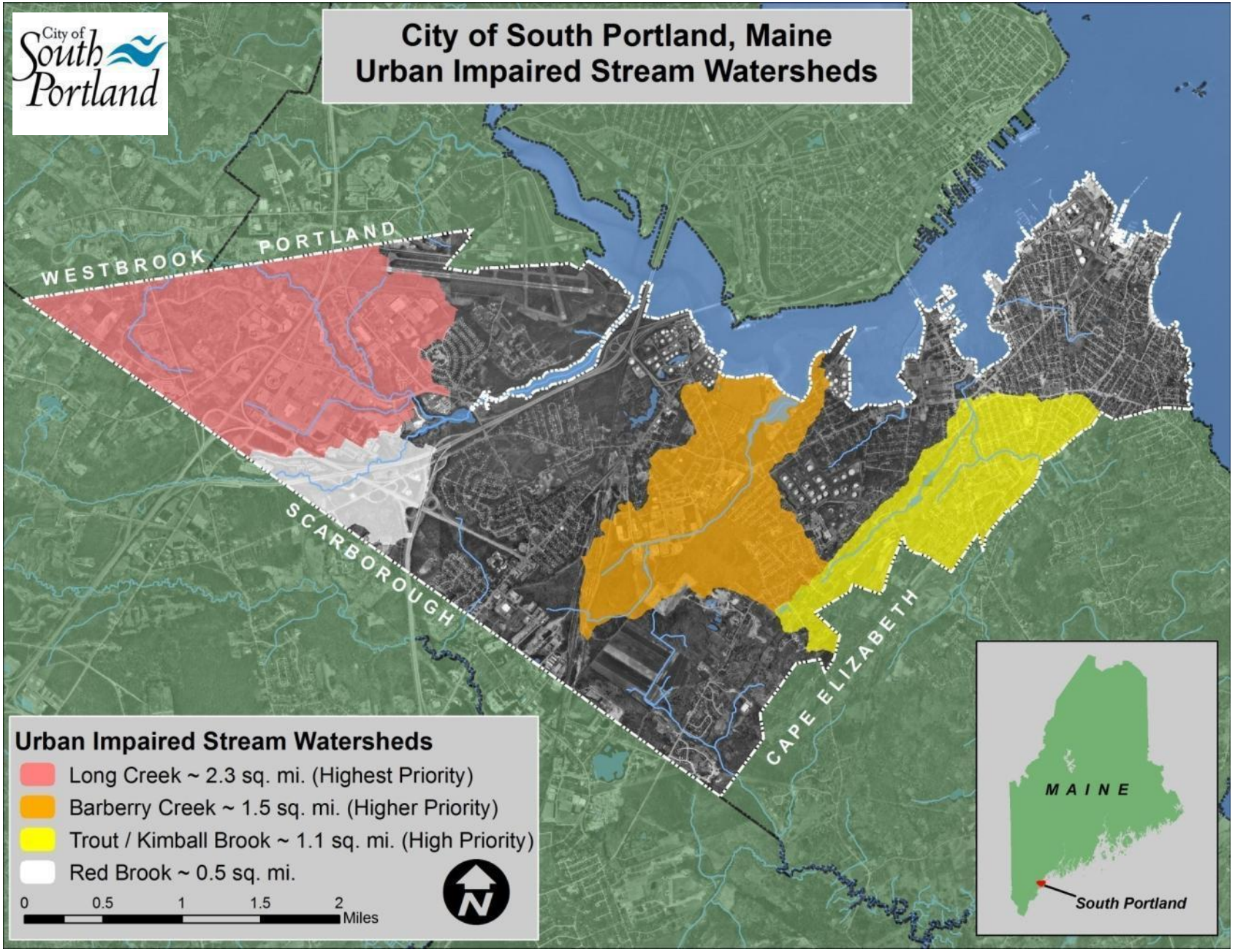
Stormwater Phase II
Annual Report for
Permit Year 3 (2010-11)

City of South Portland

Water Resource Protection Department


City of South Portland
City of South Portland, Maine
Urban Impaired Stream Watersheds
WESTBROOK
PORTLAND
SCARBOROUGH
CAPE ELIZABETH
Urban Impaired Stream Watersheds
Long Creek ~ 2.3 sq. mi. (Highest Priority)
Barberry Creek ~ 1.5 sq. mi. (Higher Priority)
Trout / Kimball Brook ~ 1.1 sq. mi. (High Priority)
Red Brook ~ 0.5 sq. mi.
0
0.5
1
1.5
2
Miles
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South Portland

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ACKNOWLEDGEMENTS

This report was prepared collaboratively by the City of South Portland Water Resource Protection Department's (WRP) staff consisting of the following individuals:

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- **Matt Keene** ~ *GIS Intern*
- **Pam McCarthy** ~ *WRP Office Manager*
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- **Fred Dillon** ~ *Stormwater Program Coordinator*

WRP staff would also like to thank the following individuals for their assistance in developing this report:

- **Tex Haeuser, Pat Doucette, Steve Puleo, & Dave Kasik** ~ *S. Portland Planning & Development Department*
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- **Tamara Lee Pinard, Jami Fitch & Sarah Plummer** ~ *Cumberland County Soil and Water Conservation District*
- **Tom Burns** ~ *GIS Mapping & Analysis*
- **Karen Wilson & students** ~ *University of Southern Maine's Environmental Science & Policy Department*

Introduction and Report Summary

In accordance with Maine's Small Municipal Separate Storm Sewer Systems (MS4) program, the City of South Portland continued its commitment to protect and improve local water resources. City staff and program partners from the Interlocal Stormwater Working Group (ISWG), the Friends of Casco Bay (FOCB), the Casco Bay Estuary Partnership, the South Portland Land Trust (SPLT) and the South Portland Conservation Commission (SPCC) - among others - all participated in a wide variety of activities to mitigate the effects of stormwater pollution. This annual report documents these activities for the third Permit Year in the second five year General Permit Cycle (2008-2013).

A brief summary of the six required Minimum Control Measures (MCMs) along with the corresponding Best Management Practices (BMPs) is provided below. BMPs for all Minimum Control Measures were completed successfully as required. The full report that follows includes a description of the actions completed for the measurable goals of each BMP along with permit compliance status, an assessment of the appropriateness of identified BMPs, the progress in achieving identified measurable goals for each of the MCMs, and the progress in achieving the goal of reducing the discharge of pollutants to the maximum extent practicable. Also included are the results of information collected and analyzed during the reporting period, a summary of stormwater activities the City will complete in the 2011-2012 reporting cycle, and an estimate of annual expenditures for permit compliance for the reporting period and projected budget for the following year.

Minimum Control Measure 1 – Public Education and Outreach

- ☑ BMP 1.1 - Continue Awareness and Outreach Efforts from Previous Permit Cycle
- ☑ BMP 1.2 - Work with Existing Partners and Seek Out Partners to Help Raise Awareness of Stormwater Issues
- ☑ BMP 1.3 - Develop and Implement Stormwater Awareness Plan
- ☑ BMP 1.4 - Continue Targeted Best Management Practices Adoption Efforts from Previous MS4 Permit Cycle
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- ☑ BMP 2.1 - Public Notice Requirement
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- ☑ BMP 3.2 - Non-Stormwater Discharge Ordinance
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- ☑ BMP 3.4 - Open Ditch Illicit Discharge Program Within the Highest Priority Watershed
- ☑ BMP 3.5 - Household Hazardous Waste Collection
- ☑ BMP 3.6 - Support the Friends of Casco Bay Mobile Vessel Pumpout Service
- ☑ BMP 3.7 - Public Complaint Hotline
- ☑ BMP 3.8 - Storm Drain Stenciling

Minimum Control Measure 4 – Construction Site Stormwater Runoff Control

- ☑ BMP 4.1 - Notification to Construction Site Developers and Operators of Registration Requirements under Maine Construction General Permit or Chapter 500 – Management for the Discharge of Stormwater Associated with Construction Activities
- ☑ BMP 4.2 - Develop and Implement a Mechanism to Annually Document Every Construction Activity that Disturbs One or More Acres Within the Urbanized Area
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- ☑ BMP 4.4 Promote Certified Contractors in Erosion Control Practices

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

- ☑ BMP 5.1 - Implement Ordinance or Similar Measure
- ☑ BMP 5.2 - Develop and Implement a Method to Track Post-Construction BMPs that are Installed Within the Urbanized Area, and Develop and Implement a System to Track Annual Certifications that are Required by the Owner or Operator of the Post-Construction BMPs

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- ☑ BMP 6.1 - Operations at Municipally Owned Grounds and Facilities
- ☒ BMP 6.2 - Municipal Employee Training
- ☑ BMP 6.3 - Street Sweeping
- ☑ BMP 6.4 - Cleaning of Stormwater Structures Including Catch Basins
- ☑ BMP 6.5 - Maintenance and Upgrading of Stormwater Conveyances and Outfalls
- ☑ BMP 6.6 - Stormwater Pollution Prevention Plans (SWPPPs)

City of South Portland Storm Water Phase II

Permit Year 3 Annual Report for Permit Cycle 2

(July 1, 2010 – June 30, 2011)

Minimum Control Measure 1 – Public Education and Outreach

The City of South Portland fulfilled its requirements for Public Education and Outreach Minimum Control Measure through collaboration with the Interlocal Stormwater Working Group (ISWG) and the continued funding to the ISWG for Public Education and Outreach services. The City also continued its ongoing partnership with the Friends of Casco Bay and collaborated with the University of Southern Maine to increase public awareness about stormwater management concerns. WRP staff provided numerous presentations on the City's water resource protection efforts to local schools, at professional conferences and workshops, and submitted several articles for publication in the City's biweekly electronic newsletter. Finally, the WRP Department completely redesigned its website to provide a much more intuitive and informative experience for internet users.

The overall goals for this Minimum Control Measure are:

1. To raise awareness that stormwater pollution is the most significant source of water quality problems for Maine's waters;

2. To motivate people to use BMPs that reduce stormwater pollution; and

3. To reduce stormwater pollution as a result of increased awareness and utilization of BMPs.

BMP 1.1 Continue Awareness Outreach Efforts from Previous Permit Cycle

Responsible Party: Stormwater Program Coordinator *Additional Party: ISWG Education Coordinator*

FUNCTION

To promote and increase awareness about the issues associated with stormwater pollution, which is the most significant source of water quality problems in the state.

METHODOLOGY

The City continued its collaboration with the Interlocal Stormwater Working Group (ISWG) to increase public awareness of stormwater management issues. Through these collaborations we assisted with the dissemination of education and outreach materials.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measureable Goal 1.1.1*** – continue education and outreach efforts from previous permit year by

providing Think Blue Maine and YardScape links on City's website.

- ***Measureable Goal 1.1.2*** – continue outreach efforts from previous permit year through ongoing partnership with ISWG, which continued to use Think Blue Maine ducky logos on all YardScaping materials to reinforce connection between lawn care activities and stormwater issues.
- ***Measureable Goal 1.1.3*** – continue outreach efforts from previous permit year through ongoing partnership with ISWG by posting informational materials in municipal buildings to raise awareness of stormwater management issues.

ACTIONS COMPLETED DURING PERMIT YEAR 3

The City continued to provide the Think Blue Maine and YardScape links on its website and educational materials in municipal buildings (including schools) to help promote public awareness of local and regional stormwater management issues. The City also continued its collaboration with the ISWG in a variety of awareness outreach efforts as described in their Permit Year 3 Summary of Minimum Control Measure 1 (**Appendix 1**). Therefore, all goals associated with this BMP were completed successfully as required.

BMP 1.2 Work with Existing Partners and Seek Out New Partners to Help Raise Awareness of Stormwater Issues

Responsible Party: ISWG Ed. Coordinator *Additional Party: Stormwater Program Coordinator*

FUNCTION

To increase impact and effectiveness of public education and outreach stormwater awareness efforts through enlistment of additional partners.

METHODOLOGY

Collaborate with Interlocal Stormwater Working Group (ISWG) to enlist additional partners such as the Friends of Casco Bay, the Casco Bay Estuary Partnership, the University of Southern Maine and other organizations to help raise awareness of stormwater management issues.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measureable Goal 1.2.1*** – partner with Think Blue Maine, Casco Bay Estuary Partnership, MEDEP and University of Southern Maine.

ACTIONS COMPLETED DURING PERMIT YEAR 3

The City continued its collaboration with the ISWG to enlist new partners for increased public awareness of stormwater issues as described in **Appendix 1**. City staff also assisted in drafting a letter from the ISWG to the LePage Administration requesting a meeting with key officials to discuss municipal stormwater management issues. Additionally, the City continued to promote public awareness through partnerships with various entities committed to addressing stormwater pollution issues. City staff provided mapping support and monitoring recommendations to USM's Chemistry Department for a professional poster. The

poster entitled *"Levels, Trends and Fate of Polycyclic Aromatic Hydrocarbons (PAHs) in Dirt and Dust from Roads in the Long Creek Watershed, South Portland, Maine"* was presented at the 46th annual Geological Society of America's conference. The webpages for Water Resource Protection Department were also redesigned to provide much more detailed information about the City's stormwater management program while allowing online users to access this information in a more straightforward and intuitive manner (Figure 1). The new webpages will be added to the City's website in the early fall of 2011. WRP staff submitted several articles for publication in the City's E-Newsletter, which is sent to many municipal staff and approximately 1,755 residents in South Portland (Table 1). Finally, the City's Stormwater Program Coordinator accompanied the Executive Director for the Casco Bay Estuary Partnership (CBEP) to Washington, DC for meetings with staff from the offices of Representative Chellie Pingree, Senator Olympia Snowe and Senator Susan Collins. The primary purpose of the meetings was to provide an overview of the value CBEP provides to partner organizations such as the City. Secondarily, the discussions also focused on the increasing importance of stormwater management considerations. Therefore, the goal associated with this BMP was completed successfully as required.

Figure 1: New stormwater management program webpage on redesigned website for Water Resource Protection Department

Table 1: Articles submitted by WRP staff to City's E-newsletter

Date	**Article**
8/25/10	City Developing Coastal Communities Stormwater Management Manual
11/15/10	Mahoney Middle School Students Help City Raise Awareness About Stormwater Pollution
November 2010	City Receives $35,300 Maine Department of Environmental Protection Grant to Restore Trout Brook Watershed
November 2010	City Receives $10,000 Maine State Planning Office Grant to Supplement Stormwater Manual
12/1/10	Household Hazardous Waste Collection Day a Success
January 2011	Collection Systems Manager Dave Thomes Receives Maine Department of Environmental Protection Award for Exemplary Stormwater Program Management
3/29/11	Mr. Dillon Goes to Washington

BMP 1.3 Develop and Implement Stormwater Awareness Plan

Responsible Party: ISWG Education Coordinator *Additional Party: N/A*

FUNCTION

To increase homeowner awareness of stormwater issues through the development of a systematic and concerted program among MS4 clusters and other interested parties throughout the state.

METHODOLOGY

Continue participation in and collaboration with the ISWG to develop a variety of educational outreach materials through the implementation of a Stormwater Awareness Plan.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measureable Goal 1.3.3*** – receive MDEP approval for Stormwater Awareness Plan by July 1, 2009 and begin implementation immediately thereafter. This will include ongoing annual evaluations of process indicators for the remainder of the permit cycle.

ACTIONS COMPLETED DURING PERMIT YEAR 3

Through the City's continued participation in and collaboration with the ISWG, a Stormwater Awareness Plan was developed and approved by DEP in June 2009 as described in **Appendix 1**. The report describes the implementation status of the Awareness Plan and process indicators and identifies significant milestones and any changes made to the Awareness Plan. Therefore, all goals associated with this BMP were completed successfully as required.

BMP 1.4 Continue Targeted Best Management Practices Adoption Efforts from Previous MS4 Permit Cycle

Responsible Party: ISWG Education Coordinator *Additional Party: N/A*

FUNCTION

To increase homeowner awareness about the types of Best Management Practices that can be employed to address stormwater issues at the individual parcel level.

METHODOLOGY

Continue participation in and collaboration with the ISWG to promote the use of Best Management Practices through a variety of educational outreach materials and activities.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measureable Goal 1.4.1*** – the ISWG will continue to refine YardScaping materials, as needed, based on either new research or feedback from users. It will offer YardScaping Adult Education classes to change lawn care practices and build local support for implementation of YardScaping

practices. ISWG will also develop and streamline the Point of Sale lawn care education program by incorporating lessons learned, developing new or refining existing promotional materials, offering YardScaping classes at Point of Sale locations, refining tracking methods for products and promotional materials, and building local networks for dissemination of YardScaping materials.

ACTIONS COMPLETED DURING PERMIT YEAR 3

The City continued its collaboration with the ISWG to promote the adoption of Best Management Practices by homeowners and other interested parties as described in **Appendix 1**. Additionally, in June 2011 the City completed a web-based Stormwater Manual funded by the Casco Bay Estuary Partnership and Maine State Planning Office (Figure 2). The Manual was completed as a supplement to the City's Stormwater Performance Standards and is intended to serve as a helpful resource for new development or redevelopment projects on smaller parcels (<1 acre). It includes an introduction to stormwater, why it is so important to South Portland, what permit requirements small projects face, and detailed guidelines for how to meet those requirements while effectively protecting South Portland's valuable water resources. Therefore, the goal associated with this BMP was completed successfully as required.

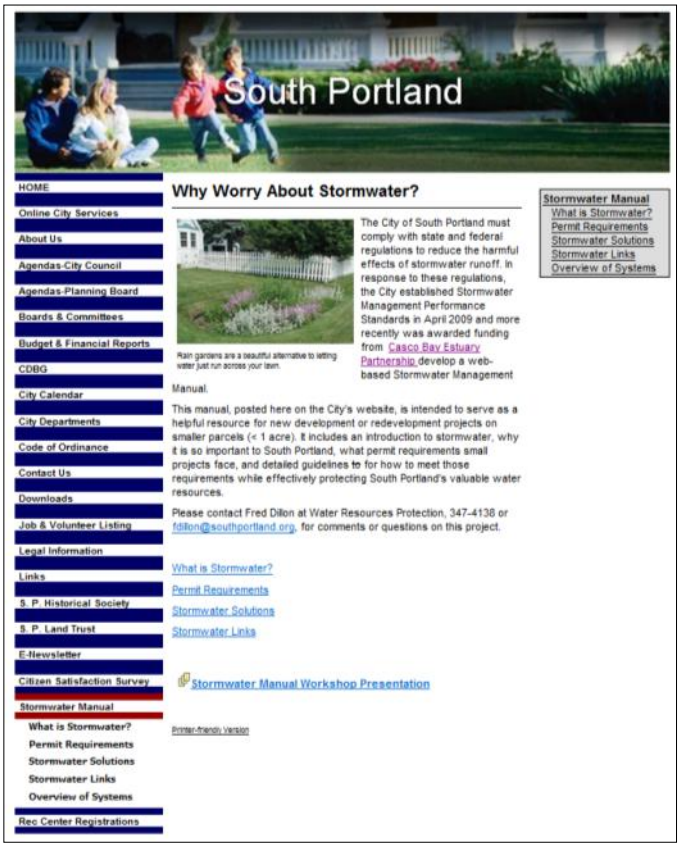


Figure 2: City's recently completed Stormwater Management Manual entirely available online

BMP 1.5 Develop and Implement BMP Adoption Plan

Responsible Party: ISWG Education Coordinator *Additional Party: N/A*

FUNCTION

To change homeowner landscaping behaviors for decreased usage of lawn fertilizers, pesticides and herbicides; and to promote the adoption of BMPs that minimize stormwater pollution (e.g., higher / less frequent mowing, water conservation, lawn seeding in the fall, etc.).

METHODOLOGY

Continue participation in and collaboration with the ISWG to implement a MDEP-approved BMP Adoption Plan.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measureable Goal 1.5.3*** – implement MDEP-approved BMP Adoption Plan that includes annual evaluations of process indicators.

ACTIONS COMPLETED DURING PERMIT YEAR 3

The City continued its collaboration with the ISWG to implement a MDEP-approved BMP Adoption Plan as described in **Appendix 1**, which details the implementation status of the Plan and identifies significant milestones along with any changes made to the Plan. Therefore, the goals associated with this BMP were completed successfully as required.

