actively engaged with many water quality agencies and organizations and is committed to sharing the knowledge it has developed for the benefit of other communities. These efforts are discussed in following sections as they relate to the following organizations:

- Massachusetts Department of Environmental Protection (MassDEP)
- United States Environmental Protection Agency (USEPA)
- Other Massachusetts Stormwater Coalitions
- New England Water Environment Association (NEWEA)
- Massachusetts Municipal Association (MMA)

Additional organizations and entities are mentioned elsewhere throughout this Annual Report, reflecting the wide network of knowledge and experience that the Coalition has tapped into.

Massachusetts Department of Environmental Protection (MassDEP)

The Coalition continued its partnership with the MassDEP in FY2014, formally including budget in its FY2014 CIC Grant Application to support and assist in development of the stormwater-focused Interactive Qualifying Project (IQP) with four students at the Worcester Polytechnic Institute (WPI). Kickoff for this partnership began in September 2014 with a meeting at MassDEP's office in Worcester, MA. The IQP completed in fall 2014 was the fourth such project the Coalition has done in conjunction with MassDEP and WPI.

This IQP included activities that will benefit all Coalition towns, especially Holden, Millbury, and Southbridge, all of which volunteered for an intensive evaluation. Representatives from these three towns worked with the WPI students to compile a detailed summary of the full cost of their stormwater programs. The cost evaluation was developed in conjunction with the Coalition's consultants, and included not just line items budgeted by public works (or highway) departments, but also staff labor, operations and maintenance tasks, waste disposal fees, reprographics and media, legal counsel, site plan reviews, construction and post-construction inspections, and other tasks. Some of these activities are core components of a town's stormwater program, but may be managed or budgeted by planning departments, conservation commissions, boards of health, code enforcement, or other entities and therefore not generally included in assessments.

The comprehensive report prepared by the WPI IQP students was presented to their university sponsors in December 2014 and can be downloaded at: www.centralmastormwater.org/pages/ CRSC documents/Attachment B WPI Cost Analysis of the 2014 MA MS4 DraftPer.pdf. The findings of this report were also presented by the students to the 495/MetroWest Partnership in spring 2015. The framework used by the WPI students for the cost evaluation features into the ongoing stormwater program cost task discussed under *Coalition Activities in Year 13* (located at the end of this narrative.)

In addition to the stormwater program cost component, the Fall 2014 WPI students performed water quality monitoring in Coalition Communities.

Earlier in Year 12, a different team of WPI IQP students did inspection and mapping work in several Coalition towns, including Upton, MA, shown below, under the supervision of the Towns and consultants. Data from these activities was entered directly into the online mapping and inspection system.

Figure 2: The Coalition's Spring 2014 WPI IQP Student Team Inspecting and Mapping Stormwater Infrastructure in Upton, MA

The Coalition appreciates the ongoing dedication of MassDEP to work with our members so closely and collaboratively.

United States Environmental Protection Agency

The Coalition continued collaboration with technical assistance staff in USEPA Region 1, with the goal of benefiting from knowledge and experience of the agency's staff and from its network.

Many members of the Coalition attended the USEPA's October 2014 workshops on the 2014 Draft Massachusetts MS4 Permit, and several attended the formal public hearing on this draft permit on November 19, 2014 at the Leominster Public Library. At this public hearing, Coalition members spoke about the need for the final Permit to focus on provisions that maintain (and improve) water quality, not those that cause administrative burden without demonstrated benefits. Our comments at this hearing also requested USEPA's assistance in educating community leaders, such as selectmen and Town Administrators, about the increased need for multiple town departments and staff members to work together to comply with expanded provisions, such as illicit discharge detection and elimination (IDDE) and good housekeeping. The Coalition submitted formal comments on the 2014 Draft Massachusetts MS4 Permit, which can be found at http://www.centralmastormwater.org/pages /CRSC_documents/MS4PermitComments.

The Coalition reached out to USEPA's Newton Tedder to suggest ways to present the drivers of expanded stormwater management to town leaders and decision makers at the "*Roofs, Roads, Runoffs and Regulations: New Standards for Treating Stormwater and Drinking Water*" session of the Massachusetts Municipal Association's Annual Conference in

Boston on January 23, 2015. The approach resulted in an effective update to these leaders (who may be concerned about the scope and financial impacts of the proposed permit)- one that empowered them to serve as stormwater outreach resources in their own communities.

