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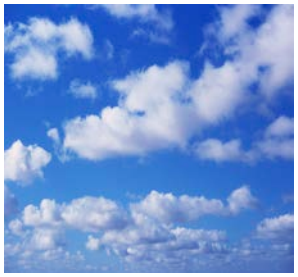

Evaluation of the Role of Public Outreach and Stakeholder Engagement in Stormwater Funding Decisions in New England: Lessons from Communities

Promoting Environmental Results Through Evaluation

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Executive Summary

In 1999, the U.S. Environmental Protection Agency (EPA) issued rules under the Clean Water Act that required many small communities with municipal separate storm sewer systems (MS4s) to obtain permit coverage for their stormwater discharges. These MS4 communities face significant fiscal and other challenges in implementing stormwater management programs to comply with Clean Water Act requirements, control flooding, and protect local water resources. A critical element of an effective stormwater management program is adequate and sustainable funding. MS4 experiences across the country suggest that development of support among community stakeholders is an important step for communities seeking to adopt and implement stormwater funding strategies.

Nationally, MS4 communities have considered several options to fund their stormwater programs. However, the public funding discussions often center on whether to fund stormwater management costs through the communities' general fund (i.e., property taxes), create a dedicated funding mechanism like a stormwater utility, or use a combination of the two approaches. Stormwater utilities typically raise funds by assessing user fees to residential, commercial, industrial and non-profit property owners. The user fee is generally based on the total square footage of impervious surface area of their properties.

This evaluation report describes lessons about the role and design of public outreach and stakeholder engagement strategies related to community stormwater funding decisions. The evaluation is based on the experiences of eleven small and medium-sized communities, primarily—but not exclusively—in New England. The evaluation has two complementary goals: first, to evaluate whether and how public outreach and stakeholder engagement efforts (including the use of consensus-building protocols) influenced the adoption of stormwater funding mechanisms; and second, to draw on the communities' experiences to identify lessons for other MS4 communities considering stormwater program funding solutions.

The evaluation report focuses on stormwater utilities because they are the most prevalent funding mechanism nationally. Further, utilities were the primary funding mechanism considered by the communities evaluated.[1]

The geographic focus of the report is New England, where stormwater utilities are much less prevalent than in other regions of the country. Of the approximately 500 New England communities subject to stormwater requirements for MS4s under the Clean Water Act, only 10 have established stormwater utilities.

[1] EPA does not endorse the adoption of any specific stormwater program funding mechanism; that decision is up to individual MS4 communities. However, many of the insights and lessons in this report will apply to other sustainable stormwater funding strategies that communities may consider.

Methodology and Cases

The research on which this report is based followed a program evaluation methodology consistent with other program evaluations supported by EPA's Evaluation Support Division (ESD) using methods common to the program evaluation field.

The program evaluation methodology for this project focused on answering twelve specific evaluation questions. These questions—and answers to them—are detailed in the main body of the report. In summary, these questions addressed:

- The extent to which stakeholder engagement helped communities decide on, accept, and implement a stormwater funding mechanism (and whether alternative approaches could lead to the same outcomes).
- The factors (e.g., community conditions, stormwater management costs, litigation risk, etc.) that influenced: 1) the need for stakeholder processes, 2) the success of these processes, and 3) whether communities adopted and implemented stormwater funding mechanisms.
- The factors that may have created unique challenges for communities in New England and small and medium-sized communities generally.
- The cost of stakeholder processes (and what factors influenced costs).
- How federal and state agencies can help communities and stakeholders effectively consider stormwater funding options.
- Resources that would be useful to communities considering stormwater funding mechanisms.