BMP 1.6 School Outreach

Responsible Party: ISWG Ed. Coordinator *Additional Party: Stormwater Program Coordinator*

FUNCTION

To promote increased awareness about water quality and stormwater pollution issues in the City's public school system.

METHODOLOGY

Continue participation in and collaboration with the ISWG to conduct a variety of educational outreach activities. Also attempt to build partnerships between City staff and local schools to integrate water quality and stormwater program concepts into academic curriculum.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measureable Goal 1.6.1*** – as funding permits, continue the incorporation and implementation of "It's all connected" school curriculum in elementary and/or middle schools.

ACTIONS COMPLETED DURING PERMIT YEAR 3

The City continued its collaboration with the ISWG to conduct educational outreach activities as described in **Appendix 1**. WRP staff made numerous presentations to schools throughout the City (Table 2). The presentations discussed watersheds, water quality, the impacts of various land uses and development on water quality and the City's stormwater program. Therefore, the goals associated with this BMP were completed successfully as required.

Table 2: WRP presentations to schools for PY2010-11

Date	School
12/15/10	Memorial Middle School
2/9/11	USM ESP (Long Creek Stormwater BMP Tour & Discussion)
3/22/11	Greater Portland Christian School
3/31/11	Kaler Elementary School
4/28/11	Small Elementary School
5/6/11	Mahoney Middle School
6/2/11	Small Elementary School (Pond Day)

BMP 1.7 Continue to Broadcast Water Quality Videos on Community Television

Responsible Party: Stormwater Program Coordinator *Additional Party: N/A*

FUNCTION

To promote increased awareness about stormwater pollution issues among South Portland residents and other interested parties.

METHODOLOGY

Use the City's Community Television system to broadcast educational videos about water quality issues and considerations.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measureable Goal 1.7.1*** – continue to air videos related to water quality on South Portland's Community Television system.

ACTIONS COMPLETED DURING PERMIT YEAR 3

The City's Community Television system continued to extensively air educational videos highlighting a wide variety of water quality related topics. During the permit year period, SPCTV broadcast nearly 160 hours of programming related to water quality. Of particular note, WRP staff worked with SPCTV to begin developing a video highlighting the use of Geographic Information System (GIS) and Global Positioning System (GPS) technologies to improve stormwater system management. As a result of these activities, the goal associated with this BMP was completed successfully as required.

Minimum Control Measure 2 – Public Involvement and Participation

The overall goal of this MCM is to involve the public in both the planning and implementation process for improving water quality and reducing stormwater quantity via the implementation of the City's Stormwater Program Management Plan and Stormwater Management Performance Standards (Chapter 27-1536). The City fulfilled its requirements for the Public Involvement and Participation Minimum Control Measure through its continued participation in and collaboration with the Interlocal Stormwater Working Group (ISWG) and the continued funding to the ISWG for Public Involvement and Participation services.

Additionally, the City has established public involvement and participation procedures as part of its development review process (e.g., Planning Board meetings) that provide regular opportunities for members of the public to offer comments on the implementation of stormwater performance standards. City staff and officials have also been appointed to the Long Creek Watershed Management District (a quasi-municipal entity), which has an open process whereby members of the public can participate in implementing the Long Creek Watershed Management Plan (LCWMP). The LCWMP was developed largely in response to the stormwater pollution impacts from surrounding land uses and was commissioned by the City of South Portland through an EPA 319 grant.

BMP 2.1 Public Notice Requirement

Responsible Party: ISWG Stormwater Program Coordinator & LCWMD Executive Director

Additional Parties: Water Resource Protection & Planning Departments

FUNCTION

To provide appropriate public notice for meaningful involvement and participation in the planning and implementation of the City's Stormwater Management Program, Performance Standards (Chapter 27-1536) and Long Creek Watershed Management Plan.

METHODOLOGY

Continue participation in the ISWG and conform to applicable MEDEP, City of South Portland and Long Creek Watershed Management District public notice requirements.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measureable Goal 2.1.1*** – ISWG, the City and the Long Creek Watershed Management District will follow state and local Public Notice requirements for Stormwater Program Management Plans and Watershed Management Districts. Copies of the plans are available on the Long Creek Restoration project websites.
- ***Measureable Goal 2.1.2*** – ISWG, the City and the Long Creek Watershed Management District will follow state and local Public Notice requirements when involving stakeholders in the implementation of the MS4 General Permit, the City's Stormwater Program Management Plan, the

City's Stormwater Management Performance Standards (Ch. 27-1536) and the Long Creek Watershed Management Plan.

ACTIONS COMPLETED DURING PERMIT YEAR 3

Following the adoption of Stormwater Management Performance Standards by the City in April of 2009, virtually every Planning Board meeting has afforded the public with an opportunity to participate in efforts to improve local water quality through the reduction of impacts from stormwater pollution. This occurs because nearly every Planning Board meeting consists of development proposals with provisions for stormwater management. Records of public notices, attendance and minutes for these meetings are maintained by the City's Planning Department and posted on the City's website.

As a quasi-municipal body, the Long Creek Watershed Management District also allows public participation for efforts to reduce impacts from stormwater pollution at each of its regular meetings and posts meeting agendas and minutes on its website. As a result of these numerous activities, the goals associated with this BMP were completed successfully as required.

BMP 2.2 Host Public Event

Responsible Party: ISWG Education Coordinator *Additional Party: Water Resource Protection Dept.*

FUNCTION

To increase public awareness of stormwater pollution issues for a target audience in a segment of the urbanized area.

METHODOLOGY

Provide highly visible opportunities for members of the public to meaningfully participate in activities to reduce impacts from stormwater pollution.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measurable Goal 2.2.1*** – ISWG and/or the City will annually host/conduct or participate in at least one public event such as storm drain stenciling, stream cleanup, household hazardous waste collection day, volunteer monitoring, neighborhood educational events, conservation commission outreach program, Urban Impaired Stream outreach program, or adopt a storm drain or local stream program. The target audience will be a segment of the urbanized area population that the City wishes to reach. The ISWG and/or the City will consult with DEP to ensure the event will satisfy the requirements for this BMP.

ACTIONS COMPLETED DURING PERMIT YEAR 3

Green Street Systems Presentation – August 6, 2010

WRP organized a presentation by Green Streets Systems on their open bottomed tree box filters which use bioretention and soil filtration to collect and filter stormwater runoff through layers of mulch, soil media,

plant roots, and gravel. The presentation was attended by consultants from several firms in the area as well as by public officials from the City of Portland.

Household Hazardous Waste Collection Day – October 16, 2010

The City continued to provide an annual Household Hazardous Waste Collection Day for South Portland residents and businesses. This event was held at the Water Resource Protection Department's Wastewater Treatment Facility and resulted in the collection of a variety of wastes including a variety of petroleum products, paints, solvents, pesticides, batteries (lead acid, nickel cadmium and lithium), fluorescent lights, among other materials. To assist in improving these services to South Portland residents, the City also administered a resident questionnaire. The results from the 158 people who completed the questionnaire indicated that a considerable number of respondents were familiar with Think Blue Maine, the City's stormwater management efforts and the Long Creek Restoration Project while fewer were familiar with YardScaping and the Interlocal Stormwater Working Group (**Appendix 2**). We will continue to administer similar questionnaires at future Household Hazardous Waste Collection Days to improve our services and increase awareness about HHW and polluted stormwater runoff.

Storm Drain Stenciling – November 12, 2011

WRP staff continued to foster the productive working relationship established last year with Mahoney Middle School. Several students from Mr. Carter's 8th grade science class conducted storm drain stenciling in a densely developed residential neighborhood of the Trout Brook Watershed (Figure 3). Several residents spoke with the students about what they were doing during the event.

Figure 3: Mahoney Middle School students stenciling storm drains in the Trout Brook Watershed in November 2010

Pollution Prevention Training – April 13, 2011

In partnership with the Interlocal Stormwater Working Group (ISWG) and City of Portland, the City coordinated, hosted and moderated a Stormwater Pollution Prevention Training event at the South Portland Community Center. This well-attended event included 78 municipal staff from several ISWG member communities (Figure 3). Attendees represented a variety of municipal departments including Public Works, Parks & Recreation, Collection Systems, Water Pollution Control, School and Police (Figure 4). The presentation provided an overview stormwater pollution prevention for municipal operations followed by a quiz to gauge general understanding of the presentation. Quiz results indicated that most attendees understood the presentation and would hopefully apply this understanding to their daily work activities.

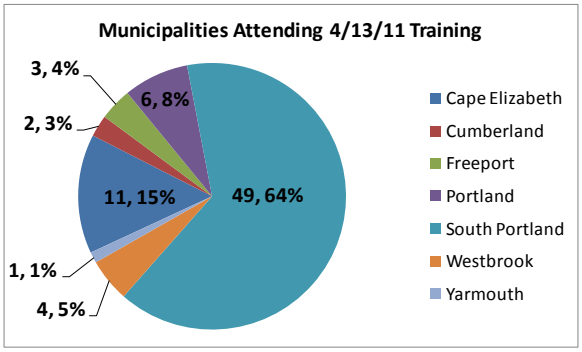


Figure 4: Attendees by municipality at 4/13/11 stormwater pollution prevention training

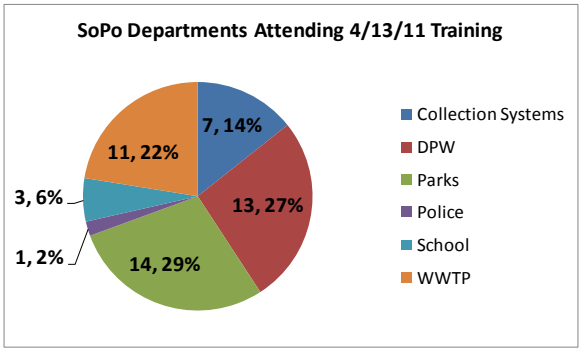


Figure 5: South Portland staff attendees by department at 4/13/11 stormwater pollution prevention training

Storm Drain Stenciling – May 27, 2011

Following a presentation on the City's stormwater program in March, WRP staff conducted a storm drain stenciling event in the Barberry Creek Watershed with elementary students from the Greater Portland Christian School. Approximately 10 students participated and each stenciled a storm drain in a residential neighborhood near the school.

Long Creek Clean-Up – May 13, 2011

The City partnered with the University of Southern Maine's Environmental Science & Policy Program and the CCSWCD to remove trash and debris from the South Branch of Long Creek. As with last year's event, there was much more material to be removed than time and available volunteers allowed. Even so, a heaping pickup truck's worth of material was removed and disposed of at the South Portland Transfer Station.

As a result of these numerous activities, the goals associated with this BMP were completed successfully as required.

BMP 2.3 Encourage Municipal Involvement in Public Outreach

Responsible Party: Stormwater Program Coordinator *Additional Party: N/A*

FUNCTION

To increase the role of other City departments in promoting awareness of local and regional stormwater pollution issues.

METHODOLOGY

Continue communications with and provide educational materials to other municipal departments (e.g., Planning & Development, Code Enforcement, Public Services, School, etc.) to disseminate to the public, contractors, developers and other interested parties.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measurable Goal 2.3.1*** – continue to participate in public outreach (e.g. serving on local water resource committees, participating in public/school events, writing water quality/stormwater articles) or encourage other municipal involvement, as appropriate.

ACTIONS COMPLETED DURING PERMIT YEAR 3

Members of the WRP staff continued their close involvement in and commitment to local water resource protection concerns by serving in various capacities on the boards of regional organizations. The City's Stormwater Program Coordinator is currently serving on the Casco Bay Estuary Partnership's (CBEP) Executive Board. The mission of CBEP is to protect and restore the water quality, and fish and wildlife habitat of the Casco Bay ecosystem, while ensuring compatible human uses.

Additionally, the Collection Systems Manager and Stormwater Program Coordinator serve on the Interlocal Stormwater Working Group (ISWG), which consists of 14 communities in the Greater Portland metropolitan area working in collaboration to address stormwater management concerns in the region. In early 2010, the Collection Systems Manager began serving a 3 year term on the Long Creek Watershed Management District (LCWMD) Governing Board. The LCWMD is responsible for overseeing the restoration of Long Creek through the implementation of the Watershed Management Plan. The Stormwater Program Coordinator is serving on the LCWMD's Technical Committee, which will provide guidance to the Board for the implementation of stormwater management practices.

Educational brochures are available at several municipal locations throughout the City. The Planning & Development, Code Enforcement and Public Services departments all provide Maine Erosion and Sedimentation Control Law brochures to contractors, construction site owners or operators, members of the general public and other interested parties. The City also provides informational materials on stormwater management and water resource protection at numerous locations throughout South Portland.

In late March 2011 the City partnered with the ISWG to administer a brief "Follow the Flow and Win Some Dough" online survey to all municipal staff (approximately 300 individuals) as well as teachers and school administration officials. The survey was intended to determine the general level of awareness among municipal employees for watersheds, stormwater pollution and runoff reduction.

Finally, the City began the Trout Brook Watershed Management Plan (WMP) development process. Even though the organizational meetings for this effort are technically ineligible for consideration under the MS4 General Permit (since project funding originated from EPA's 604(b) program), they still bear mentioning since public outreach and involvement is and will be such a prominent element of the work plan. As a result of these numerous activities, the goals associated with this BMP were completed successfully as required.

Minimum Control Measure 3 – Illicit Discharge Detection & Elimination

The City of South Portland fulfilled its requirements for the Illicit Discharge Detection & Elimination (IDDE) Minimum Control Measure through a variety of activities as described below. The overall goal of this MCM is to implement and enforce a program to detect and eliminate illicit discharges and non-stormwater discharges.

BMP 3.1 Develop a Watershed Based Storm Sewer System Infrastructure Map

Responsible Party: Water Resource Protection *Additional Party: N/A*

FUNCTION

To provide a current, detailed and accurate digitally-based map of the City's storm drain infrastructure to assist in stormwater management and planning.

METHODOLOGY

Continue to contract with consultant and hire summer intern for GPS data collection and GIS mapping of all stormwater related infrastructure in the City.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measurable Goal 3.1.3*** – by the end of Permit Year 5, develop watershed-based stormwater infrastructure map showing the location of all catch basins, connecting surface and subsurface infrastructure with in-flow and out-flow pipe direction, and locations of all discharges of stormwater outfalls.
  Each catch basin will be uniquely identified to facilitate control of potential illicit discharges, and to ensure proper operation and maintenance of the structures. For each outfall, the following information will be included: type, material, and size of conveyance; outfall or channelized flow (e.g. 24" concrete pipe); and the name and location of the immediate surface water body or wetland to which the stormwater runoff discharges (or, if an outfall does not discharge directly to a named water body, the name and location of the nearest named water body to which the outfall eventually discharges).

ACTIONS COMPLETED DURING PERMIT YEAR 3

WRP has employed a watershed framework to complete nearly all of the digital mapping (~90%) for the publicly-owned stormwater infrastructure throughout the entire City. Unique identifiers have been assigned to all located[1] publicly-owned outfalls, catch basins and drain manholes for the entire City and flow directions have been established for all located stormwater pipes. Extensive attribute information has

[1] *While the City has expended considerable time and effort to locate and identify all publicly-owned stormwater infrastructure, there may still be undocumented portions of the system that have yet to be discovered. The City is engaged in an ongoing effort to periodically update the GIS data layers for our stormwater system as previously unidentified structures are found. New infrastructure is also added to the GIS database as new development or redevelopment projects are completed.*

been collected for outfalls (see PY2009-10 report for more detail) in the Long Creek and Trout Brook watersheds and the City will be collecting similar information for the remaining urban impaired stream watersheds in future permit years.

As part of the Trout Brook Watershed Management Plan development process, the City digitized all impervious surfaces in the South Portland portion of the Trout and Kimball Brook watersheds. The source of the data was the 2006 high resolution aerial of the City which consisted of the following impervious area types.

- Paved roadways to Edge-of-Pavement
- Unpaved roadways
- Driveways, paved and unpaved
- Parking lots, paved and unpaved
- Update hydrography (rivers, streams, ponds, wetlands) from 2001 mapping
- Update buildings, new and demolished from 2001 mapping
- Swimming Pools and pool aprons
- Walkways within the Public ROW and Private Walkways outside the Public ROW
- Random concrete > 100 sq.ft.
- Playgrounds (paved)
- Backyard paved surfaces (patio's etc.)

WRP continued to use the GIS-based asset management system for catch basin maintenance developed in PY2. While cleaning catch basins, maintenance crews use a Toughbook laptop computer to collect key attribute information for each structure that will be integrated into an asset management program to assist in optimizing system performance. WRP staff also coordinated communications between the City's GIS consultant and the MEDEP to ensure consistency and data sharing for continued refinement of urban impaired stream watershed delineations. As a result of these activities, the City continues to be considerably ahead of schedule for the goals of this BMP.

BMP 3.2 Non-Stormwater Discharge Ordinance

Responsible Party: Stormwater Program Coordinator *Additional Party: N/A*

FUNCTION

To prohibit unpermitted or un-allowed non-storm water discharges to the storm drainage system through municipal ordinance and to establish the legal authority and procedures to carry out all inspection, monitoring and enforcement activities necessary to ensure compliance with this ordinance.

METHODOLOGY

Use the authority granted by the ordinance to enforce the provisions therein.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measurable Goal 3.2.1*** – continue to enforce the Non-Stormwater Discharge Ordinance.

ACTIONS COMPLETED DURING PERMIT YEAR 3

The City continued to enforce the Non-Stormwater Discharge Ordinance as specified in the South Portland Code of Ordinances Chapter 22 Sewer and Drains, Article XIV Non-Stormwater Discharge (§§22-200 - 22-209), which was passed on September 8, 2004. Therefore, the goal for this BMP was completed as required. (Please see BMP 3.7 for a summary of IDDE inspections conducted for the permit year).

BMP 3.3 Develop Dry Weather Outfall Inspection Program

Responsible Party: Stormwater Program Coordinator *Additional Party: N/A*

FUNCTION

To identify potential sources of illicit non-stormwater discharges for elimination.

METHODOLOGY

Physically inspect stormwater outfalls in priority subwatersheds during dry weather periods.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measureable Goal 3.3.6*** – continue dry weather outfall inspections in the additional sub-watersheds within the highest priority watershed (Long Creek) and begin inspections in one or more sub-watersheds of the second highest priority watershed (Trout Brook). Outfalls will be added to the inspection list as additional structures are identified or if follow-up is needed. Opportunistic inspections will also be documented.

ACTIONS COMPLETED DURING PERMIT YEAR 3

The City continued its dry weather outfall inspection program in the Long Creek watershed and expanded it into the Trout Brook watershed as required by the MS4 General Permit. As with previous years, the field data collection form for conducting dry weather inspections of stormwater outfalls was derived directly from the format provided in *Guidelines and Standard Operating Procedures for Stormwater Phase II Communities in Maine*. This form has been converted into a digital format for use with a handheld Trimble Juno GPS unit, which can be exported in a variety of formats for seamless integration with traditional electronic document formats (e.g., Excel, Access, ArcMap etc.).

In the spring of 2011, WRP staff began discussions with the CCSWCD to adapt the online stormwater BMP inspection database developed for the LCWMD to stormwater outfall inspections. This system will likely be offered to all ISWG communities for use in their outfall inspection programs. In the fall of 2011, the City will serve as a "test case" for the development of this reporting / tracking system which may eventually involve migrating away from the handheld Trimble unit to a new tablet computer.

To support the development of a Watershed Management Plan for Trout Brook (the City's second highest priority watershed), MEDEP staff delineated subcatchment areas for each stormwater outfall in the Trout and Kimball Brook watersheds in the summer of 2011. This data will be provided to the City in GIS format and will likely prove to be very helpful for future IDDE efforts.

Beginning in April of 2011, WRP staff conducted a fairly extensive stormwater system monitoring program for the Willard Beach watershed to help identify potential sources of bacteria contamination (**Appendix 3**). This effort is currently ongoing and a summary of the water quality results will be included with the PY2011-12 Stormwater Management Report.