The Coalition continued to communicate with USEPA Region 1's Kyra Jacobs and Gina Snyder during Year 12. Ms. Jacobs is a connection to agency staff who work to protect water resources, and has been a positive advocate of the importance of stormwater management in accomplishing this goal. We will continue to engage with Ms. Jacobs as competitive grants for regional MS4 compliance work may become available from the agency in the near future. Ms. Snyder has served as an ongoing resource for the Coalition and its consultants about agency resources, most recently the approval of easy-to-use field kits for ammonia, which we purchased and distributed in Year 12. We appreciate the support of these agency staff.

Other Massachusetts Stormwater Coalitions

The Coalition continues to coordinate with "sister" groups with a similar stormwater focus that are also funded at least in part by CIC Grants. These include:

- The Merrimack Valley Stormwater Collaborative (coordinated by the Merrimack Valley Regional Planning Commission);
- The Neponset Valley Regional Stormwater Collaborative (coordinated by the Metropolitan Area Planning Council); and
- The Northern Middlesex Stormwater Collaborative (coordinated by the Northern Middlesex Council of Governments)

Administrators from each of these groups are invited to attend Coalition Steering Committee meetings. Further, the Coalition coordinated with each of these "sister" coalitions during preparation of its comments on the 2014 Draft Massachusetts Small Municipal Separate Storm Sewer (MS4) Permit to ensure consistency in suggestions and revisions submitted to the US EPA.

Members of the Coalition were invited to attend training sessions the Merrimack Valley Stormwater Coalition hosted in March and April 2015. We shared digital versions of the Coalition's stormwater inspection forms with both the Neponset Valley Regional Stormwater Collaborative and the Northern Middlesex Stormwater Collaborative, and the latter has also benefitted from the structure of the online mapping and inspection system we developed and implemented in Years 10 and 11.

New England Water Environment Association (NEWEA)

The Coalition was pleased to receive a $2,000 competitive grant from the NEWEA Humanitarian Assistance & Grants Committee in September 2014. This grant was used to purchase a second Nonpoint Source hands-on educational EnviroScape model (www.enviroscapes.com/nonpoint-source.html) for use by Coalition members (the first was purchased in Year 10 with funds from the first CIC Grant).

The photo below was taken at the Coalition's October 7, 2014 training workshop for CMRSWC communities, and shows Todd Girard (Conservation Agent in Charlton, MA) demonstrating to other members how the EnviroScape table can be used as an education tool for kids of all ages, as well as adults. This train-the-trainer format increases confidence of our members to do outreach on the topic of stormwater pollution prevention in their own communities.

Figure 3: CMRSWC Members Learn How to Demonstrate Stormwater Pollution Prevention Using the Coalition's Nonpoint Source EnviroScape model

With the purchase of this second model, the CMRSWC can make this popular resource more readily available across the substantial geographic spread of our 28 municipal members. The presence of second unit also allows towns to easily demonstrate the impacts of stormwater pollution and ways to prevent it, showing the resulting differences in water quality when Best Management Practices (BMPs) are installed on one unit, but not on the other unit. One model is stored in Charlton, MA, and the other stored in Shrewsbury, MA to facilitate any member town having easy access to the tool.

The NEWEA grant award exceeded the Coalition's application, so remaining funds will be used to replenish the consumable materials used in the demonstration, including food coloring, baking soda, clay, and sponges.

Massachusetts Municipal Association (MMA)

Members of the Coalition have been active in the MMA for years, including Robin Craver, Town Administrator for Charlton, MA and an active Coalition leader, who serves on MMA's Policy Committee on Energy and the Environment. This Committee formulates policy related to stormwater, water quality, water supply, wetlands, coastal areas, and other related environmental issues and represents a way for the Coalition to learn from (and share) ideas around the Commonwealth.

In Year 12, the Coalition participated on the "*Underwater: Financing New Regulations"* session at MMA's Annual Conference in Boston on January 24, 2015, discussing how regionalization can be appropriate for stormwater management.

Finally, the Coalition coordinated with MMA during preparation of its comments on the 2014 Draft Massachusetts Small Municipal Separate Storm Sewer (MS4) Permit to ensure consistency in suggestions and revisions submitted to the US EPA.