WRP staff inspected 63 of the 83 stormwater outfalls in the Long Creek watershed and 2 of 8 outfalls in the Trout Brook watershed during the months of May and June of 2011. Therefore, the City completed the goals for this BMP as required.

BMP 3.4 Open Ditch Illicit Discharge Program Within the Highest Priority Watershed

Responsible Party: Stormwater Program Coordinator *Additional Party: N/A*

FUNCTION

Identify potential sources of illicit discharge from open drainage ditches that serve as part of the City's stormwater collection and conveyance system.

METHODOLOGY

Identify the extent, location and hydrologic connectivity of drainage ditches in the Long Creek watershed in relation to the City's stormwater collection system and develop an IDDE strategy for all relevant ditches.

PERMIT YEAR 3 MEASURABLE GOALS: none specified / required

- ***Measureable Goal 3.4.2*** – during Permit Years 3-5, develop a strategy for detecting illicit discharges in the open ditch system of the highest priority watershed (Long Creek).

ACTIONS COMPLETED DURING PERMIT YEAR 3

In 2010, WRP staff identified approximately 1,870' of open ditches in the Long Creek watershed that the City must maintain within the public right-of-way. Additional ditches will be added if and as they are discovered. Since the *Guidelines and Standard Operating Procedures for Stormwater Phase II Communities in Maine* does not provide any specific recommendations for ditch inspections, the City's current strategy for detecting illicit discharges in open ditches derives from the Outfall Reconnaissance Inventory (ORI) methodology in the Center for Watershed Protection's 2004 *Illicit Discharge Detection and Elimination* manual (Table 5). However, given that the guidance in this document is minimal the City will collaborate with the Interlocal Stormwater Working Group (ISWG) in the coming year to establish a more defined set of stormwater ditch inspection procedures. As a result of these activities, the goal associated with this BMP was completed successfully as required.

Table 3: Preliminary open ditch inspection procedure subject to modification (Source: Center for Watershed Protection)

OPEN CHANNELS	
Challenge	**Suggested Modification**
Too many miles of channel to walk	Stop walking at a given channel size or drainage area
Difficulty marking them	Mark on concrete or adjacent to earth channel
Interpreting physical indicators	For open channels with mild physical indicators, progress up the system to investigate further.

BMP 3.5 Household Hazardous Waste Collection

Responsible Party: Water Resources Protection *Additional Party: N/A*

FUNCTION

To provide a means for residents to dispose of household hazardous waste.

METHODOLOGY

Host an annual Household Hazardous Waste collection day.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measureable Goal 3.5.1*** – provide a reasonable means for residents to dispose of hazardous materials by continuing to host an Annual Household Hazardous Waste (HHW) collection day.

ACTIONS COMPLETED DURING PERMIT YEAR 3

As described for BMP 2.2, the City organized a Household Hazardous Waste Cleanup Day on October 16, 2010. The event was held at the Water Resource Protection Department's Wastewater Treatment Facility and resulted in the collection of a variety of wastes including pharmaceuticals, batteries (lead acid, nickel cadmium and lithium), fluorescent lights, various solvents, liquid pesticides, and paints, among other materials. The cost to the City for this one day event was approximately $12,000. The City's Household Hazardous Waste (HHW) Collection Day for 2011 will take place on October 15th and will include a participant survey questionnaire similar to the one administered last year (**Appendix 2**) to measure residential awareness of general HHW considerations and to help gauge the effectiveness of the program. Therefore, the goal associated with this BMP was completed successfully as required.

BMP 3.6 Support the Friends of Casco Bay Mobile Vessel Pumpout Service

Responsible Party: Water Resources Protection *Additional Party: N/A*

FUNCTION

To support the Friends of Casco Bay's mobile vessel pumpout service.

METHODOLOGY

Annual financial contribution ($5,000) to pumpout program.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measureable Goal 3.6.1*** – as funding is available, continue to financially support the mobile vessel pumpout service.

ACTIONS COMPLETED DURING PERMIT YEAR 3

In recognition of the valuable role the mobile vessel pumpout service plays for South Portland's coastal community, the City continued its ongoing support of the Friends of Casco Bay's program (**Appendix 4**). Therefore, the goal associated with the BMP was completed successfully as required.

BMP 3.7 Public Complaint Hotline

Responsible Party: Water Resources Protection *Additional Party: N/A*

FUNCTION

To provide a confidential method for residents to report suspected illicit discharges to the City's stormwater system.

METHODOLOGY

Use voicemail and online system for residents to anonymously report suspected illicit discharges and conduct follow up inspections to document findings from resident reports.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measureable Goal 3.7.1*** – continue to provide an easy and confidential method for individuals to report suspected illicit connections or illegal dumping via the voice mail system and / or the online complaint form for the Water Resource Protection Department.

ACTIONS COMPLETED DURING PERMIT YEAR 3

The City continued to maintain a Stormwater Violations Hotline and Online Complaint Report form that allowed concerned citizens to easily and anonymously report any suspected incidents of non-stormwater discharge violations to the publicly owned stormwater system. While no complaints were filed through the online system during the permit year, numerous Illicit Discharge Detection & Elimination (IDDE) inspections were conducted in response to calls placed to the Hotline or notifications from other City departments. In the cases where the reported incidents were determined to be actual IDDE events, follow-up or corrective actions were taken as described in Table 6. Therefore, the goal associated with this BMP was completed successfully as required.

Table 4: IDDE incident reports for PY2010-11

Report Date	Incident Location	Reported Problem	Findings / Follow-up
7/21/2010	Casco Bay Bridge Boat Pump-out	Small amount of sewage discharged from boat pump-out holding tank	Investigated and reported to maintenance crew for repair of pump system
7/30/2010	66 Lowell St	Pickup truck on public ROW with assorted paints and solvents in uncovered bed	Contacted homeowner and requested proper storage / disposal of potentially hazardous materials
8/3/2010	Mildred St Stormwater Pond	Dramatic change in water color and odor	Investigated but unable to determine cause / potential source (suspect contractors for paving work on Broadway)
8/10/2010	Mildred St Stormwater Pond	Milky hue in water	Investigated but unable to determine cause / potential source (suspect prolonged period of hot, dry weather)
11/4/2010	Main Stem Long Creek between Darling and Gorham	Green dye in stream	Investigated and determined that nontoxic dye was being used by Portland Public Services Dept at outer Congress St facility
11/10/2010	Best Buy / Maine Mall	Gasoline leak (~7gal) from Best Buy vehicle	Investigated and learned that Fire Dept had contained all fuel before it reached SW system
12/1/2010	WRP Collection Systems Div. Hydraulic Oil Spill	Hydraulic fluid spill (~40gal) leaked from burst line on front end loader	Contacted DEP and contained spill with sand and absorbent before it reached MS4 system; disposed of all material at Clean Harbors
12/22/2010	Alfred St	Hydraulic fluid spill (~4gal) along Alfred St	Contacted DEP and investigated; placed absorbent pads in CB that received most street runoff; later determined that public works plow truck blew hydraulic line
4/25/2011	Mildred St Stormwater Pond	Vegetation removal within shoreland zone	Investigated and confirmed removal of vegetation; contacted property manager and requested removal of plant matter and no more cutting along shoreline
5/11/2011	224 Fellows St	Cross connection between sewer and storm drain	City construction crew separated lines
5/30/2011	24 Mildred St	Pool water discharging to stormwater pond	Investigated and confirmed pool drainage to pond; contacted homeowner and suggested discharging pool water to public sewer
6/7/2011	Trout Brk @ Sawyer St	Reddish hue and algal blobs	Investigated and compared discharge from marsh above complaint area against to that above marsh; suspect coloration naturally induced by marsh

BMP 3.8 Storm Drain Stenciling

Responsible Party: Water Resources Protection *Additional Party: N/A*

FUNCTION

To provide a visible reminder to residents about the close connections between their activities, the stormwater collection / conveyance system and potential impacts to local surface waters.

METHODOLOGY

Continue ongoing annual catch basin stenciling program.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measureable Goal 3.8.1*** – continue to annually stencil catch basins in conjunction with catch basin cleaning.

ACTIONS COMPLETED DURING PERMIT YEAR 3

The City continued to stencil catch basins as part of its annual catch basin cleaning program (e.g., half of the catch basins that were cleaned were also stenciled). Nearly all of the City's approximately 2,800 catch basins are cleaned on an annual basis and approximately 50% of these are stenciled depending on how worn the paint is from previous stencil applications. Additionally (and as discussed for BMP 2.2), the City partnered with students from Mahoney Middle School and the Greater Portland Christian School to complete storm drain stenciling in local neighborhoods. Therefore, the goal associated with this BMP was completed successfully as required.

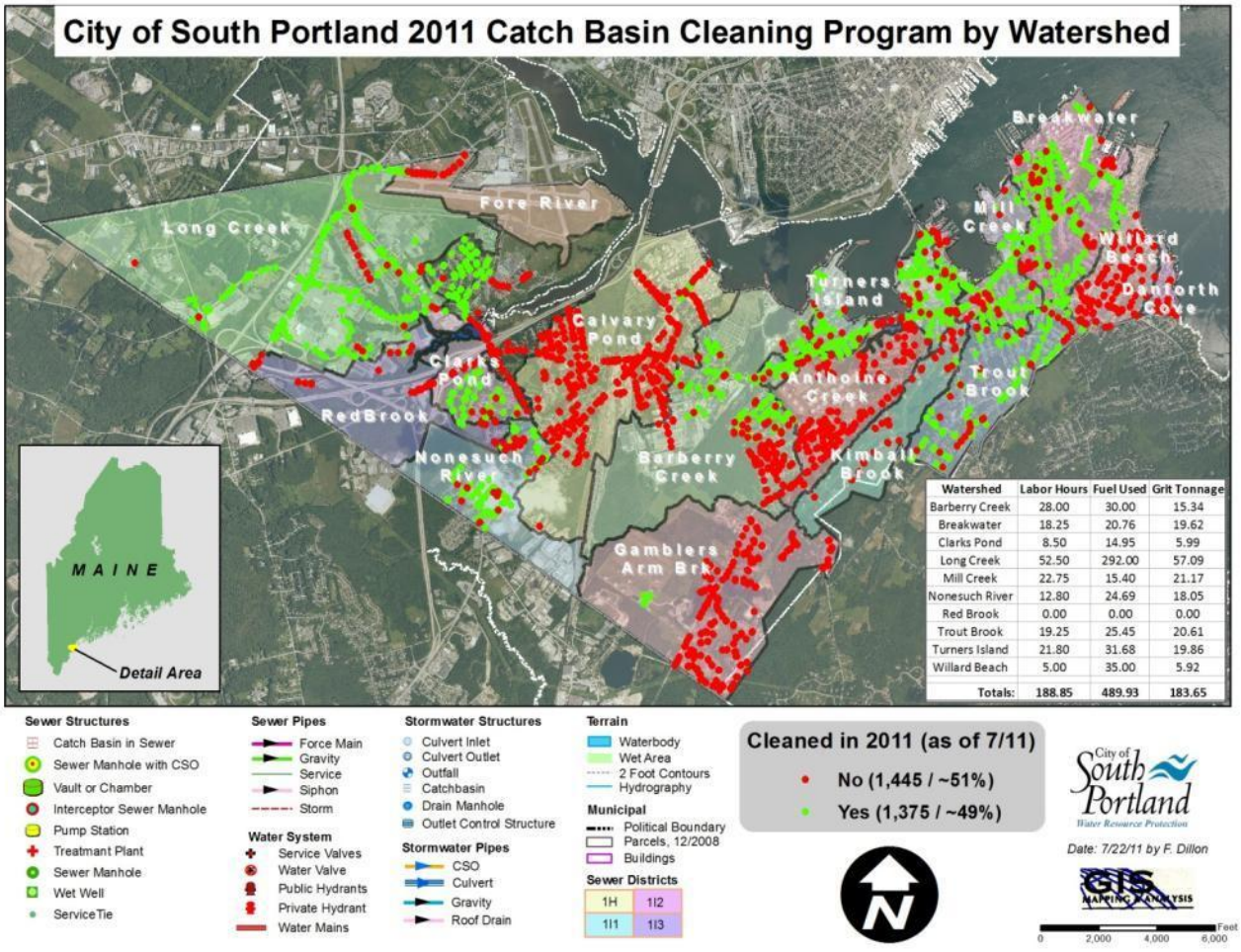


Figure 6: Catch basins cleaned and stenciled for PY2010-11

Minimum Control Measure 4 – Construction Site Stormwater Runoff Control

The City of South Portland fulfilled its requirements for the Construction Site Stormwater Runoff Minimum Control Measure through a variety of activities as described below. The overall goals of this MCM are to develop, implement, and enforce a program that reduces pollutants in stormwater runoff to the City's regulated small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre.

Construction site in South Portland (Photo by F. Dillon)

BMP 4.1 Notification to Construction Site Developers and Operators of Registration Requirements under Maine Construction General Permit or Chapter 500 – Management for the Discharge of Stormwater Associated with Construction Activities

Responsible Party: Water Resources Protection Dept. *Additional Party: Planning Dept.*

FUNCTION

To reduce the amount of stormwater runoff pollution by ensuring that construction site developers and operators use appropriate stormwater BMP practices and are aware of their obligations under applicable state regulations.

METHODOLOGY

Use existing municipal notification procedures through development application and review process.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measureable Goal 4.1.2*** – annually evaluate current system and modify, if necessary.

ACTIONS COMPLETED DURING PERMIT YEAR 3

During the site plan review process the City confirmed that projects needing the Maine Construction General Permit (MCGP) sent in their Notice of Intent (NOI) before receiving approval from the South Portland Planning Board. The City also confirmed that the MEDEP had all applicable projects on file. All building permit applicants disturbing greater than one acre received a copy of the NOI to comply with the MCGP.

Also, all projects that triggered the one acre threshold went through site plan review; these applicants were provided with an information packet on appropriate erosion and stormwater control practices from the City. The City's Stormwater Performance Standards (Ch. 27-1536) also required any project with more than 15,000 square feet of disturbed area to receive approval from the Planning Board. These projects were subject to a modified site plan approval process, which carefully considered sediment and erosion control practices.

The City hired third party inspectors to evaluate proposed site plans. Each site plan was reviewed to ensure

that proposed construction phasing included soil erosion and sedimentation control components. Site plans that lacked appropriate soil erosion and sediment control components were brought to the attention of the City and design engineer for further action. As a result of these numerous and varied activities, the goal associated with this BMP was completed successfully as required.

BMP 4.2 Develop and Implement a Mechanism to Annually Document Every Construction Activity that Disturbs One or More Acres within the Urbanized Area

Responsible Party: Water Resource Protection Dept. *Additional Party: Planning Dept.*

FUNCTION

To annually document all construction activities disturbing one or more acres within the urbanized area for use in the construction site inspection program (BMP 4.3) and thereby reduce the amount of stormwater pollution entering the City's water resources.

METHODOLOGY

Establish documentation procedures to ensure conformance with local and state stormwater laws (South Portland Ordinance § 27-1536 and Maine Construction General Permit and Chapter 500, respectively).

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measurable Goal 4.2.1*** – implement a tracking system to record every activity that disturbs greater than or equal to one acre. This system will track and differentiate construction activities within an urban impaired stream watershed, priority watershed(s), and all other watersheds. The system will be used to summarize data to be included in the annual report submitted to the DEP.

ACTIONS COMPLETED DURING PERMIT YEAR 3

The City documents construction activities disturbing one or more acres through a notification process involving the Planning Department and third party inspectors hired by the City or the Long Creek Watershed Management District. Planning Department personnel and third party inspectors routinely submit site inspection report forms with accompanying photos which are then filed electronically in a secure folder on the City's intranet. The Stormwater Program Coordinator reviews the site inspection reports to identify the watersheds in which the construction activities are occurring and develops an Excel file to facilitate project tracking and reporting. Therefore, the goal for this BMP was completed successfully as required.

BMP 4.3 Develop and Implement a Construction Site Inspection Program

Responsible Party: Water Resources Protection Dept. *Additional Party: Planning Dept.*

FUNCTION

To establish a program for conducting regular and consistent construction site inspections to reduce the amount of stormwater pollution entering the City's water resources.

METHODOLOGY

Develop and implement construction site inspection program in accordance with local and state stormwater laws (South Portland Ordinance § 27-1536, Maine Construction General Permit, Chapter 500, and General Permit for Small MS4s, respectively).

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measurable Goal 4.3.3*** – develop a process for tracking and notifying the site developer or contractor of noncompliance issues. The inspector will complete an inspection report that will be transmitted to the City, and necessary enforcement will be the responsibility of the City. Sites that are not in compliance will be issued a written letter from the Planning and Development Department requiring the site to come into compliance within a specified time period. If the violation continues, following the inspection by City staff or duly designated person, a recommendation to the Planning Board would be made to call (use) the performance guarantee to correct the problem. Continued non-compliance will be reported to the DEP with supporting documentation.
- ***Measurable Goal 4.3.4*** – inspect construction sites located in the watershed of an urban impaired stream a minimum of three times, and inspect construction sites located in all other watersheds a minimum of two times. For all construction sites, at least one of the required inspections will be at project completion.

ACTIONS COMPLETED DURING PERMIT YEAR 3

The City continued to use third party inspectors (Wright-Pierce and Sebago Technics) to perform erosion and sediment control inspections on construction sites greater than or equal to 1 acre of disturbed area. There were also several construction projects in the Long Creek and Fore River watersheds for which third party inspection services were provided by the Cumberland County Soil & Water Conservation District. Third party inspectors were notified about qualifying projects following site plan approval and instructed to begin the site inspection process once construction activities commenced. Site contractors also occasionally conducted self-inspections.

Nine projects were inspected 88 times over the course of the permit year (Table 5). Two of these projects were not located in urban impaired stream watersheds: the Carlisle Place project is located in the Gambler's Arm Brook watershed; and all of the Jetport projects are located in the Fore River watershed. The seven remaining projects were all located in Urban Impaired Stream watersheds (**Appendix 5**).

Table 5: PY2010-11 erosion and sediment control (ESC) inspections for sites greater than 1 acre

Project Name	Location	Watershed	Number of Site Visits During PY3	Status as of 6/30/11
Carlisle Place	Carlisle Place	Gamblers Arm Brook	1	Complete
Dicks - 220 Maine Mall Rd	Gorham Road	Long Creek	6	Complete
Jetport Deicing Facility	Portland Jetport	Long Creek	15	Complete
Jetport Parking Expansion	Portland Jetport	Fore River	27	Complete
Jetport Runway	Portland Jetport	Fore River	24	Complete
Mahoney Middle School	Ocean Street	Trout Brook	1	Complete
Peary Terrace Subdivision	Peary Terrace	Barberry Creek	2	Under construction
Western Ave Crossing	Western Ave	Long Creek	5	Under construction
Wyndham Hotel	Maine Mall Road	Long Creek	7	Complete
		Total Inspections:	**88**	

Inspections were typically conducted monthly, after every 1/2 inch 24-hour storm event or as directed by the City Planner. Inspectors generally used the field data form developed by Wright-Pierce and then adapted by the City to document potential sources of stormwater pollution and recommend follow up actions. Following each site visit, individual inspection reports and supporting photographs were transmitted to the City in electronic format for any necessary follow up actions. City staff then incorporated all field inspection forms into an electronic database for record keeping and project tracking. Additionally, in August 2009 City staff began using the same inspection protocols to document construction activities occurring on sites less than 1 acre per the local Stormwater Performance Standards (Ch. 27-1536).

The inspections identified a variety of erosion and sediment control issues at some sites, including inadequate protection of catch basins, improper installation of silt fence, the presence of sediment-laden track-out from the site entrance / exit, and the inadequate stabilization of stockpiles, among others. All of these issues were eventually corrected by the site contractors following notification from the inspectors.

Additionally, as specified in the City's Stormwater Performance Standards, 13 follow-up inspections were conducted for 7 construction project sites with an acre or less of disturbed area (**Appendix 6**). In these cases, the Building Inspector identified that additional erosion and sediment control measures were needed for the project. As a result of these various activities, the goals associated with this BMP were completed successfully as required.

BMP 4.4 – Promote Certified Contractors in Erosion Control Practices

Responsible Party: Water Resources Protection Dept. *Additional Party: Planning Dept.*

FUNCTION

To encourage contractors to receive MEDEP certification (or equivalent training) in erosion control

practices as a means of reducing the amount of stormwater pollution into the City's water resources.

METHODOLOGY

Provide informational materials from the MEDEP's Nonpoint Source Training and Resource Center to contractors and developers as part of the project proposal and site plan review process.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measurable Goal 4.4.1*** – continue to encourage contractors to be certified in erosion and sediment control through the DEP Non-Point Source Training and Resource Center or its designee.

ACTIONS COMPLETED DURING PERMIT YEAR 3

The City continued to provide information materials (Maine Erosion and Sedimentation Control Law) to contractors as part of the project proposal and site plan review process. City staff also participated in discussions with the Interlocal Stormwater Working Group (ISWG) to develop a uniform set of ESC inspection protocols for member communities. While no further actions had been taken by the end of the permit year, the intent of these discussions was to make it easier for excavation contractors to follow proper ESC practices. Therefore, the goal associated with this BMP was completed successfully as required.

Minimum Control Measure 5 – Post-Construction Stormwater Management of Development and Redevelopment

The City of South Portland fulfilled its requirements for the Post-Construction Stormwater Management of this Minimum Control Measure through a variety of activities as described below. The overall goals of this MCM are to develop and implement a program that addresses stormwater runoff from new development and redevelopment projects greater than or equal to one acre in size, including projects less than one acre that discharge to the MS4 and are part of a larger common plan of development or sale; implement local ordinance regulations to ensure the adequate long-term operation and maintenance and proper functioning of post-construction BMPs; and to annually document all related post-construction activities for inclusion the City's annual stormwater report.

BMP 5.1 Implement Ordinance or Similar Measure

Responsible Party: Water Resources Protection Dept. *Additional Party: Planning Dept.*

FUNCTION

To develop local regulations that support and enhance state stormwater pollution regulations (MEDEP Chapter 500 and *General Permit for the Discharge of Stormwater From Small Municipal Separate Storm Sewer Systems*) by ensuring the appropriate and adequate use of structural and nonstructural BMPs for new development and redevelopment projects.

METHODOLOGY

Create a local regulatory mechanism or ordinance to address post-construction stormwater runoff from new development and redevelopment projects greater than or equal to one acre in size, including projects less than one acre that discharge to the MS4 and are part of a larger common plan of development or sale.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measureable Goal 5.1.4*** – implement post-construction stormwater ordinance to ensure long-term operation and maintenance of post-construction BMPs.

ACTIONS COMPLETED DURING PERMIT YEAR 3

In April of 2009 the City amended its Zoning Ordinance to include provisions requiring stormwater performance standards for new development and redevelopment projects. Specifically, Chapter 27-1536 of the local ordinance now requires construction projects exceeding 15,000 square feet to have an accompanying Post-Construction Stormwater Management Plan that adequately addresses the quantity and quality of stormwater runoff from the site. The ordinance provides site developers of qualifying projects with the option of either meeting the MEDEP's Chapter 500 standards or City performance standards. The City has also incorporated provisions for stormwater management into its Subdivision Ordinance (Chapter 24) and other applicable sections of its zoning ordinance. The MEDEP has referenced

the City's ordinance amendments as a possible model for other ISWG communities.

Additionally (and as discussed for BMP 1.4), in June of 2011 a Coastal Communities Stormwater Management Manual was completed which now serves as an important supplement to Ch. 27-1536 by providing guidance to landowners on the use of Low Impact Development (LID) practices for small new development or redevelopment projects. More specifically, the manual is designed to allow prospective users to easily determine which provisions of the Stormwater Performance standards apply to a particular project (Table 6). This web-based manual promotes stormwater-integrated site design and LID concepts unique to the constraints of coastal soils with the potential to provide financial and aesthetic incentives to developers/landowners while also enhancing stormwater management. To the best of our knowledge, this manual is the first of its kind in the state and is applicable to other communities that are interested in developing stormwater management guidelines for small development and redevelopment projects (<1 acre of disturbance) in coastal communities. As a result of these activities, the goals associated with this BMP were completed successfully as required.

Table 6: Types of stormwater management systems recommended by City's web-based Stormwater Manual

Stormwater System	Drainage Plan	Basic & Post-Construction SW Mgmt Plans	Hyrdologic Soil Group(3)	Depth to Seasonal High Groundwater
LID: Reduce Imperviousness	Yes	Yes	All	All
LID: Avoid Soil Compaction	Yes	Yes	All	All
LID: Maximize Native Vegetation	Yes	Yes	All	All
Rain Barrels			All	All
Rain Gardens	Yes		All	All
Drip-Edge Filters	Yes		All	All
Downspout Disconnection	Yes		All	All
Soils Restoration	Yes	Partial (4)	All	All
Surface Soil Filter		Yes	A-C	Install above
Subsurface Sand Filter		Yes	A-C	Minimum 1 ft
Gravel Wetland		Yes	C-D	All
Storage and Reuse System		Yes	All	All
Americast Filterra® System(2)		Yes	A-C	See Specs
WA DOT Media Filter Drain(2)		Yes	A-C	All
Kristar FloGard Perk Filter®(2)		Yes	A-C	See Specs
Porous Asphalt (1)		Yes(1)	N/A	N/A
Porous Concrete (1)		Yes(1)	N/A	N/A
Green Roof (1)		Yes(1)	N/A	N/A

BMP 5.2 Develop and Implement a Method to Track Post-Construction BMPs in the Urbanized Area and Develop and Implement a Tracking System for Annual Certifications Required by Owner or Operator of the Post-Construction BMPs

Responsible Party: Water Resources Protection Dept. *Additional Party: Planning Dept.*

FUNCTION

To develop a method to ensure that post-construction BMPs are adequately operated and maintained.

METHODOLOGY

Use site plan review process to impose post-construction BMP inspection and O&M requirements as specified in the recently amended municipal ordinance (Chapter 27-1536).

PERMIT YEAR 3 MEASURABLE GOALS

Measurable Goal 5.2.2 – continue to implement post-construction BMP tracking program with yearly evaluations to modify as necessary.

Reporting: documentation of all BMPs and annual certifications will be entered into a database management system or other recordkeeping system for tracking and annual reporting to DEP. The following information will be included in the annual report:

- Cumulative number of sites that have post construction BMPs discharging to City's MS4.
- Summary of the number of sites that have post-construction BMPs discharging into the City's MS4 that were reported to municipality.
- Number of sites with documented functioning post-construction BMPs.
- Number of sites that required routine maintenance or remedial action to ensure the post-construction BMP was functioning as intended.

ACTIONS COMPLETED DURING PERMIT YEAR 3

Beginning in PY2010-11, the owners / operators of all sites >15,000 ft^2 with structural stormwater management BMPs constructed after the adoption of the City's Stormwater Management Performance Standards in April 2009 were required to submit annual third party certified inspections. The City worked closely with the Long Creek Watershed Management District to develop the inspection procedures that address entire qualifying sites through the use of both non-structural and structural BMPs (**Appendix 7**).

There were only six entities with structural stormwater BMPs in several locations that met the City's reporting requirements in PY2010-11 (Table 7). One of these, the LCWMD, will be overseeing the inspections for the several BMPs constructed as part of the watershed restoration efforts there. The Portland International Jetport also has recently installed post-construction stormwater BMPs that are subject to reporting requirements under the DEP's Multi Sector General Permit. There are numerous other sites that were either proposed for construction or in the process of being constructed that will become subject to the annual inspection requirements in future permit years (Figure 7). For PY2011-12, the City will work closely with the LCWMD and ISWG to further refine post-construction BMP inspection procedures.

Table 7: Post-construction BMP third party inspection and reporting status for PY2010-11

Project Name	Owner / Operator	Discharge to MS4?	3PI Report Submitted?	Maintenance Required?
Darling Ave Private*	LCWMD	Yes	N/A	Contact LCWMD
Darling Ave Public ROW*	LCWMD	Yes	N/A	Contact LCWMD
Dick's Sporting Goods*	LCWMD	Yes	N/A	Contact LCWMD
Jetport Deicing Facility**	City of Portland	Yes	N/A	Contact PWM
Jetport Terminal Expansion**	City of Portland	Yes	N/A	Contact PWM
Jetport Runway Expansion**	City of Portland	Yes	N/A	Contact PWM
Mahoney Middle School	CoSP	Yes	No	Unknown
Philbrook Ave*	LCWMD	Yes	N/A	Contact LCWMD
Scrub-A-Dub	B&D ME Realty, LLC	Yes	Yes	Yes
Troiano Waste Services	Troiano Waste Services	Yes	Yes	Yes
Tru Choice Credit Union	TruChoice Federal Credit Union	Yes	Yes	No
Chipotle / Cracker Barrel	VanEastland, LLC	Yes	Yes	Yes
	Yes:	**12**	**4**	**3**
	No:	**0**	**1**	**1**

**Tracking done by LCWMD*

***Tracked under MSGP requirements*

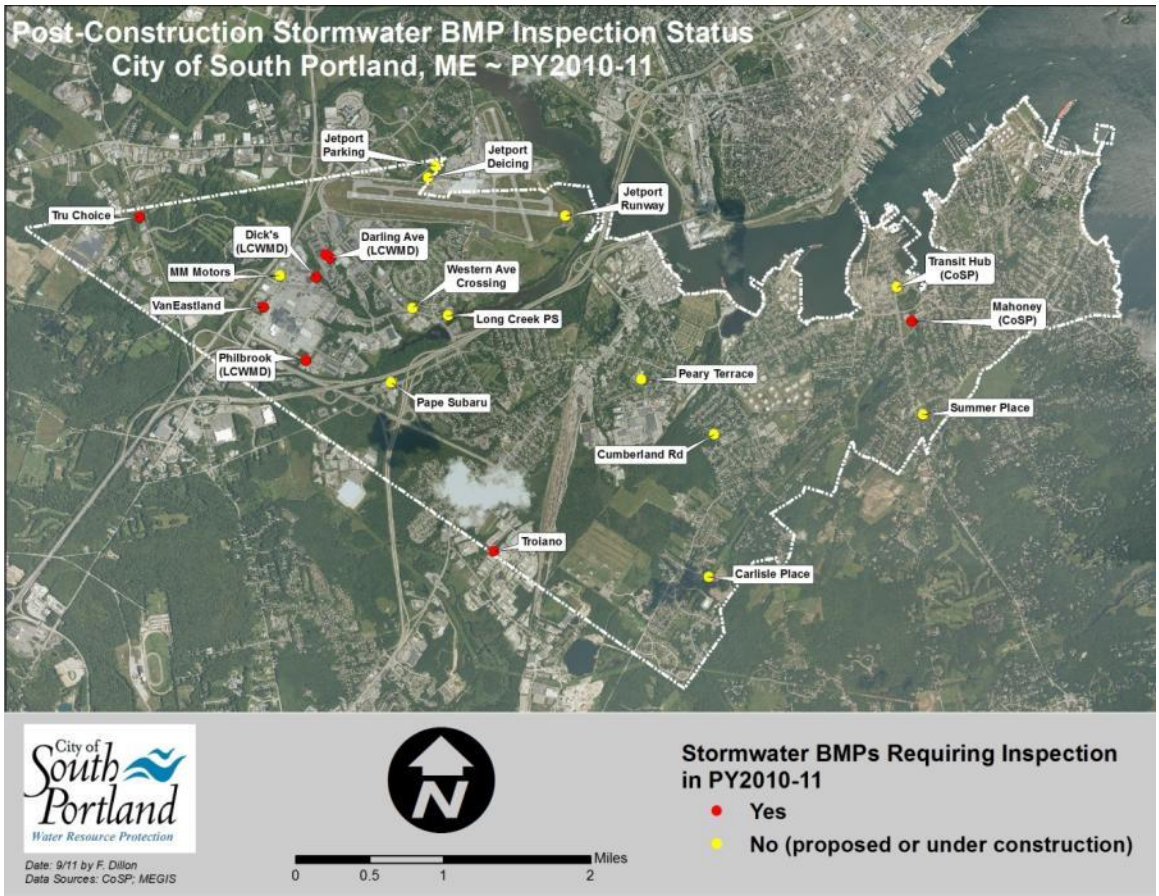


Figure 7: Locations of qualifying post-construction structural stormwater BMPs in South Portland

The City continued to use a GIS-based recordkeeping system to track post-construction stormwater BMP activities and is currently in the process of making substantial improvements to this system. Specifically, the attribute table associated with the structural BMP GIS data layer will include hyperlinks to record drawings and post-construction stormwater management plans stored on the City's computer network. This will allow City staff to easily access information relevant to any given structural (and non-structural) BMP. We are also currently considering different options for making similar information readily available to qualified third party inspectors. One approach would use Google Earth to provide photos, record drawings and stormwater management plans directly from the web (Figure 8). Another would build upon the web-based BMP tracking system used by the LCWMD and being adapted for use by ISWG communities. We expect to have a new and improved system in place for third party inspectors to use for PY2011-12. As a result of these activities, the goal associated with this BMP has been completed successfully as required.

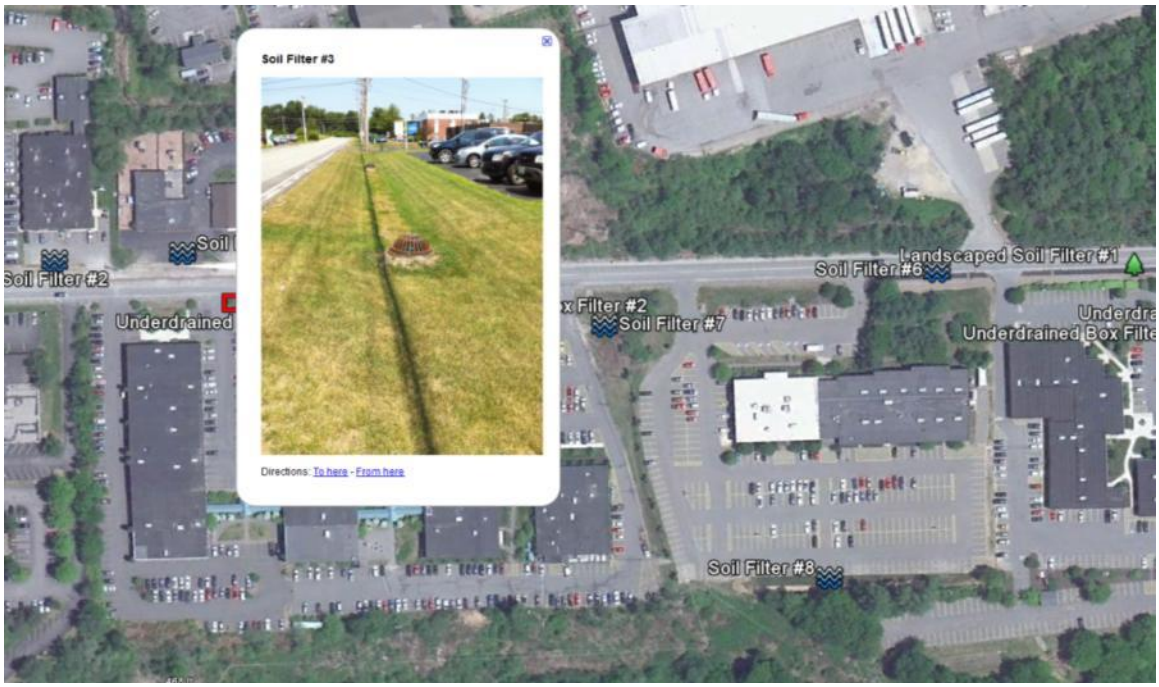


Figure 8: Google Earth-based system for providing stormwater BMP information to third party inspectors

Minimum Control Measure 6 – Pollution Prevention / Good Housekeeping for Municipal Operations

City-hosted April 2011 MS4 training for municipal staff from several greater Portland communities (photo by F. Dillon)

The City of South Portland fulfilled its requirements for the Pollution Prevention / Good Housekeeping for Municipal Operations Minimum Control Measure through a variety of activities as described below. The overall goals of this MCM are to develop an inventory of all municipal operations that have the potential to generate stormwater pollution; conduct a municipal employee training program; develop a sweeping program for all publicly owned streets and parking lots; develop a cleaning and maintenance program for all City-owned catch basins and other stormwater structures; evaluate and implement a prioritized schedule for maintaining and upgrading the City's stormwater system; and develop Stormwater Pollution Prevention Plans (SWPPPs) for all applicable municipal facilities and operations.

BMP 6.1 Operations at Municipally Owned Grounds and Facilities

Responsible Party: Stormwater Program Coordinator *Additional Party: N/A*

FUNCTION

To identify all applicable activities at municipally owned or operated facilities that have the potential to generate stormwater pollution.

METHODOLOGY

Develop a GIS-based inventory of all City properties with a list of associated municipal activities that have the potential to generate stormwater pollution.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measurable Goal 6.1.3*** – develop and implement written operation and maintenance (O&M) procedures that include maintenance schedules and inspection procedures to ensure long-term operation of structural and non-structural controls that reduce stormwater pollution to the maximum extent practicable for all watersheds in the Urbanized Area. As specified in the General Permit for Small MS4s, the O&M procedures will address, as applicable:
  - Proper use, storage, and disposal of petroleum and non petroleum products, hazardous materials, waste materials, pesticides and fertilizers, including minimizing the use of these products and an alternative product analysis
  - Spill response and prevention
  - Vehicle and equipment storage, maintenance, and fueling

- Amount of deicing materials used each deicing season;
- Landscaping and lawn care, including, where applicable, an evaluation of reduced mowing frequencies, establishing and maintaining buffers, and cutting vegetation within 100 feet of a stormwater conveyance or surface water
- Erosion and sedimentation control
- Feeding gulls, waterfowl or other wildlife

ACTIONS COMPLETED DURING PERMIT YEAR 3

The City continued to use the O&M procedures developed by ISWG for PY2009-10 that include maintenance schedules and inspection protocols to ensure the ongoing and proper functioning of structural and non-structural stormwater pollution controls for our entire Urbanized Area (Figure 9). Therefore, the City has successfully completed the goal associated with this BMP as required.