Tasks Included in this Annual Report

In the following sections, descriptions of the technical tasks and resources made possible by the CIC grant funding have been separated into sections that mirror the six Minimum Control Measures (MCM's) in the 2003 Massachusetts Small MS4 Permit.

One of the more innovative tools developed by the Coalition- one that spans across multiple MCM's- is the integrated online mapping and inspection database, hosted by PeopleGIS. The database is cloud-based, and can be accessed by all 28 member communities through a desktop or tablet computer. Below is a screen shot of the platform showing the extent of the 28 Coalition communities.

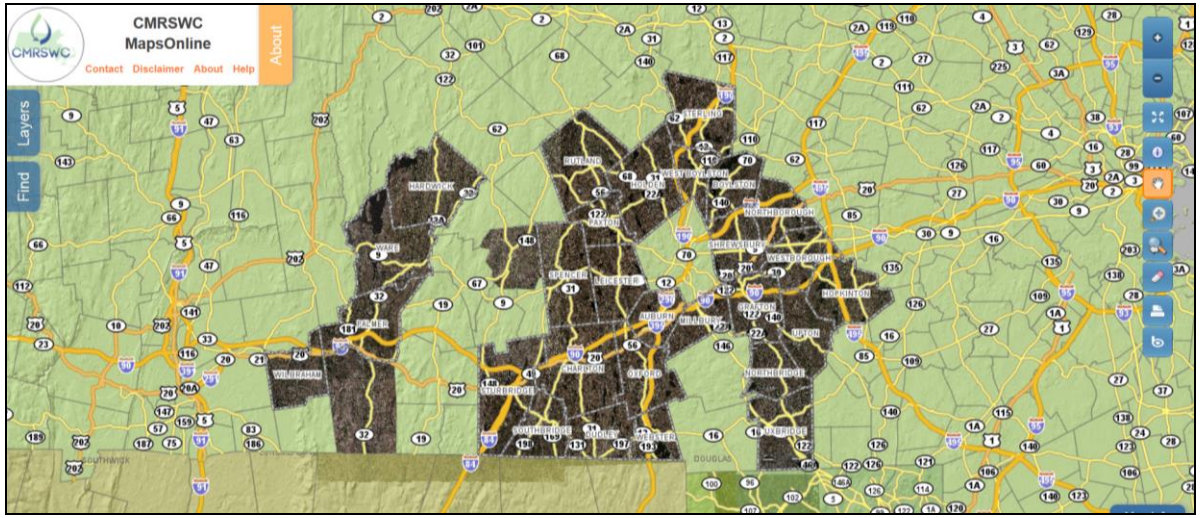

Figure 4: CMRSWC's Online Mapping and Inspection Platform

We were pleased to see the increased use in Year 12 by Coalition members of this resource, both in terms of inspections of existing infrastructure (such as outfalls) and mapping additional infrastructure, such as catch basins and pipe (a linear feature added in Year 11). Newer Coalition communities (those that joined in FY2013) continue to upload GIS shapefiles to the platform, managing their stormwater system infrastructure information in one location.

An investment in Year 12 intended to increase use of the online mapping and inspection platform was the purchase of new Samsung tablet devices for each community that are faster, allowing data to load more quickly than the ASUS tablets purchased in FY2012. We believe that the mapping and inspection tool will be used increasingly as town staff members become comfortable with the platform, realize how easy it is to use, and see how it facilitates compliance and documentation.

As noted in last year's report, this platform does not fit into just one of the MCM's. It aids communities with public education and outreach (MCM 1), as surveying is a highly-visible activity that will generate questions, and is an engaging demonstration to school groups. The integrated mapping and inspection database documents evidence of potential illicit discharges or the absence thereof (MCM 3), aids construction site stormwater control (MCM 4) by allowing for evaluation of how much sediment is contained in a sump, and makes good housekeeping (MCM 6) easier by collecting data on how often catch basins are cleaned. Other tasks and tools of the project connect to the integrated mapping and inspection database, which was designed to serve the needs of the Coalition communities well beyond the 2003 Massachusetts Small MS4 Permit. Each of the online forms is fluid- they will continue to be revised, as needed, to meet the goals of the Coalition members and future Massachusetts MS4 Permit requirements.