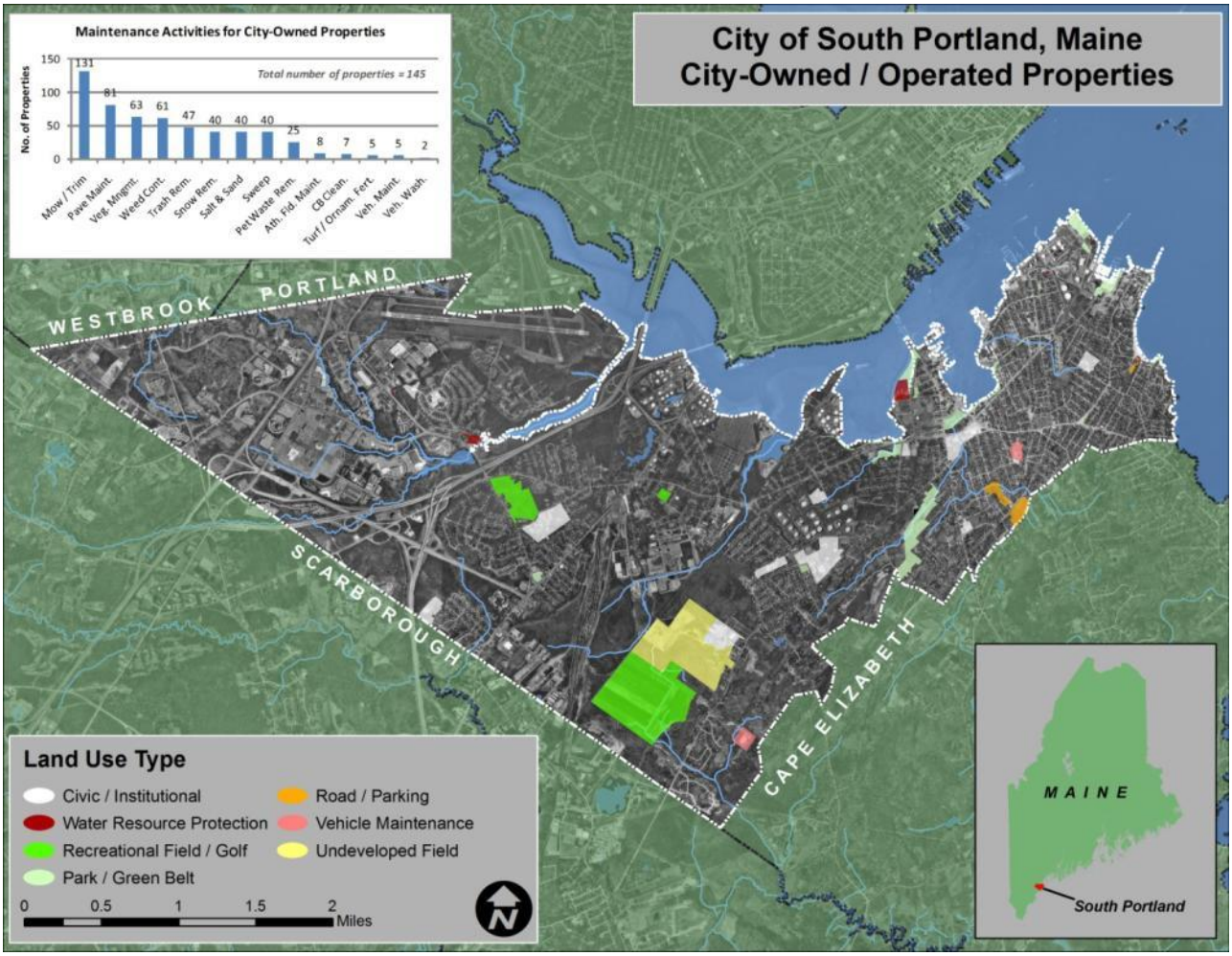


Figure 9: Properties owned, operated or maintained by the City (excluding transportation infrastructure)

BMP 6.2 Municipal Employee Training

Responsible Party: Water Resources Protection *Additional Party: N/A*

FUNCTION

To provide relevant and timely training for all applicable municipal employees to assist in the effective implementation of the City's Stormwater Program Management Plan and ultimately the elimination of stormwater pollutants from all municipal operations.

METHODOLOGY

Develop and deliver targeted training materials and resources for all relevant municipal operations (e.g., street and pavement maintenance, landscaping, vehicle maintenance, snow removal, etc.).

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measureable Goal 6.2.1*** – identify training needs and materials for municipal staff to reduce or eliminate stormwater pollution from all municipal activities.

ACTIONS COMPLETED DURING PERMIT YEAR 3

The City partnered with ISWG and the City of Portland to research and identify stormwater management training needs and materials for municipal staff. Several DVDs were purchased from a vendor of proprietary training resources covering all relevant aspects of municipal operations and the precautions / BMPs needed to minimize or prevent the generation of stormwater pollution (Figure 10). These DVDs and associated training materials are now part of a library maintained by ISWG for use by all member communities.

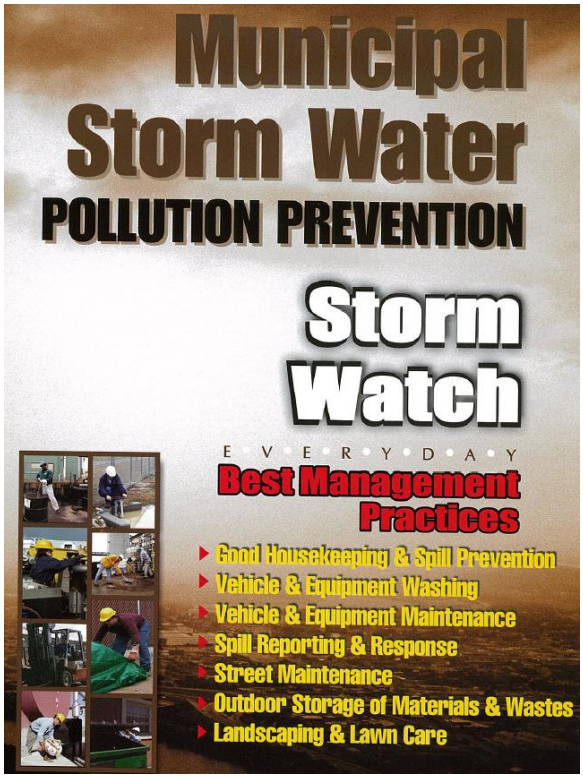


Figure 10: Stormwater management / pollution prevention training topics for municipal staff

Also in partnership with ISWG and the City of Portland, in April 2011 the City of South Portland hosted a very well attended training session for municipal staff from several communities in the greater Portland area. Stormwater Program Managers from South Portland, Portland and ISWG presented the training topics to 78 attendees, 49 of whom were from South Portland (Figure 11). A brief quiz was administered following the presentation and the results indicated that the attendees understood and remembered the topics presented to them. Therefore, the City has successfully completed the goal associated with this BMP as required.

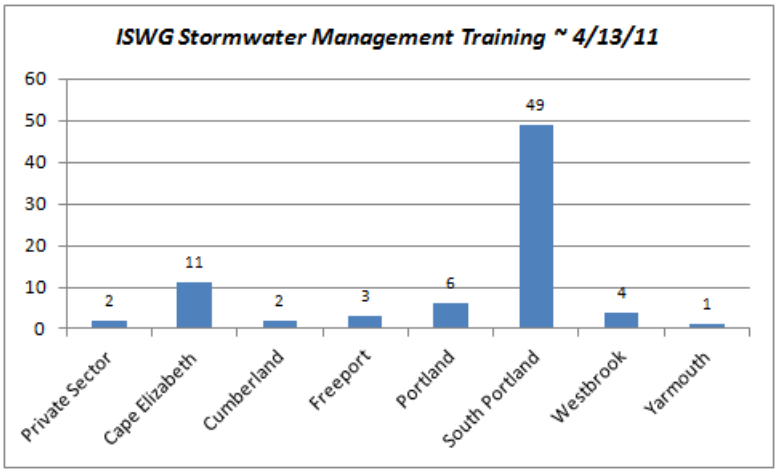


Figure 11: Attendees at April 2011 stormwater management training session for municipal staff sponsored by the City of South Portland, Portland and ISWG

BMP 6.3 Street Sweeping

Responsible Party: Water Resources Protection *Additional Party: N/A*

FUNCTION

To continue (and refine as needed) the City's ongoing pavement sweeping program for all municipally owned or operated streets and parking areas.

METHODOLOGY

Annually assess the effectiveness of the City's ongoing pavement sweeping program and refine as needed based on the latest research and available funding.

2011 Regenerative Air Sweeper Recently Purchased by City (Photo by F. Dillon)

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measurable Goal 6.3.1*** – continue or modify as needed the City's ongoing pavement sweeping program for all municipally owned or operated streets and parking areas and ensure that sweeping is conducted at least once a year as soon as possible after snowmelt.

ACTIONS COMPLETED DURING PERMIT YEAR 3

The City continued its ongoing sweeping program for all municipally owned or operated streets and parking areas. For the 2010-11 permit year, 1,116.84 tons of sweepings were recovered from City streets following the final snow melt in early 2011. The City also removed approximately 383 tons of grit from publicly owned catch basins for PY2010-11 (see next section). In theory, it seems the amount of sweepings

and catch basin grit removed should roughly equate to the amount of sand applied during the winter. The City spread 2,355.29 tons of sand over the winter of 2010-11. Therefore, the difference between sand applied and sand removed is approximately 855.45 tons (2,355.29 – 1,116.84 – 383). Hypothetically, this difference was either discharged into local surface waters or resides within the storm drain system. Given the sheer volume of material and the potential for it to reach urban impaired streams, we will confer with ISWG to determine whether this issue is significant enough to warrant further collective action.

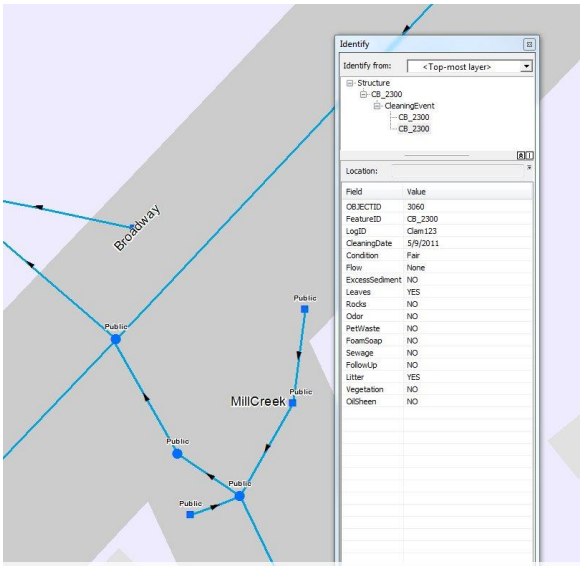
Additionally, in 2010 the City began a more intensive sweeping regimen for the Long Creek watershed in support of restoration efforts there. We conducted sweeping twice annually – once shortly after final leaf drop in the fall of 2010 and once shortly after final snow melt in the late winter / early spring of 2011. We are currently working with the Long Creek Watershed Management District (LCWMD) to identify targeted "hotspot" areas that may be swept four times annually from April until November and perhaps more frequently depending on funding availability and observed effectiveness. The City also purchased a new regenerative air sweeper in August 2011 for enhanced removal of fine particulates which are associated with some of the more harmful stormwater pollutants. Therefore, the goal associated with this BMP has been completed successfully as required.

BMP 6.4 Cleaning of Stormwater Structures Including Catch Basins

Responsible Party: Water Resources Protection *Additional Party: N/A*

FUNCTION

To ensure that all municipally owned or operated stormwater structures and catch basins are properly functioning and maintained and that the materials removed from them are disposed of appropriately per applicable state law.



Catch basin data entry form for recording structure condition

METHODOLOGY

Conduct annual cleaning activities for stormwater structures and catch basins to ensure their proper functioning and dispose of associated materials appropriately.

PERMIT YEAR 3 MEASURABLE GOALS

Measurable Goal 6.4.1 – continue or modify as needed the City's ongoing stormwater structure and catch basin cleaning program with cleaning frequencies determined by sediment accumulation rates. At a minimum, all stormwater structures and catch basins should be cleaned every other year. Stormwater structures and catch basins will be cleaned more frequently if inspections indicate excessive sediment accumulation (i.e.,

when the sump is greater than or equal to 50 percent filled).

ACTIONS COMPLETED DURING PERMIT YEAR 3

The City continued its ongoing stormwater structure and catch basin cleaning program for all municipally owned or operated stormwater infrastructure. We also continued to use the computerized recordkeeping system developed in PY2009-10 to track operational costs for catch basin cleaning on a watershed basis. In addition to catch basin location, this system collects data for labor hours, fuel consumption and tons of grit removed. We are currently working to include maintenance and capital replacement data to identify the true cleaning cost on a per catch basin basis.

For the 2010-11 permit year, approximately 2,000 City-owned catch basins were cleaned and over 400 tons of material were removed and disposed of at Commercial Recycling in Scarborough. The tipping fee for grit disposal was $49 / ton (at a cost of nearly $20,000). Therefore, the goal associated with this BMP has been completed successfully as required.

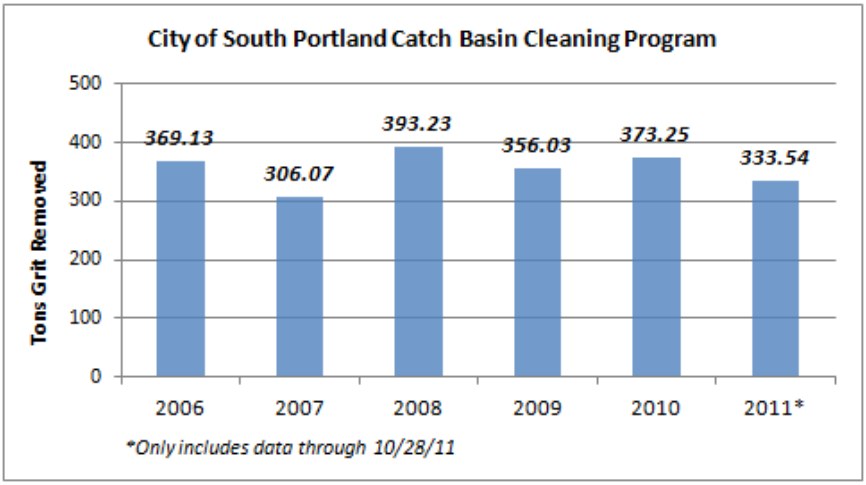


Figure 12: Summary of catch basin cleaning activities (2006-11)

BMP 6.5 Maintenance and Upgrading of Stormwater Conveyances and Outfalls

Responsible Party: Water Resources Protection *Additional Party: N/A*

FUNCTION

To ensure that all municipally owned or operated stormwater conveyances and outfalls are properly functioning and maintained.

METHODOLOGY

Conduct ongoing annual inspection and maintenance program to identify condition of stormwater conveyances and outfalls and repair, replace or install new infrastructure as needed.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measurable Goal 6.5.2*** – continue to maintain and upgrade conveyances, structures and outfalls of MS4 system through general maintenance, repairs and new construction and as part of the combined sewer system separation program. Additionally, evaluate and implement a prioritized schedule, as necessary, for repairing or upgrading the conveyances, structures and outfalls of the MS4.

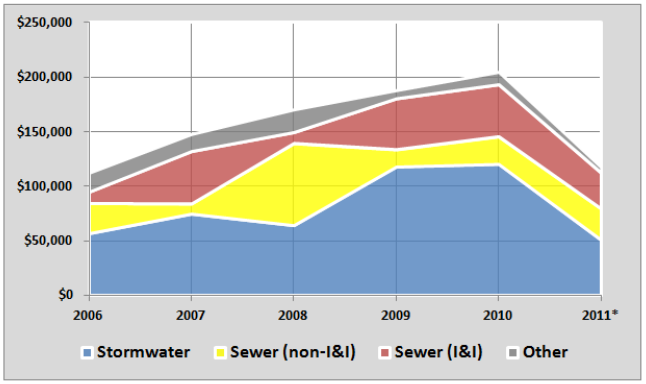
ACTIONS COMPLETED DURING PERMIT YEAR 3

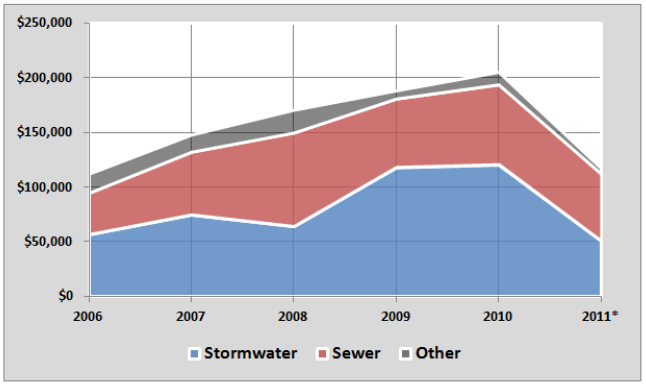
The City continued its ongoing inspection and maintenance program for its stormwater conveyances. For the 2010-11 permit year, the City spent over $200,000 (excluding capital replacement, fuel and equipment maintenance costs) on a variety of stormwater system repair and replacement activities (Table 6). Examples include catch basin replacement, installation of curb inlets, pipe repair, installation of new storm drain structures, replacement of rip rap, and drainage ditch maintenance, among many others. Labor costs for ongoing television inspection and hydraulic cleaning activities have not yet been included in these summaries, so the City's stormwater infrastructure maintenance expenditures will considerably exceed $200,000 for PY 2010-11. We will continue to refine our cost accounting systems to more accurately reflect actual expenditures for the City's stormwater program. As a result of these extensive activities, the goal associated with this BMP has been completed successfully as required.

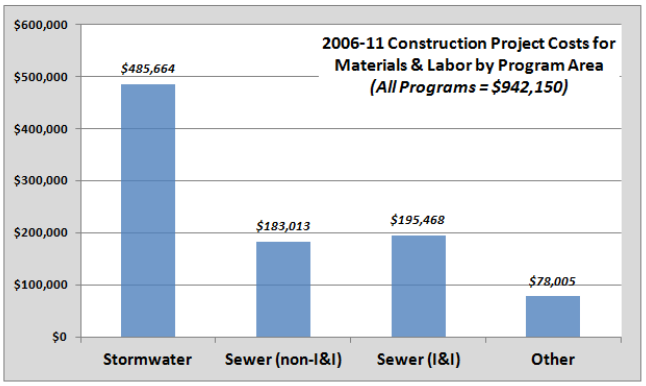
Table 8: Summary of construction project activities by program type (2006-11)

Program Type	2006	2007	2008	2009	2010	2011*	Total
Stormwater	$56,819	$74,833	$64,222	$118,257	$120,730	$50,803	$485,664
Sewer (non-I&I)	$27,881	$9,407	$75,631	$15,863	$25,353	$28,878	$183,013
Sewer (I&I)	$10,348	$48,150	$9,960	$46,650	$47,586	$32,774	$195,468
Other	$17,464	$15,661	$20,828	$7,486	$11,406	$5,160	$78,005
Total	$112,512	$148,051	$170,641	$188,256	$205,075	$117,615	$942,150

**Data for 2011 only through September*







BMP 6.6 Stormwater Pollution Prevention Plans (SWPPPs)

Responsible Party: Water Resources Protection *Additional Party: N/A*

FUNCTION

To ensure that all applicable municipal facilities (public works, transfer station, school bus maintenance, etc.) in the urbanized area have current Stormwater Pollution Prevention Plans (SWPPP).

METHODOLOGY

Conduct an inventory of applicable municipal facilities to determine which ones need updated or new SWPPPs. Develop SWPPPs for all applicable facilities.

PERMIT YEAR 3 MEASURABLE GOALS

- ***Measurable Goal 6.6.2*** – develop and implement a SWPPP for each applicable facility (e.g., public works, school bus maintenance and transfer station) and collaborate with DEP to establish a training program for municipal facility staff to keep them adequately informed of SWPPP requirements on an ongoing basis.

ACTIONS COMPLETED DURING PERMIT YEAR 3

As noted above, in April 2011 the City helped coordinate a very well-attended SWPPP training event in partnership with DEP, CCSWCD and ISWG. Several City maintenance staff from each of the facilities for which SWPPPs are required (e.g., School Bus Maintenance, Transfer Station and Public Works) attended as did many from facilities not required to have SWPPPs (e.g., Water Pollution Control, Parks, Police, Fire, Public Transit, etc.). The process for reviewing and refining SWPPPs is ongoing and changes or updates to facility operations are incorporated as they occur. For example, an updated Operations Manual was recently completed for the Transfer Station and these changes will incorporated into an updated SWPPP. Therefore, the goal associated with this BMP has been completed successfully as intended.

Summary of Stormwater Activities for 2011-12 Reporting Year

BMP 1.1 Continue awareness outreach efforts from the previous MS4 permit cycle.
Responsible Party: Water Resource Protection in cooperation with ISWG Education Coordinator.

BMP 1.2 Work with existing partners and seek out partners to help raise awareness of stormwater issues.
Responsible party: ISWG Education Coordinator

BMP 1.3 Develop and implement Stormwater Awareness Plan.
Responsible party: ISWG Education Coordinator

Measurable Goal 1.3.3: implement the Awareness Plan and conduct annual evaluation of process and impact indicators.

BMP 1.4 Continue targeted best management practices adoption efforts from previous MS4 permit cycle.
Responsible party: ISWG Education Coordinator

BMP 1.5 Develop and implement BMP Adoption Plan.
Responsible party: ISWG Education Coordinator

Measurable Goal 1.5.3: implement the BMP Adoption Plan including annual evaluation of process and impact indicators.

BMP 1.6 School outreach
Responsible party: ISWG Education Coordinator

Measurable Goal 1.6.2: In Permit Years 2-5, as funding permits, continue the incorporation and implementation of "It's all connected" school curriculum in elementary and/or middle schools.

BMP 1.7 Continue to broadcast water quality videos on Community Television.
Responsible party: Collection System Manager, Water Resource Protection

Measureable Goal 1.7.1: In Permit Years 1-5, the City will continue to air related to water quality issues on South Portland's Community Television.

BMP 2.1 Public notice requirement.
Responsible party: ISWG Stormwater Program Coordinator or Water Resource Protection

Reporting: The annual report will describe compliance with public notice requirements including documentation of meetings and attendance, where applicable.

BMP 2.2 Host public event.
Responsible party: ISWG Stormwater Program Coordinator or Water Resource Protection

Measurable Goal 2.2.1: ISWG and/or the City will annually host/conduct or participate in at least one public event such as storm drain stenciling, stream cleanup, household hazardous waste collection day, volunteer monitoring, neighborhood educational events, conservation commission outreach program, Urban Impaired Stream outreach program, or adopt a storm drain or local stream program. The target audience will be a segment of the urbanized area population that the City wishes to reach. The ISWG and/or the City will consult with DEP to ensure the event will satisfy the requirements.

BMP 2.3 Encourage municipal involvement in public outreach.
*Responsible Party***:** Water Resource Protection

Measurable Goal 2.3.1: During Years 1-5, the City will continue to participate in public outreach (e.g. serving on local water resource committees, participating in public/school events, writing water quality/stormwater articles) or encourage other municipal involvement, as appropriate.

BMP 3.1 Develop a watershed based storm sewer system infrastructure map.
Responsible Party: Engineer, Water Resource Protection

Reporting: The annual report will include a status update of mapping efforts undertaken during the Permit Year.

BMP 3.2 Non-stormwater discharge ordinance.
Responsible Party: Water Resource Protection

Measureable Goal 3.2.1: In Permit Years 1-5, the City will continue to enforce the Non-Stormwater Discharge Ordinance. This ordinance is referenced in the South Portland Code of Ordinances as Chapter 27 Performance Standards with Respect to Stormwater Management **(§§27-153.1 22-209) which was adopted in April 2009.**

BMP 3.3 Develop dry weather outfall inspection program.
Responsible Party: Water Resource Protection

Measureable Goal 3.3.6: In Permit Years 2-5, the City will continue dry weather outfall inspections in additional sub-watersheds within the highest priority watershed. After which the City will begin outfall inspections in the second highest priority watershed. By the end of Permit Year 5, outfall inspections will have been conducted in all subwatersheds of the highest priority watershed and in one or more subwatersheds of the second highest priority watershed. As additional outfalls are identified or if follow-up is needed, these outfalls will be added to the inspection list. The City will document and make use of opportunistic inspections.

BMP 3.4 Open ditch illicit discharge program within the highest priority watershed.
Responsible Party: Water Resource Protection

Measureable Goal 3.4.2: During Permit Years 3-5, develop a strategy for detecting illicit discharges in its open ditch system within its highest priority watershed.

BMP 3.5 Household hazardous waste collection.
Responsible Party: Water Resource Protection

Measureable Goal 3.5.1: In Permit Years 2-5, as funding allows, the City will provide a reasonable means for residents to dispose of hazardous materials by continuing to host its Annual Household Hazardous Waste (HHW) collection day.

BMP 3.6 Support the Friends of Casco Bay mobile vessel pumpout service.
Responsible Party: Water Resource Protection

Measureable Goal 3.6.1: During Permit Years 1-5, or as funding is available, the City will continue to financially support the mobile vessel pumpout service.

BMP 3.7 Public Complaint Hotline.
Responsible Party: Water Resource Protection

Measureable Goal 3.7.1: During Permit Years 1-5, the City will continue to provide an easy and confidential method for individuals to report suspected illicit connections or illegal dumping via the voice mail system for the Water Resource Protection Department and the online complaint form.

BMP 3.8 Storm drain stenciling.
Responsible Party: Water Resource Protection

Measureable Goal 3.8.1: During Permit Years 1-5, the City will continue to annually stencil its catch basins in conjunction with catch basin cleaning.

BMP 4.1 Notification to construction site developers and operators of the requirements for registration under the Maine Construction General Permit or Chapter 500, Stormwater Management for the discharge of stormwater associated with construction activities.
Responsible party: Water Resource Protection

Measureable Goal 4.1.2: By the end of Permit Year 1, evaluate current system and modify, if necessary.

BMP 4.2 Develop and implement a mechanism to annually document every construction activity that disturbs one or more acres within the Urbanized Area.
Responsible party: Water Resource Protection

Reporting: The number of construction activities disturbing greater than or equal to one acre will be included under MCM 4, BMP 4.3, Develop and implement a construction site inspection program.

BMP 4.3 Develop and implement a construction site inspection program.
Responsible party: Water Resource Protection

Measurable Goal 4.3.4: During Permit Years 1-5, the City will inspect construction sites located in the watershed of an urban impaired stream a minimum of three times, and will inspect construction sites located in all other watersheds a minimum of two times. For all construction sites, at least one of the required inspections will be at project completion.

BMP 4.4 Promote certified contractors in erosion control practices.
Responsible party: Community Planner, Planning and Development

Measurable Goal 4.4.1: During Permit Years 1-5, the City will continue to encourage contractors to be certified in erosion and sediment control through the DEP Non-Point Source Training and Resource Center or its designee.

BMP 5.1 Implement ordinance or similar measure
Responsible Party: Community Planner, Planning and Development

Measurable Goal 5.1.4: In Permit Years 2-5, the City will implement the post-construction ordinance or other DEP approved measure.

BMP 5.2 Develop and implement a method to track post-construction BMPs that are installed within the Urbanized Area, and develop and implement a system to track annual certifications that are required by the owner or operator of the post-construction BMP(s).
Responsible Party: Water Resource Protection

Measurable Goal 5.2.2: In Permit Years 3-5, continue to implement the method of tracking and conduct yearly evaluations of the method, and modify as necessary.

In Permit Years 3-5, documentation of all BMPs and annual certifications will be entered into a database management system or other recordkeeping system for tracking and annual reporting to DEP. The following information will be included in the annual report to the DEP:

- The cumulative number of sites that have post-construction BMPs discharging into the MS4.
- A summary of the number of sites that have post-construction BMPs discharging into the MS4 that were reported to the municipality.

- The number of sites with documented functioning post-construction BMPs.
- The number of sites that required routine maintenance or remedial action to ensure that the post-construction BMP were functioning as intended.

BMP 6.1 Operations at municipally owned grounds and facilities.
Responsible Party: Water Resource Protection

Measurable Goal 6.1.2: By the end of Permit Year 2, the City will develop and implement written operation and maintenance (O&M) procedures that include maintenance schedules and inspection procedures to ensure long-term operation of structural and non-structural controls that reduce stormwater pollution to the maximum extent practicable for its **highest priority watershed**.

Measurable Goal 6.1.3: By the end of Permit Year 3, develop and implement O&M procedures for the remaining watersheds within the Urbanized Area.

BMP 6.2 Municipal employee training.
Responsible Party: Water Resource Protection

Measurable Goal 6.2.1: By end of Permit Year 3, identify training needs and materials.

BMP 6.3 Street sweeping.
Responsible Party: Water Resource Protection

Measurable Goal 6.3.1: During Permit Years 1-5, the City will continue or modify, a program to sweep all publicly accepted paved streets and publicly owned paved parking lots maintained by the City at least once a year as soon as possible after snowmelt.
Reporting: The annual report will include a status update on street sweeping.

BMP 6.3 Street sweeping.
Responsible Party: Water Resource Protection

Measurable Goal 6.3.1: During Permit Years 1-5, the City will continue or modify, a program to sweep all publicly accepted paved streets and publicly owned paved parking lots maintained by the City at least once a year as soon as possible after snowmelt.
Reporting: The annual report will include a status update on street sweeping.

BMP 6.4 Cleaning of stormwater structures including catch basins.
Responsible Party: Water Resource Protection

Measurable Goal 6.4.1: During Permit Years 1-5, the City will continue or modify, a program to evaluate and, if necessary, clean catch basins and other stormwater structures that accumulate sediment at least once every other year and dispose of the removed sediments in accordance with current state law. The City will clean catch basins more frequently, if inspections indicate

excessive accumulation of sediment. Excessive accumulation is considered when the sump is greater than or equal to 50 percent filled.

Reporting: The annual report will include a status update on cleaning of stormwater structures.

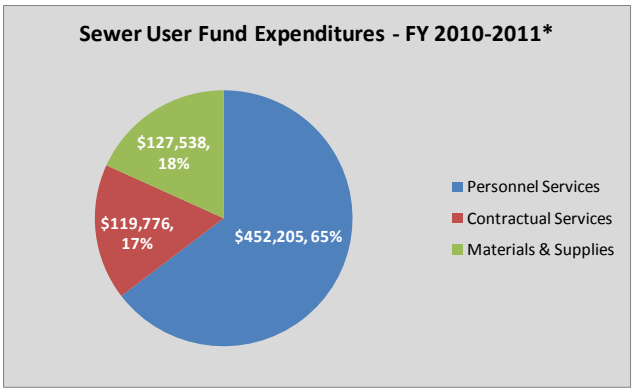
BMP 6.5 Maintenance and upgrading of stormwater conveyances and outfalls.
Responsible Party: Water Resource Protection

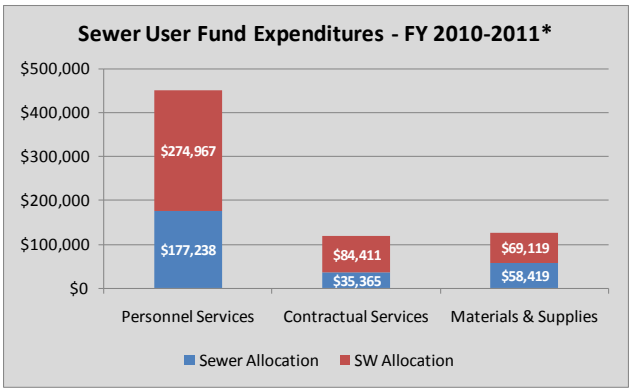
Measurable Goal 6.5.2: During Permit Years 2-5, the City will evaluate and implement a prioritized schedule, as necessary, for repairing or upgrading the conveyances, structures and outfalls of the its MS4.

BMP 6.6 Stormwater Pollution Prevention Plans (SWPPPs)
Responsible Party: Water Resource Protection

Measurable Goal 6.6.2: By the end of Permit Year 2, the City will develop and implement a SWPPP for each applicable facility as determined under Measurable Goal 6.6.1. In Permit Years 3-5, the City will continue to implement its facility SWPPP(s). The City will collaborate with DEP on developing a training program to provide to municipal facility staff informing them on the requirements of the SWPPP, and how to effectively implement it.

Stormwater Program Budget Summaries for 2010-11 Reporting Years





APPENDICES

Appendix 1: Interlocal Stormwater Working Group Permit Year 3 Summary of Minimum Control Measure 1 – Stormwater Awareness Plan Implementation

Stormwater Awareness Plan Implementation

Outreach Tool	Status	Details
Exposure - to be in compliance, implement A5 and one additional activity (A2, A3, A4 or A6).		
A1 - Run the Ducky II ad for 3 weeks	complete	The Ducky II ran on local television stations from March 28th through April 24th, for a total duration of four weeks. The ad's estimated reach was 98.9% and frequency was 10.4 within our target audience.
A2 - Distribute posters at municipal offices, libraries, local hotspots (coffee/sandwich shops)	complete	"Follow the Flow" posters were distributed to community establishments in the spring of 2011.
A5 - Ducky ad + *After the Storm*, a video co-produced by EPA & the Weather Channel on local cable access stations	complete	Each ISWG community's public access station was provided with a copy of the Ducky II ad as well as a copy of *After the Storm* and MDEP's *Working Together for Spill Prevention*.
Retention - to be in compliance, implement B1 & B4 and one additional activity (B2, B3 or B5).		
B1 - Prominent links established on municipal and partner websites	complete	All websites for ISWG communities feature a link to www.thinkbluemaine.org.
B2 - Article in local newspaper and/or town newsletter	complete	A press release about the Ducky II ad and runoff of lawn care products was submitted to the following publications: *Northern Forecaster* (Freeport, Yarmouth, Falmouth & Cumberland), *Portland Daily Sun* (Portland), *Southern Forecaster* (Cape Elizabeth, South Portland & Scarborough), *Independent* (Windham), *American Journal* (Gorham & Westbrook), *Courier* (Biddeford, Saco & OOB)
B4 - Purchased ad space - 3 week duration	incomplete	With approval from MDEP, this task was not completed due to the expense of running the Ducky II ad this permit year.
Acceptance - to be in compliance, implement C1; no additional activities required.		
C1 - Email newsletter/blurb to municipal employees (including school department), university employees, etc.	complete	An emailed contest was sent to all employees in ISWG communities asking them to visit www.thinkbluemaine.org to answer five questions. Those who submitted correct answers to the questions were eligible to win one of six $50 L.L. Bean gift cards. A total of 290 employees from the 14 municipalities participated.

Best Management Practices Adoption Plan Implementation

Task	Status	Details
Reporting		
Summarize plan implementation to date	complete	
Point of Sale		
Retain 19 Point of Sale locations in the ISWG communities.	complete	The 19 Point of Sale locations in 11 of the 14 ISWG communities were retained. The distribution of the stores is as follows:
		Biddeford: 0
		Cape Elizabeth: 0
		Cumberland: 1
		Falmouth: 2
		Freeport: 1
		Gorham: 2
		Old Orchard Beach: 0
		Portland: 2
		Saco: 1
		Scarborough: 2
		South Portland: 3
		Westbrook: 1
		Windham: 1
		Yarmouth: 3
Program tracking	complete	CCSWCD staff requested sales information from all point of sale stores. Please see the summary of sales information below.

Adult Education

Offer a minimum of six adult education classes per year	complete	Portland: 4/15/2011, Lunch & Learn at Unum, five participants
		Scarborough: 4/28/2011, five participants
		Cumberland: 5/2/2011, seven participants
		Cumberland: 5/14/2011, nine participants
		Windham: 6/8/2011, three participants
		Portland: 6/16/2011, five participants
Promote adult education classes	complete	Press releases publicizing the available classes were submitted to local publications, additional information was published on CCSWCD's YardScaping website and in local adult education brochures.
Track behavior change	complete	CCSWCD staff documented class evaluations and contacted past adult education class participants to determine which YardScaping practices were implemented. Please see summary of behavior change reported by participants of PY2 classes, as well as those practices participants of PY3 classes intend to implement, below.

Targeted Information Distribution

Distribute information to priority neighborhoods (minimum of 50-100 households in size) in each ISWG community.	complete	YardScaping information was distributed throughout priority neighborhoods in each ISWG community. The following number of households received information:
		Biddeford: 122
		Cape Elizabeth: 79
		Cumberland: 112
		Falmouth: 95
		Freeport: 64
		Gorham: 68
		Old Orchard Beach: 79
		Portland: 234
		Saco: 111

<table>
<tr><td></td><td></td><td>Scarborough: 110</td></tr>
<tr><td></td><td></td><td>South Portland: 86</td></tr>
<tr><td></td><td></td><td>Westbrook: 111</td></tr>
<tr><td></td><td></td><td>Windham: 96</td></tr>
<tr><td></td><td></td><td>Yarmouth: 61</td></tr>
<tr><td>Distribute YardScaping information to local establishments (e.g. pet stores, veterinarian offices, pediatrician offices)</td><td>complete</td><td>Pet stores, veterinarian offices and pediatrician offices in each of the 14 ISWG communities were contacted and asked to display YardScaping information in their establishments. Establishments in the following communities agreed to participate:
<table>
<tr><th></th><th>Pet Stores</th><th>Vet Offices</th><th>Peds. Offices</th></tr>
<tr><td>Biddeford</td><td></td><td>1</td><td>1</td></tr>
<tr><td>Cape Elizabeth</td><td></td><td>1</td><td></td></tr>
<tr><td>Cumberland</td><td></td><td>1</td><td></td></tr>
<tr><td>Falmouth</td><td>2</td><td>1</td><td>1</td></tr>
<tr><td>Freeport</td><td>1</td><td>1</td><td></td></tr>
<tr><td>Gorham</td><td></td><td>1</td><td>1</td></tr>
<tr><td>Old Orchard Beach</td><td></td><td></td><td>1</td></tr>
<tr><td>Portland</td><td>1</td><td>1</td><td>1</td></tr>
<tr><td>Saco</td><td></td><td>1</td><td></td></tr>
<tr><td>Scarborough</td><td>1</td><td>1</td><td>1</td></tr>
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<tr><td>Westbrook</td><td></td><td></td><td></td></tr>
<tr><td>Windham</td><td>1</td><td>1</td><td></td></tr>
<tr><td>Yarmouth</td><td></td><td>1</td><td>1</td></tr>
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</td></tr>
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Websites & Free Media

Maintain CCSWCD YardScaping website	complete	CCSWCD maintained the YardScaping website and tracked hits. Increased hits were seen after targeted neighborhood outreach efforts, public events, and adult education presentations.
Newspaper coverage of YardScaping activities and healthy lawn care	complete	*The Forecaster:* Back Cove garden in Portland sets a chem-free standard (August 2, 2010)
		Portland Press Herald: Maine Gardener: Lawn looking a little bare? Consider these seeds for thought (August 29, 2010)

Newspaper coverage of YardScaping activities and healthy lawn care (continued)		*Portland Press Herald:* Scarborough looks at limits on pesticide use (October 11, 2010)
		The Forecaster: First Maine pesticide summit aims to answer questions (November 10, 2010)
		Current: Scarborough eyes curbs on pesticides (November 10, 2010)
		Portland Press Herald: Maine Gardener: Spray? No way. (December 5, 2010)
		Portland Press Herald: Impact of lawn chemicals unnoticed by landowners (March 17, 2011)
		Portland Press Herald: Think zing (March 27, 2011)
		Portland Press Herald: Maine Gardener: Website puts gardening fixes at your fingertips (April 3, 2011)
		WCSH6: Pesticides under fire on airwaves and in legislature (April 7, 2011)
		MPBN: Maine "Rubber Duckie" Ad Ruffles Lawncare Companies' Feathers (April 8, 2011)
		Portland Press Herald: Maine Gardener: Compost key in creating the green, green grass of home (May 15, 2011)
		Portland Press Herald: Maine Gardener: Something's just waiting to destroy your lawn (May 22, 2011)

Neighborhood YardScape Socials

Hold a minimum of zero neighborhood socials in the ISWG communities	complete	One neighborhood social was held this year in Scarborough. Five people participated.

Point of Sale – Program Tracking
During the fall of 2010, CCSWCD staff requested sales information from the 19 point of sale partner stores. Seven stores provided the sales information requested. Below is a summary of the relevant sales information from Freeport True Value, Goff's Hardware, Drillen Hardware, Sportsman's True Value, Cook's Hardware, Moody's Nursery and Aubuchon Hardware.

		Units sold		
Freeport True Value		**2008**	**2009**	**2010**
	Weed & Feed	33	30	30
	Low Maintenance Seed	37	41	40
Goff's Hardware				
	Weed & Feed	30	30	29
	Low Maintenance Seed	27	32	30
	Corn Meal Gluten	1	2	1
Drillen Hardware				
	Weed & Feed	39	40	38
	Low Maintenance Seed	44	53	50
	Corn Meal Gluten	7	9	7
	Bagged Compost	33	36	40
Sportsman's True Value				
	Weed & Feed	32	30	30
	Low Maintenance Seed	10	12	13
	Aerator Rentals	5	6	9

		Units sold		
Cook's Hardware		**2008**	**2009**	**2010**
	Weed & Feed	29	30	28
	Low Maintenance Seed	15	14	15
	Bagged Compost	47	50	55
Moody's Nursery				
	Low Maintenance Seed	50	51	50
	Bulk Compost (yards)	69	70	70
Aubuchon Hardware				
	Weed & Feed	55	56	54
	Low Maintenance Seed	31	30	33

While there seems to be a slight declining trend in the sale of weed and feed products and an increase in the sale of YardScape recommended products, it is unclear if these trends can be associated with YardScaping outreach efforts.