Minimum Control Measure 1: Public Education and Outreach

Year 12 activities included routine meetings of the Coalition's Steering Committee, a day-long refresher training workshop (and FY2014 Kickoff Meeting) on October 7, 2014, and a workshop on November 12, 2014 to educate members about the 2014 Draft Massachusetts Small Municipal Separate Storm Sewer (MS4) Permit and identify concerns. West Boylston participated in the 10/7/2014 training workshops, reviewed deliverables, and served other key roles as described in this Annual Report.

An exciting tool for public education that was rolled out in Year 12 is the Coalition's Twitter account, @MAStormH2O. As of the date of this report, the Coalition's account has 67 followers, including other stormwater coalitions around the country. Information tweeted (or retweeted) by the Coalition in Year 12 addressed such water quality topics and issues as:

- Sustainable infrastructure resources
- APWA's Public Works Week outreach activities

- Pet waste management
- Available webinars and training events
- Erosion control practices
- Green infrastructure
- Appropriate fertilizer application
- Environmentally-friendly best management practices for snow and ice control
- Drought and innovative water recycling/reclamation efforts
- Proposed changes to definition of Waters of the US
- USEPA's "WaterSense" program
- The role of public education in developing successful stormwater funding programs.

Many of our member communities and regional agencies follow @MAStormH2O and retweet our information, greatly expanding the audience reached by the message. We anticipate using this tool in the future to quantify the size of the audience reached by each message, and evaluating the success of the message.

In Year 12, the Coalition expanded its efforts to educate the public and other communities about its work. This includes the following presentations and events, listed in chronological order:

- On May 16, 2014, Robert McNeil from Millbury, MA and a consultant presented on the Coalition's work at the 5th Annual Water Resources Strategies Symposium, hosted by the Massachusetts Coalition for Water Resources Stewardship in Marlborough, MA, with a presentation entitled "*30 Towns Collaborating for Cost Savings, Efficiency in MS4 Compliance and Water Quality*".
- On August 7, 2014, the Coalition's outreach to other stormwater coalitions was demonstrated in a presentation entitled "*CMRSWC: Resources to Get the Most out of Your CIC Grant Funding*", given at the Community Innovation Challenge (CIC) Stormwater Symposium. We were invited by the Massachusetts Executive Office of Administration and Finance to present at this event, which it hosted in Worcester, MA.
- On September 19, 2014, John Woodsmall from Holden, MA gave a presentation called "*MA MS4 Permits: A Municipal Perspective – Implementing Stormwater Programs*" at the Environmental Business Council's Water Resource Management Program.
- On September 22, 2014, representatives from the Coalition (including Hopkinton, Shrewsbury, and a consultant) attended the Local Government Advisory Committee's "Protecting America's Waters" Workgroup, held in Worcester, MA, and commented on the record about the importance of encouraging appropriate long-term maintenance of stormwater Best

Management Practices. The Coalition submitted formal comments to the USEPA on its Proposed Rule to clarify the definition of Waters of the United States (WOTUS) in the Clean Water Act.

- On January 24, 2015, the Coalition participated on a panel session entitled "*Underwater: Financing New Regulations"* at MMA's Annual Meeting in Boston. This session focused on new and established financing tools to ensure compliance with these requirements through means such as property surcharges, stormwater utilities, low-interest loans, principal forgiveness and regional stormwater opportunities.
- On January 26, 2015, the Coalition presented its work in a session entitled *"MS4 Compliance: Common Threads (and opportunities) in New England Permits*" at NEWEA's Annual Meeting in Boston, MA. This session, which was well-attended, highlighted the tools developed by the Coalition (and other groups) that can used to provide cost-effective solutions to regional stormwater management challenges.

Several Coalition members have chosen to use some of their "one-on-one" time (currently underway; see *Coalition Activities in Year 13* at the end of this narrative) to expand their efforts on this MCM. Updates will be provided in future Annual Reports.