Adult Education – Behavior Change Tracking

During the fall of 2010, CCSWCD staff made follow up phone calls with participants of YardScaping adult education classes held in the fall of 2009 and spring of 2010 (PY2 who provided their contact information on class evaluations in order to determine the level of follow through of the YardScaping practices class participants intended to use). As expected, it was difficult to reach people. But the information gleaned from those who were reached provided an anticipated rate of compliance for the YardScaping practices that class participants intended to implement.

Follow up from Permit Year 2 YardScaping Classes			
Lawn Care Practice	**Plan to implement**	**Implemented practice**	**% behavior change**
Set Mower to a height of 3"	19	19	100%
Leave grass clippings	15	15	100%
Sharpen mower blades	20	16	80.0%
Aerate	34	19	55.9%
Topdress	35	23	65.7%
Overseed	35	26	74.3%
Use low maintenance seed	43	31	72.1%

Get a soil test	35	27	77.1%
Use nitrogen-only fertilizer	37	25	67.6%
Use compost tea	33	13	39.4%

Follow up phone calls are made six months to a year after the class to allow participants a growing season to implement the recommended practices. Below are the results of the post-class evaluations completed by the YardScaping class participants.

Permit Year 3 YardScaping Class Statistics			
Lawn Care Practice	**Plan to implement**	**Currently do not implement**	**% planning to implement**
Set Mower to a height of 3"	6	6	100%
Leave grass clippings	6	7	85.7%
Sharpen mower blades	4	4	100%
Aerate	15	16	93.8%
Topdress	17	17	100%
Overseed	13	13	100%
Use low maintenance seed	14	15	93.3%
Lawn Care Practice	**Plan to implement**	**Currently do not implement**	**% planning to implement**
Get a soil test	13	17	76.5%
Use nitrogen-only fertilizer	13	16	81.3%
Use compost tea	14	18	77.8%

CCSWCD staff will contact the class participants from the Permit Year 3 classes in the fall of 2011 to determine which behaviors have been adopted.

Additional language for communities as specified below:

Biddeford

- *Nothing additional through projects I track*

Cape Elizabeth

- June 9, 2011 – A public stakeholder meeting was held as part of the Trout Brook Planning Project. Approximately 60 people participated in the meeting.

Cumberland

- May 2, 2011 – YardScaping training coordinated by the Cumberland Shellfish Conservation Commission. Approximately seven people attended the event.

- May 14, 2011 – YardScaping training, panel discussion and field demonstration coordinated by the Cumberland Shellfish Conservation Commission. Approximately nine people attended the event.

Falmouth

- June 8, 2011 – Falmouth Middle School presented their independent research on YardScaping, forestry and watershed stakeholders to parents and members of the community. Approximately 30 people attended the event.

Freeport

- *Nothing additional through projects I track*

Gorham

- June 30, 2011 – The Casco Bay Youth Conservation Corps and local volunteers assisted the Gorham Public Works Department by stenciling 179 storm drains throughout the Town. In addition, 300 door hangers were distributed to houses in the neighborhoods where the storm drains were located.

Old Orchard Beach

- April 16, 2011 – YardScaping information was distributed to residents at Old Orchard Beach's Earth Day event. Approximately 15 people attended the event.

Portland

- April 22, 2011 – A YardScaping booth was set up in Monument Square as part of Portland's Earth Day festivities. Staff interacted with more than 300 people at this event.
- May 27, 2011 – Approximately 60 students from Lincoln Middle School participated in a storm drain stenciling event as part of the launch of Portland's Greener Neighborhoods Cleaner Streams program to help clean up Capisic Brook. Approximately 80 drains were stenciled, and students distributed door hangers to more than 200 households.
- June 16, 2011 – YardScaping training held as part of Portland's Greener Neighborhoods Cleaner Streams program. Five people participated in the training.

Saco

- *Nothing additional through projects I track*

Scarborough

- April 28, 2011 – A YardScaping social was held in a Coulthard Farms neighborhood. Five people participated; attendees took additional information to share with their neighbors.

South Portland

- July 14, 2010 – A screening of Paul Tukey's documentary, *A Chemical Reaction*, was coordinated by the South Portland Land Trust. The screening included an introduction by Paul Tukey and a panel discussion with Tukey, Mary Cerullo of Friends of Casco Bay and Jami Fitch of the Cumberland County Soil and Water Conservation District following the film. Approximately 45 people attended the event.
- June 9, 2011 – A public stakeholder meeting was held as part of the Trout Brook Planning Project. Approximately 60 people participated in the meeting.

Westbrook

- Storm drain stenciling with students from Saccarappa School (add date of event, # of students who participated, # of drains stenciled, and # of door hangers distributed)

Windham

- June 8, 2010 – YardScaping presentation provided at the Windham Public Library as part of the

water-themed adult summer reading series. Three people attended.

Yarmouth

- *Nothing additional through projects I track*

Summary: Stormwater Education Activities for 2010-2011 School Year

The following is a summary of education activities completed in each ISWG community during the 2010-2011 school year. Activities were provided by the following:

CCSWCD: Sarah Plummer, Education Coordinator, Cumberland County Soil & Water Conservation District, sarah-plummer@cumberlandswcd.org, 207-892-4700 x 107

YCSWCD: Melissa Brandt, District Manager, York County Soil & Water Conservation District, melissabrandt@yorkswcd.org, 207-324-0888 x 214

PWD: Lynne Richard, Education Coordinator, Portland Water District, lrichard@pwd.org,

207-774-5961 x 3324

Biddeford

Total students: 108

Total contact hours: 130

Lesson topics: Nonpoint source pollution, impervious/pervious surfaces, runoff, and best management practices; topography, contour lines, watersheds, water movement, and transport of nonpoint source pollutants; bioaccumulation from a pesticide runoff in an aquatic food web; turbidity and cumulative impact.

Schools: Biddeford Middle School, Biddeford Intermediate School

Educator: YCSWCD

Cape Elizabeth

Total students: 182

Total contact hours: 1,013

Lesson topics: Nonpoint source pollution, watershed characteristics, erosion, water flow, and best management practices; buffers and their ability to mitigate pollution; various lessons included information about nonpoint source pollution, human impact, watershed characteristics, stormwater, low impact development, and behavior change.

Schools: Cape Elizabeth Middle School, Pond Cove Elementary School

Educator: CCSWCD, PWD

Cumberland

Total students: 157

Total contact hours: 1,908

Lesson topics: Watersheds, nonpoint source pollution, and water quality parameters; in-class water quality testing and observation and identification of macroinvertebrates (bioassessment); various lessons included information about nonpoint source pollution, human impact, watershed characteristics, stormwater, low impact development, and behavior change; Envirothon**. Supplied macroinvertebrate identification, best management practices, and local watershed map resources.

Schools: Greely High School, Greely Middle School

Educator: CCSWCD, PWD

Falmouth

Total students: 69

Total contact hours: 996

Lesson topics: Watershed characteristics, nonpoint source pollution, and buffers; topography, watersheds, stormwater pollution, water quality testing, and cumulative impact; water cycle; nonpoint source pollution and behavior change; long-term experiments and independent research projects about the Casco Bay Watershed, stakeholders, nonpoint source pollutants, forests, and environmentally responsible lawn care, and students presented their research to a public audience.

Workshop: One teacher attended the *Over the Watershed and Through the Woods**** workshop series.

Schools: Falmouth Middle School

Educator: CCSWCD, PWD

Freeport

Total students: 18

Total contact hours: 45

Lesson topics: Stormwater pollution and cumulative impact; nonpoint source pollution, impervious/pervious surfaces, runoff, and best management practices.

Schools: Mast Landing School

Educator: CCSWCD

Gorham

Total students: 171

Total contact hours: 779

Lesson topics: Importance of water to all living things; career day presentations with focus on nonpoint source pollution and conservation; features and adaptations of invasive species; stormwater; vernal pools; various lessons included information about nonpoint source pollution, human impact, watershed characteristics, stormwater, low impact development, and behavior change.

Schools: Gorham Middle School, Narragansett Elementary School, Sunny Days Childcare Center

Educator: CCSWCD, PWD

Old Orchard

Total students: 68

Total contact hours: 306

Lesson topics: Nonpoint source pollution, impervious/pervious surfaces, runoff, and best management practices; bioaccumulation from a pesticide runoff in an aquatic food web; stormwater, storm drains, and wastewater; amount of water in the world, conservation, and the water cycle.

Schools: Loranger Middle School

Educator: YCSWCD

Portland

Total students: 508

Total contact hours: 1,136

Lesson topics: Stormwater, water flow, and storm drain information as introduction to storm drain stenciling event; water cycle; watershed characteristics; waste water treatment and combined sewer outfalls; tide pools; Children's Water Festival*; Envirothon**. Provided invasive species resources. Discussed erosion control and outreach plans with service learning staff.

Workshop: Six teachers attended the *Over the Watershed and Through the Woods**** workshop series.

Schools/Groups: Lincoln Middle School, Longfellow Elementary School, King Middle School, Cathedral School, Casco Bay High School, Nathan Clifford Elementary School, Hall Elementary School, Peaks Island Elementary School, Peaks Island Summer Rovers

Educator: CCSWCD, PWD

Saco

Total students: 74

Total contact hours: 93

Lesson topics: Amount of water in the world, conservation, and the water cycle.

Schools/Groups: Saco Parks & Recreation Summer Program

Educator: YCSWCD

Note: Due to scheduling conflicts, the Field Day at Saco Middle School was not held in 2011; teachers have expressed interest in holding it in 2012.

Scarborough

Total students: 209

Total contact hours: 295

Lesson topics: Nonpoint source pollution, water quality testing, and macroinvertebrate sampling (bioassessment); watershed characteristics; water cycle and water properties; groundwater.

Workshop: One teacher attended the *Over the Watershed and Through the Woods**** workshop series

Schools/Groups: Scarborough High School, Scarborough Middle School, Ocean Park Summer Camp

Educator: CCSWCD, PWD

South Portland

Total students: 306

Total contact hours: 3,009

Lesson topics: Pond Study Field Day to study pond life and water quality, including water quality testing and macroinvertebrate sampling and identification (bioassessment); Project WET's Make-a-Splash Water Festival; groundwater; ecology; various lessons included information about nonpoint source pollution, human impact, watershed characteristics, stormwater, low impact development, and behavior change.

Schools: Small Elementary School, Dyer Elementary School, Mahoney Middle School, Greater Portland Christian School, Kaler Elementary School, Skillin Elementary School

Educator: CCSWCD, PWD

Westbrook

Total students: 77

Total contact hours: 380

Lesson topics: Water quality testing in the classroom; brainstorm possible uses for the Westbrook Middle School trail system in preparation for writing abutting landowner letters; various lessons included information about nonpoint source pollution, human impact, watershed characteristics, stormwater, low impact development, and behavior change.

Schools: Westbrook Middle School, Westbrook High School

Educator: CCSWCD, PWD

Workshop: One teacher attended the *Over the Watershed and Through the Woods**** workshop series

Notes: CCSWCD collaborated throughout the year with Westbrook Middle and High schools, Westbrook's Department of Community and Economic Development, the Westbrook Historical Society, Portland Trails, and the School Ground Greening Coalition. Partners worked on developing long-term plans for the trail system behind Westbrook Middle School and between Westbrook Middle and High schools. Ecology studies, access points for water quality testing, and historical/watershed research projects are among the long-term goals.

Windham

Total students: 197

Total contact hours: 2,221

Lesson topics: Facilitated "Ecocentricity" event where high school students taught lessons to middle school students – included conservation-based lessons about geology, water, soil, atmosphere, ecology, and wildlife; water quality discussion and macroinvertebrate sampling and identification (bioassessment); provide input about water quality during high school students' presentation about a wetland ecosystem; various lessons included information about nonpoint source pollution, human impact, watershed characteristics, stormwater, low impact development, and behavior change.

Schools: Windham High School, Windham Middle School

Educator: CCSWCD, PWD

Yarmouth

Total students: 19

Total contact hours: 24

Lesson topics: Water quality, nonpoint source pollution, observation and identification of macroinvertebrates, in-class bioassessment

Schools: Yarmouth Elementary School

Educator: CCSWCD

* The **Southern Maine Children's Water Festival** is a one-day event occurs that annually each May, drawing about 700 middle school students from all over Southern Maine to learn about different aspects of water. Students participate in classroom presentations, a water-based stage show, "Dripial Pursuit" competitions, and exhibit hall activities. The Festival's focus is on water, ecosystems, nonpoint source pollution, and ways that students can be part of the solution.

** The **Envirothon** is an environmental competition conducted throughout Maine each spring. High school students test their knowledge of natural resources and current environmental issues in an outdoor setting. Teams of three to five students are tested at five stations: Wildlife, Aquatics, Forestry, Soils, and a Current Natural Resources Issue. The top three teams at each regional competition compete in the State competition, with the advancement to a national competition for top-placing teams.

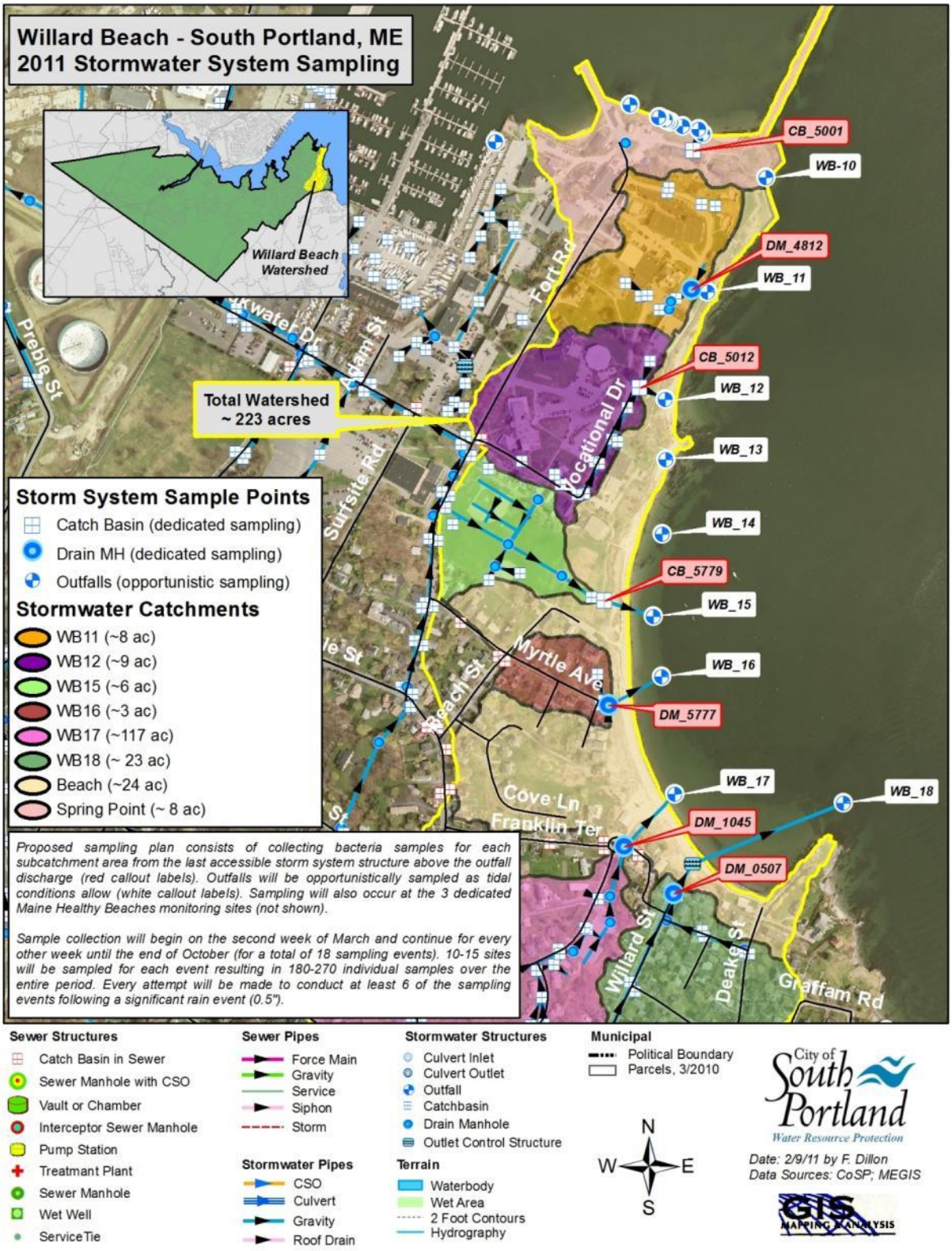
*** The ***Over the Watershed and Through the Woods: Local Field Studies & Service Projects*** teacher workshop series used the Capisic Brook Watershed in Portland as an example to study forests, water, and the relationship between the two. The first session was held on October 19, 2010 and covered Capisic Brook background and classroom lessons. The second, field studies session was planned for November 3, 2010 and, due to rain, rescheduled and held on May 18, 2011. The third session was held on December 2, 2010 and covered service learning projects, schools, and community involvement. The workshop series was facilitated by CCSWCD, PWD, and Maine Project Learning Tree. The City of Portland, Maine Forest Service, and Friends of Casco Bay served as additional partners.

Appendix 2: Results from October 16, 2010 Household Hazardous Waste Collection Day Questionnaire

QUESTIONS

1. Do you own or rent your home? *Vast majority participants (96%) own their homes.*
2. What is your age? *The majority (70%) of participants were 41-65.*
3. Are you male or female? *More men (58%) participated than women (42%).*
4. What types of activities created these wastes? *Household activities were the most common (64%) source for wastes.*
5. Please indicate the types of wastes you dropped off today. *Paints/solvents were the most common (31%) type of HHW.*
6. How long have you had these wastes? *Most wastes (58%) were stored in the home for 1-5 years.*
7. Were any of the wastes in the house when you moved in? *About 1/4 of homes had wastes from previous occupants.*
8. Did these wastes come from more than 1 household? *About 12% of participants dropped off HHW for neighbors.*
9. How did you hear about today's event? *Newspapers were the most common (31%) source of info for participants.*
10. Have you participated in the City's previous HHW Collection Days? *Most folks (60%) participated in previous events.*
11. How much would you be willing to pay for HHW disposal? *About 59% of participants would pay for collection service.*
12. How often would you use a HHW collection event? *60% of participants felt 1 HHW event/one (or more) years was enough.*
13. Are you aware of the following SW management efforts? *Over 75% of participants were aware of at least 1 of the efforts listed.*

Appendix 3: Map of Willard Beach 2011 Stormwater Sampling Program



Appendix 4: Friends of Casco Bay Acknowledgement Letter for City's Continued Support of Pumpout Program

Friends of Casco Bay
Casco BAYKEEPER

August 13, 2010

Mr. Patrick Cloutier
Water Resource Protection Department
City of South Portland
PO Box 9422
South Portland, ME 04106-9422

Dear Pat,

We are delighted to have the continued support of the City of South Portland's Water Resource Protection Department! *Thank you* for your generous $5,000 gift to Friends of Casco Bay. This contribution will strengthen our research, education, and outreach work on behalf of the Bay through the Pumpout Program.

As you know, Casco Bay's rocky coast, rugged islands, and scenic waters exemplify Maine's image as a natural wonder. The Bay provides endless recreational opportunities, from birding and angling to boating and beachcombing. Our community's identity and wellbeing are intrinsically linked to the health of the Bay.

Casco BAYKEEPER® Joe Payne is fond of reminding everyone that the Bay belongs to all of us. The City of South Portland's generosity helps ensure that the next generation will inherit a cleaner and healthier Bay.

Pat, thank you again for the Water Resource Protection Department's support. It is an honor to partner with you on this voyage toward a cleaner and healthier Casco Bay.