In Year 12, West Boylston received water quality monitoring kits from the World Water Monitoring Challenge program (www.worldwatermonitoringday.org), purchased by the Coalition in Year 10, but were unable to utilize due to staffing shortage. Water quality monitoring to a larger degree, however, was conducted by the DCR through ongoing efforts to assist the Town and protect the Wachusett Reservoir. The Town strives to utilize the water quality kits as mentioned to help "build public awareness and involvement in protecting water resources around the world by engaging citizens to conduct basic monitoring of their local water bodies". Several communities used this in Year 12 to work with teachers in their local school department or district to do outreach to elementary and middle-school aged students. The kits continue to be stored in Spencer and Shrewsbury for distribution to the Coalition members.

The Coalition continued to expand its educational website, www.CentralMAStormwater.org, focused on providing information about the project to a number of audiences, including the general public, educators, and kids.

Minimum Control Measure 2: Public Involvement and Participation

West Boylston continued to utilize several presentations and maintain website information on stormwater management, with content focused on educating elected officials and municipal department heads about the requirements of the 2003 Small MS4 Program, changes likely in the anticipated 2014 Massachusetts MS4 Permit, and the financial impact these potential changes may have on Massachusetts communities.

Minimum Control Measure 3: Illicit Discharge Detection and Elimination

The Coalition provided training at a workshop on October 7, 2014 on SOP 10, "Locating Illicit Discharges", intended to define the types of illicit discharges that may be observed in the Coalition communities and provide guidance on tools that can be used to identify each. At this same workshop, training was provided on the Coalition's Illicit Discharge Detection and Elimination (IDDE) Documentation Packet, which specifies how illicit discharges are detected and what department or person is responsible for eliminating them. Identifying and removing illicit discharges, and ensuring that they are not reconnected, remains a substantial challenge to many MS4 communities. The October 2014 training workshop included a comprehensive review of many types of illicit discharges, and an interactive discussion with attendees about how several examples would presently be managed in their own community. Many Coalition communities began this inter-community discussion in Year 12, with others planning it for Year 13.

On May 23, 2014, the Town of Millbury hosted a demonstration by Environmental Canine Services (www.ecsk9s.com*)* and invited Coalition members, MassDEP, and other communities to observe. ECS uses two highly-trained dogs (see photos below) to detect the presence of human sewage (both fecal bacteria and metabolic byproducts) very low levels in water at outfalls and catch basins, without interference from non-human sources of bacteria. This interesting approach represents an accurate, quick, and cost-effective screening tool for locating illicit discharges. Water quality samples were collected to evaluate the observations noted by the dogs. Inspections were documented in the Coalition's online mapping and inspection system, with forms that have been updated to allow our communities to use this innovative approach to IDDE.

Figure 5: Environmental Canine Services, LLC,
Performing a Demonstration of Innovative IDDE Approaches in Millbury, MA

Several Coalition members have chosen to use some of their "one-on-one" time (currently underway; see *Coalition Activities in Year 13* at the end of this narrative) to expand their efforts on this MCM. Updates will be provided in future Annual Reports.

In Year 12, West Boylston continued to utilize the two Leica surveying devices (purchased by the Coalition in Year 10) that can be used to map new structures with very high accuracy, using connection to a military-grade Real Time Kinematic (RTK) satellite network. In Year 12, West Boylston received a new tablet device. The Leica and tablets can be used to directly access the online mapping and inspection system: the Leica is the most valuable for mapping outfalls, catch basins, pipe, drain manholes, BMPs, and other components of the MS4, while the tablet computers will be most valuable for ongoing inspection of the structures. These two activities serve as the foundation of IDDE. The Leica units rotate between the 28 Coalition communities on a schedule, with formal handoff between Towns documented.

In Year 12, the Coalition purchased new ammonia field kits (CHEMetrics K-1510 kits) and provided two kits to each member community. These were approved by USEPA in Year 11 for stormwater outfall monitoring and are easier to use than ammonia monitoring tools purchased in Year 10. In Year 11, the Coalition began the process of rotating two full sets of water quality kits and meters around the 28 Coalition communities, including West Boylston, on a schedule that follows the use of two Leica devices; this rotating schedule continued in Year 12. The objective of this approach was that inspection and mapping activities completed with the Leica may result in a list of outfalls or structures for which screening-level monitoring should be completed. The Coalition provided refresher training on the water quality kits at the workshop on October 7, 2014. Again the Town of West Boylston strained to utilize these kits due to staffing shortage, but strives to utilize in Year 13. The Towns of Millbury and Oxford are hosting the two sets of water quality kits and meters, and have taken responsibility of replacing reagent packets as they become depleted.

In Year 12, the Coalition finalized a review of industrial facilities located in each member community, including facilities that applied for coverage under the USEPA's Multi-Sector General Permit (MSGP) program, and the compliance status of each. The objective of this activity was to connect data from the two permit programs, consistent with the anticipated 2014 Massachusetts MS4 Permit.

Minimum Control Measure 4: Construction Site Stormwater Runoff Control

Construction activities- including erosion control, stormwater pollution prevention, and appropriate management of waste materials- are covered in the Stormwater Best Management Practices (BMP) Toolbox, development of which began in Year 10 and which was finalized in Year 11. The Stormwater BMP Toolbox was written to inform the general public about the importance of managing private construction projects responsibly. The Coalition provided training on this topic at a workshop on October 7, 2014.

Several Coalition members have chosen to use some of their "one-on-one" time (currently underway; see *Coalition Activities in Year 13* at the end of this narrative) to expand their efforts on this MCM. Updates will be provided in future Annual Reports.

Minimum Control Measure 5: Post-Construction Stormwater Management in New Development and Redevelopment

In Year 12, West Boylston continued to use the Stormwater Best Management Practices (BMP) Toolbox, developed as a Draft in

Year 10 and finalized in Year 11. This tool compiles the stormwater post-development tools currently permitted and encouraged for small development or redevelopment, specifically single-family homes and limited commercial renovations that have a small development footprint. The Stormwater BMP Toolbox provides technical data, design factors, and construction limitations with these BMPs in non-technical language.

The objective was to provide the average property owner with easy-to-understand information that encourages them to select low-impact stormwater management tools for their properties, construct them safely, and maintain them for long-term benefit. The BMPs in the Toolbox are consistent with the requirements of the current Small MS4 Permit, the Massachusetts Stormwater Handbook, and other current guidance documents. The Coalition provided training on this topic at a workshop on October 7, 2014.

Several Coalition members have chosen to use some of their "one-on-one" time (currently underway; see *Coalition Activities in Year 13* at the end of this narrative) to expand their efforts on this MCM. Updates will be provided in future Annual Reports.

Minimum Control Measure 6: Pollution Prevention and Good Housekeeping in Municipal Operations

West Boylston continued to utilize the Stormwater Pollution Prevention Plan (SWPPP) template in the form of a word processing document. With continued use in Year 12, this document was developed in Year 10 and addresses elements common to all SWPPPs, including storage of materials, site inspection practices, water sampling, training, spill prevention and cleanup, Standard Operating Procedures for a number of activities, and other sections. The Coalition provided training on the SWPPP Template at a workshop on October 7, 2014. The SWPPP template covers many types of municipal properties. This includes highway department garages and public works yards- where salt is stored and vehicle maintenance or storage is completed- as well as parks, golf courses, and cemeteries, where fertilizers and pesticides may be applied and lawn mowing activities may result in small spills. The SWPPP template includes built-in instructions to make it as simple as possible for each community to develop a SWPPP for a property, simply by deleting text that doesn't apply.

The Town also continued to utilize the 15 Standard Operating Procedures (SOP's) developed by the Coalition in Year 10, and intended to provide guidance on activities required or encouraged by the 2003 Massachusetts Small MS4 Permit. The Coalition provided training on these SOP's at a workshop on October 7, 2014. These SOPs addressed such diverse activities or needs as outfall inspection (both dry weather and wet weather), catch basin cleaning, erosion and sedimentation control, oil/water separator maintenance, use and storage of pesticides and fertilizers, and many more. The group developed standard forms and methodologies for these procedures, many of which were incorporated into the Integrated Online Mapping and Inspection System, described in following paragraphs.

In Year 12, West Boylston continued to utilize a Sump Pump Discharge Policy developed in Year 10 that provides a framework for

the member communities to respond to needs to remove sump pumps from the sanitary sewer system without causing property damage or creating a hazardous condition for the public. The Coalition provided training on the Sump Pump Discharge Policy at a workshop on October 7, 2014. The Policy discusses considerations related to potential contamination and reduction in capacity of the storm drain system when sump pumps are permitted to connect to the drainage system, and lays out a situational approach to provide flexibility in administrating a policy. The Policy includes guidance for when such a connection should be considered, what information the municipality can request from a residential or commercial property to guide in its decision, and outlines the responsibilities of the property owner.