Warm regards,

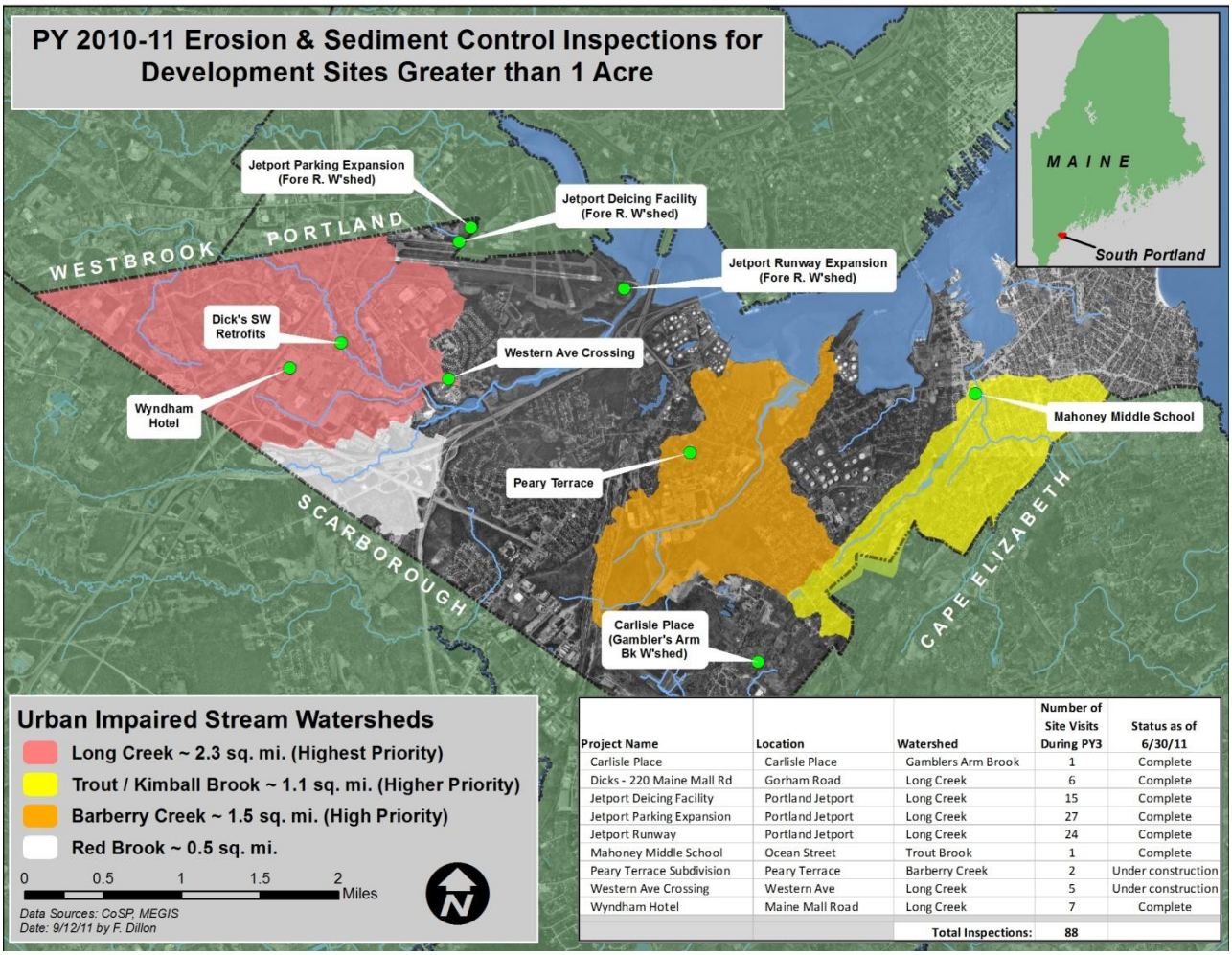
Cathy L. Ramsdell, CPA
Executive Director

Pat,
Many, many thanks to you and your colleagues in the Department for supporting our work and for partnering with us on improving the health of the Bay.
All the best,
Cathy

Please keep this letter as your receipt for your tax-deductible gift.
No goods or services were provided in consideration of this donation.

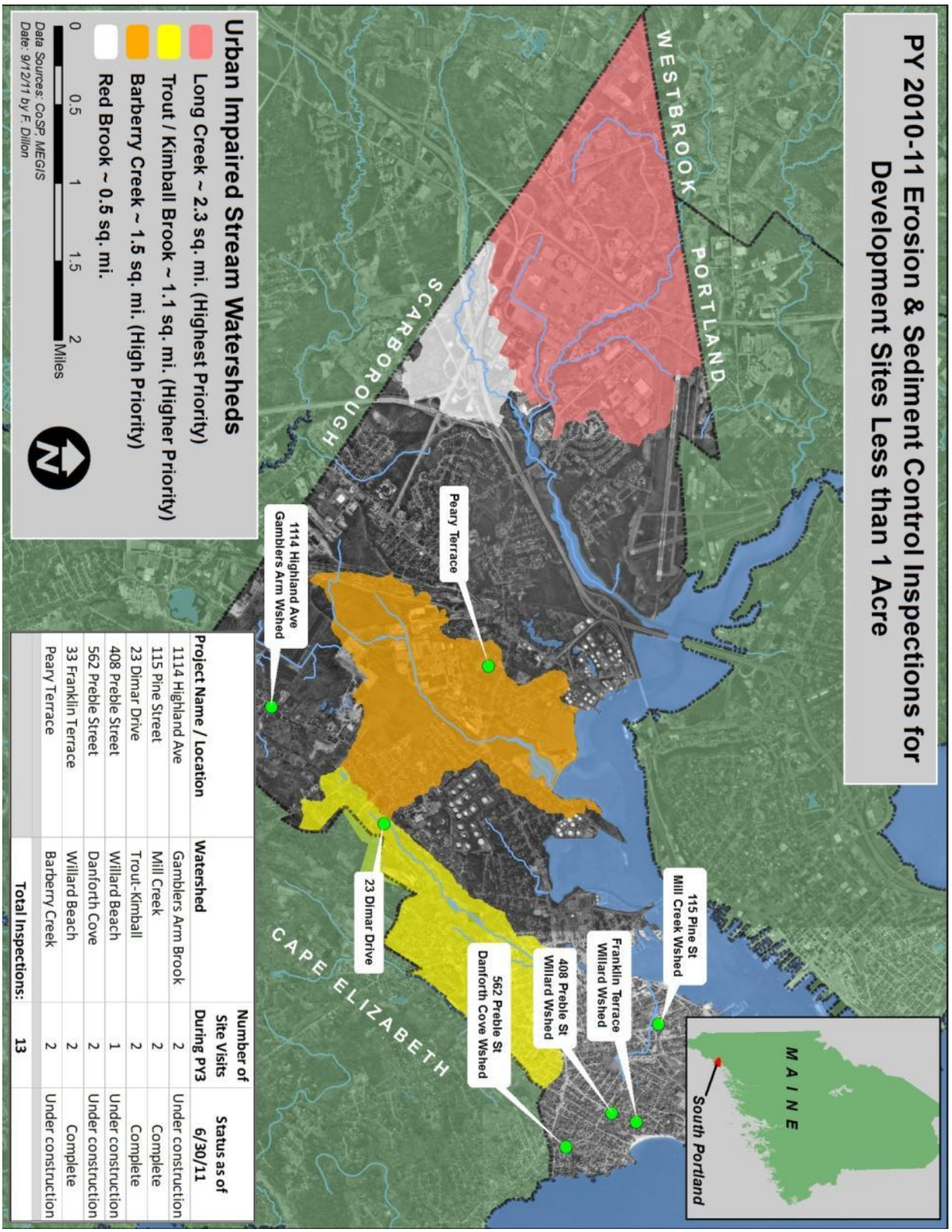
43 Slocum Drive • South Portland • Maine 04106 • tel (207) 799-8574 • fax (207) 799-7224 • www.cascobay.org • keeper@cascobay.org
Improving and protecting the environmental health of Casco Bay

Appendix 5: PY2010-11 Development Projects Greater than 1 Acre Requiring ESC Inspections



Project Name	Location	Watershed	Number of Site Visits During PY3	Status as of 6/30/11
Carlisle Place	Carlisle Place	Gamblers Arm Brook	1	Complete
Dicks - 220 Maine Mall Rd	Gorham Road	Long Creek	6	Complete
Jetport Deicing Facility	Portland Jetport	Long Creek	15	Complete
Jetport Parking Expansion	Portland Jetport	Long Creek	27	Complete
Jetport Runway	Portland Jetport	Long Creek	24	Complete
Mahoney Middle School	Ocean Street	Trout Brook	1	Complete
Peary Terrace Subdivision	Peary Terrace	Barberry Creek	2	Under construction
Western Ave Crossing	Western Ave	Long Creek	5	Under construction
Wyndham Hotel	Maine Mall Road	Long Creek	7	Complete
		Total Inspections:	88	

Appendix 6: Development Projects Less than 1 Acre Requiring ESC Inspections



Project Name / Location	Watershed	Number of Site Visits During PY3	Status as of 6/30/11
1114 Highland Ave	Gamblers Arm Brook	2	Under construction
115 Pine Street	Mill Creek	2	Complete
23 Dimar Drive	Trout-Kimball	2	Complete
408 Preble Street	Willard Beach	1	Under construction
562 Preble Street	Danforth Cove	2	Under construction
33 Franklin Terrace	Willard Beach	2	Complete
Peary Terrace	Barberry Creek	2	Under construction
	Total Inspections:	13	

Appendix 7: Annual Stormwater BMP Inspection Form

Water Resource Protection Department
Fred Dillon, Stormwater Program Coordinator

June 6, 2011

In April of 2009 the City established Stormwater Management Performance Standards (Section 27-1536) to address the detrimental effects of polluted stormwater runoff to local water resources. More specifically, these standards require any redevelopment or new development project disturbing more than 15,000 square feet to manage both the quantity and quality of stormwater draining from a particular project area. In most cases, this involves the use of stormwater management facilities.

The Stormwater Management Performance Standards also stipulate that stormwater facilities be annually inspected and maintained by qualified personnel. By July 15th of each year, an inspection report must be submitted to the Water Resource Protection Department Director by a qualified third party inspector. The report must document any deficiencies with the stormwater facilities and certify that they have been inspected, cleaned and repaired as needed. The City maintains a list of qualified third party inspectors (attached).

You are being notified because our records indicate that stormwater management facilities subject to Section 27-1536 are located on your property. If this is the case, please arrange to have a qualified third party inspector visit your property to conduct an inspection and submit an accompanying report by July 15th to Water Resource Protection Department Director Patrick Cloutier. If you have been notified in error, please contact me directly so I can revise our records accordingly.

Thank you for your prompt attention to this matter and please contact me if you have any questions.

cc: Jim Gailey, City Manager
Patrick Cloutier, WRP Director
David Thomes, WRP Collection Systems Manager
Tom Wiley, WRP Compliance Coordinator
Patricia Doucette, Code Enforcement Director
Steve Puleo, Community Planner

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City of South Portland, Maine Cover Sheet for Annual Stormwater BMP Inspection*

The Stormwater Management Performance Standards (Section 27-1536) for the City of South Portland, ME require ongoing annual inspections to ensure the proper maintenance and operation of stormwater management facilities. Inspections must be conducted by third parties qualified by the City. Completed inspection reports must be submitted to the Water Resource Protection Director by July 15th of each year.

City of South Portland
Water Resource Protection

A. General Information

Use only one Cover Sheet per site with as many specific structural BMP Inspection Report attachments as needed. Attach required color digital photos of site, structures and devices as applicable with captions.

Project Name:		**Inspection Date:**	
Parcel Number:		**Current Weather:**	
BMP Owner:		**Date / Amount Last Precip:**	
Owner Mailing Address:		**3PI Company:**	
		3PI Mailing Address:	
Owner Phone #:			
Owner Email:		**Inspector Name:**	
		Inspector Phone #:	
		Inspector Email:	

B. Inspection Report Attachments

Please document the numer of each structrual BMP found at this site in the blank spaces provided below. Use one Attachment per BMP inspected and submit all Attachments togetehr with the Cover Sheet as a single report.

BMP Type	Number BMPs at site
Vegetated Area	
Stormwater Channel	
Culvert	
Catch Basin System	
Roadway or Parking Surface	
Buffer	
Stormwater Detention & Retention Facility	
Runoff Infiltration Facility	
Proprietary Treatment Device	
Other (describe)	

C. Inpsection Results

FAIL** ☐

** If any one item on an Inspection Report attachment is coded as "Work Needed" then entire BMP fails inspection.

** If a site has multiple BMPs and one fails inspection, mark as "Fail" until all BMPs pass inspection.

Note: Applicable BMP Inspection Reports and confirmatory color digital photos summarizing required repairs must be submitted to the City following completion of the preliminary inspection. A re-inspection and certification must be completed within 60 days of the failed preliminary report. It is recommended that the inspector be part of the repair / maintenance process to ensure that repairs are performed properly.

PASS ☐

Note: a qualified professional (as determined by the City) must sign below and include all applicable Inspection Report attachments and confirmatory digital color photos with captions.

D. Professional Certification (as qualified by City of South Portland Stormwater Program Coordinator)

To be completed only when all BMPs at this site are functioning as designed with no outstanding maintenance issues.

I, _____, as a duly qualified third party inspector in the City of South Portland, ME attest that a thorough inspection has been completed for ALL applicable BMPs that are associated with this particular site. All inspected structural BMPs are performing as designed and intended and are in compliance with the terms and conditions of the approved operation and maintenance agreements required by the City of South Portland.

Signature: _____

Date: _____

**Adapted from Town of Apex, North Carolina's Annual Structural BMP Inspection Report Cover Sheet (ver. 3/1/11)*

City of South Portland, Maine
Post-Construction Stormwater BMP Third Party Inspection Report

Owner:	**Operator:**
Location & Parcel Id:	**Inspector:**
BMP ID (to be assigned by S. Portland):	**Date:**

General Information	**Observations**
Inspection duration (hours)	
Days since last precipitation	
Quantity of last precipitation (in)	
Type of inspection	
Storm event	
Current weather	
Photos taken	☐ Yes ☐ No ☐ NA
Nearby natural resources	☐ Yes ☐ No ☐ NA
Copy of ESC plan	☐ Yes ☐ No ☐ NA
MEDEP Permit #	
General info notes	

Vegetated Areas	**Observations**
Condition of slopes and embankment is good	☐ Yes ☐ No ☐ NA
No bare areas (< 90% covered) with sparse growth	☐ Yes ☐ No ☐ NA
Armored areas have no rill erosion or the flow is diverted to onsite areas able to withstand concentrated flows	☐ Yes ☐ No ☐ NA
Vegetated area notes	

Stormwater Channels	**Observations**
Condition of ditches, swales, and other stormwater channels is good	☐ Yes ☐ No ☐ NA
No obstructions, accumulated sediments or debris	☐ Yes ☐ No ☐ NA
Vegetated growth and woody vegetation is controlled	☐ Yes ☐ No ☐ NA
Erosion of any ditch lining is repaired	☐ Yes ☐ No ☐ NA
Vegetated ditches have been mowed	☐ Yes ☐ No ☐ NA
Woody vegetation growing through riprap has been removed	☐ Yes ☐ No ☐ NA
Riprap has been replaced where underlying filter fabric or underdrain gravel is showing or where stones have dislodged	☐ Yes ☐ No ☐ NA
Stormwater channel notes	

Culverts	**Observations**
Accumulated sediments and debris at the inlet, outlet, and within the conduit have been removed	☐ Yes ☐ No ☐ NA
Erosion damage at the inlet and outlet have been repaired	☐ Yes ☐ No ☐ NA
Culvert notes	

City of South Portland, Maine
Post-Construction Stormwater BMP Third Party Inspection Report

Catch Basin Systems	**Observations**		
Accumulated sediments from the bottom of the basin inlet grates, inflow channels to the basin, and pipes between basins have been removed and legally disposed of	☐ Yes	☐ No	☐ NA
Floating debris and floating oils (using oil-absorptive pads) have been removed from any trap designed for such	☐ Yes	☐ No	☐ NA
Catch basin system notes			

Roadway and Parking Surfaces	**Observations**		
Accumulated winter sand in parking lot and along roadways have been cleared	☐ Yes	☐ No	☐ NA
Pavement is swept to help remove sediment	☐ Yes	☐ No	☐ NA
Road shoulders and excess sand have been graded	☐ Yes	☐ No	☐ NA
Gravel roads and road shoulders have been graded	☐ Yes	☐ No	☐ NA
Sediment within all water bars and open-top culverts have been removed	☐ Yes	☐ No	☐ NA
No stormwater is impeded by accumulations of material or false ditches in the shoulder	☐ Yes	☐ No	☐ NA
Roadway and parking surface notes			

Buffers	**Observations**		
Treatment buffers have been inspected for evidence of erosion, concentrated flow, or encroachment by development	☐ Yes	☐ No	☐ NA
Buffer vegetation has been managed with the requirements of all deed restrictions	☐ Yes	☐ No	☐ NA
Vegetation in all non-wooded buffers has been mowed no shorter than 6 inches and less than three times per year	☐ Yes	☐ No	☐ NA
The sown-slope of all spreaders and turn-outs for erosion have been inspected and repaired	☐ Yes	☐ No	☐ NA
More level spreaders or ditch turn-outs have been installed for better distribution of flow	☐ Yes	☐ No	☐ NA
Sediment has been cleaned from within all spreader bays or turnout pools	☐ Yes	☐ No	☐ NA
Buffer notes			

Stormwater Detention and Retention Facilities	**Observations**		
Embankments have been inspected for settlement, slope erosion, internal piping, and downstream swamping.	☐ Yes	☐ No	☐ NA
Embankments have been mowed to control woody vegetation	☐ Yes	☐ No	☐ NA
The outlet control structure has been inspected for broken seals, obstructed orifices, and plugged trash racks.	☐ Yes	☐ No	☐ NA
Sediment and debris within the control structure have been removed and disposed of.	☐ Yes	☐ No	☐ NA
Any damage to the trash racks or debris guards has been repaired	☐ Yes	☐ No	☐ NA
Vegetated spillways have been mowed to control woody vegetation and replace any dislodged stone in riprap spillways	☐ Yes	☐ No	☐ NA

City of South Portland, Maine
Post-Construction Stormwater BMP Third Party Inspection Report

Accumulated sediments within the impoundment and forebay have been removed.	☐ Yes	☐ No	☐ NA
Stormwater detention and retention facility notes			
Runoff Infiltration Facilities	**Observations**		
Any pretreatment measures that collected sediment and hydrocarbons entering an infiltration system have been inspected and cleaned out.	☐ Yes	☐ No	☐ NA
Accumulated sediments within the infiltration area have been removed and disposed of.	☐ Yes	☐ No	☐ NA
The infiltration system has been renewed if it fails to drain within 72 hours after a rainfall of one-half inch or more.	☐ Yes	☐ No	☐ NA
The soil of vegetated infiltration basins has been tilled and replanted.	☐ Yes	☐ No	☐ NA
Rock-lined basins or stone-filled trenches have been reconstructed by removing stones, replacing underlying filter fabric, and tiling or removing the underlying wall.	☐ Yes	☐ No	☐ NA
Runoff infiltration facilities notes			
Proprietary Treatment Devices	**Observations**		
A third party has been contracted with for the removal of accumulated sediments, oils, and debris within the device and replacement of any absorptive filters.	☐ Yes	☐ No	☐ NA
Proprietary device notes			
Other Comments	**Observations**		
Corrective action needed	☐ Yes	☐ No	☐ NA
If corrective action in needed, please explain detail			
Verbal notification provided to responsible party	☐ Yes	☐ No	
Verbal notification contact			
Follow up required	☐ Yes	☐ No	
Final comment notes			

City of South Portland, Maine
Post-Construction Stormwater BMP Third Party Inspection Report

Photos

Edit Notes
Date entered Date edited Edited by


think blue
clean water starts with you!
www.thinkbluemaine.org
South Portland
Water Resource Protection
VIDEO INSPECTION UNIT