In the recent-past winter (2014-15), West Boylston continued to utilize an EPA Designed for Environment (DFE)-designated Mg-treated salt (Product Name: Ice-B-Gone) for winter road deicing, and also the Salt/Sand Benchmarking tool developed in Year 10 to guide member communities in calibrating deicing equipment. The Benchmarking tool calculates the present loading rate of chloride (per lane-mile) presently applied by its salt trucks and other municipal vehicles, regardless of the compound (e.g.: sodium chloride, green salt, calcium chloride) or form (e.g., solid or liquid, mixed with sand), and in evaluating alternative application methods and materials to current practices.

Several Coalition members have chosen to use some of their "one-on-one" time (currently underway; see *Coalition Activities in Year 13* at the end of this narrative) to expand their efforts on this MCM. Updates will be provided in future Annual Reports.

Coalition Activities and Outlook for Year 13 (April 1, 2015 – March 31, 2016)

The following are some, but not all, of the work presently underway by the Coalition in Year 13:

- *Administration*. The long-term goal of the Coalition when it formed in FY2012 was to become self-sustaining. The Coalition's Steering Committee has reached out to similar organizations around the country, and is presently evaluating three funding mechanisms. The Coalition's leadership is committed to keeping the momentum developed in recent years, and sharing the resources for the improvement of water quality in New England. The Coalition plans to finalize its long-term plans in June 2015.

- *Funding*. The Coalition maintains a strong network of partners, and will continue to evaluate funding sources that become available, including competitive USEPA grants dedicated to MS4 communities as well as 319 and 604(b) grants appropriate for community-wide water quality projects.

- *One-on-One Consulting Time*. As noted previously, each of the 28 Coalition communities has been allocated one-on-one time with the group's consultants. Each town has chosen the MCM or tasks that benefit it most strongly. This may include

refresher training on water quality kits and meters, development of public outreach materials, review of stormwater enforcement tools, updates to IDDE Programs, or other related services. This focused effort lets each town optimize its investment in the Coalition.

- *Understanding Stormwater Program Costs*. In Year 13, the Coalition is expanding on the WPI IQP program to quantify the actual (albeit rough) cost of all 28 participants' existing stormwater programs. The current costs will be scaled up to match the anticipated provisions of the future Massachusetts MS4 Permit and will serve as the foundation for ongoing discussions about how each community will fund future stormwater programs. This is the first time many of these towns will have performed a community-wide review of these costs, which tend to be managed within many departments. We will follow this with a focused workshop on mechanisms to develop sustainable stormwater program funding mechanisms.

- *Public Outreach and Education*. Coalition members will present at the 6th Annual Water Resources Strategies Symposium on May 12, 2015, hosted by the Massachusetts Coalition for Water Resources Stewardship, sharing information on stormwater program costs and ways to create regional efficiencies. The Coalition is purchasing copies of the "Water Blues, Green Solutions" documentary (http://waterblues.org/about) for each member town, on DVD. We are also considering re-allocating funding to the development of Coalition-specific outreach materials. Finally, the Coalition plans to increase its use of Twitter as an measurable outreach tool.

- *IDDE*. The Coalition is developing competitive pricing for its members that wish to use Environmental Canine Services to perform IDDE evaluations. The catchment delineation tool initially developed during the WPI IQP Fall 2013 project will be revised, modified, finalized, and distributed for use by Coalition towns. The Request for Proposals (RFP) developed in Year 10 (for a third-party firm to perform many of the field or inspection services defined in the 15 SOP's, including outfall inspection (dry weather and/or wet weather), water quality monitoring, catch basin inspection, and other related tasks) will be re-evaluated in Year 13 if a final Massachusetts MS4 Permit is issued.

- *Good Housekeeping*. The Coalition is coordinating an on-site demonstration of calibrating deicing equipment at a member community's highway facility. This active demonstration will provide a real-life example of the benchmarking process developed in Year 10 and encourage members to calibrate their own equipment, with a goal of reducing pounds of chloride per lane mile. The Coalition is in the initial phases of considering approaching MassDEP and USEPA with a proposal to develop a pilot project for beneficial reuse of catch basin cleaning materials, and/or developing such a pilot project through a grant.