The primary information collection and analysis methodology for the project was comparative case study analysis supplemented by discussions with national experts on stormwater program development, funding, and consensus building. Cases included New England communities, as well as communities outside New England that served as a comparison group to identify possible challenges that might be unique to the New England region. The eleven selected community case studies were:

New England Communities	Other Communities
Dover (New Hampshire) Lewiston (Maine) Manchester (New Hampshire) Newton (Massachusetts) Reading (Massachusetts) South Burlington (Vermont) South Portland/Long Creek (Maine)	Berkeley County (South Carolina) Huntsville (Alabama) Raleigh (North Carolina) Warren County (Kentucky)

Information to support the evaluation was obtained through open-ended discussions with contacts familiar with the history of stormwater funding discussions in their communities, discussions with

national experts on stormwater funding, primary document research (e.g., city and county council meeting minutes, newspaper articles, etc.), and published case studies. A New England Regional Stormwater Program Funding Symposium, held in New Hampshire in October 2012, provided an opportunity to discuss and refine preliminary findings.

Summary of Findings

The findings set forth in this report confirm that stakeholder support plays a critical role in the successful adoption and implementation of stormwater funding mechanisms. In order to build stakeholder support and successfully adopt a stormwater funding mechanism, public outreach strategies and focused stakeholder engagement are critical. The specific factors that municipal decision-makers must take into account—such as citizen or business opposition, the policy environment (e.g., enabling legislation), anti-tax sentiments, chronic flooding, and other issues—will differ from town to town. Therefore, the specific design of any public outreach and stakeholder engagement strategy must be tailored to uniquely address these factors and related stakeholder concerns. The specific approaches used by the eleven communities for engaging stakeholders differed. However, communities that effectively addressed their stakeholders' specific concerns were more likely to adopt and implement their proposed funding mechanism.

The experiences of the eleven case study communities suggested several ways that public outreach and stakeholder engagement processes contributed to the development and adoption of stormwater funding mechanisms:

- A forum to proactively educate stakeholders about the need for improved stormwater management and funding, and for stakeholders to educate stormwater utility proponents about their concerns.
- An opportunity to test and refine program designs by soliciting stakeholder feedback.
- An opportunity to develop innovative, collaborative solutions.
- An opportunity to find the balance between costs and services that fee payers could support.
- Access to local knowledge and expertise.
- Creation of support and momentum for a consensus-based solution.

Key lessons about effectively implementing stakeholder engagement were:

- Identify and involve all key stakeholders.
- Proactively engage stakeholders that support developing a utility and those that oppose it.
- Foster deliberation and exchange of ideas among stakeholders with many points of view.
- Start by discussing what the proposed program should accomplish, and only then talk about how to fund it.

- Implement a stakeholder engagement process appropriate to the community's circumstances and budget.
- Recognize that building adequate community support takes more than achieving consensus on an advisory committee's recommendation.

Key lessons on effectively developing and implementing public outreach/involvement were:

- Make a locally-compelling case that a stormwater funding program meets a critical need.
- Demonstrate the cost-effectiveness of the funding approach.
- Use several forms of proactive outreach.
- Recognize that despite outreach efforts, the first bill arriving in the mail will be the first time many people become aware of the new fee—be responsive and flexible through the first few billing cycles.

As mentioned above, the experiences of the communities evaluated in this report demonstrate that implementation of public outreach strategies and focused stakeholder engagement are critical to creating support for stormwater funding mechanisms. However, other factors also affected this support and subsequent adoption of stormwater funding solutions, as described below.

Local Community Conditions. Case contacts highlighted specific community conditions that influenced the degree of support for utility proposals and the likelihood of their adoption. They were:

- A highly visible problem, such as frequent flooding, impairment of valued water bodies, or pending litigation.
- Significant negative consequences that could be felt by stakeholders if a solution was not implemented.
- State legislation enabling the establishment of municipal, fee-based stormwater utilities.
- Regional clustering of stormwater utilities.
- Policy priorities and/or fiscal realities that favored moving stormwater management costs to a dedicated fund.
- Low per-capita stormwater user fees.
- Local economic conditions.
- The absence of an active local anti-tax, anti-government movement.

Program Design. Several aspects of program design that influenced the level of stakeholder and decision-maker support included:

- Early, robust, and transparent technical analysis of costs and fees.
- Fee structures that were perceived as fair.

- Recognition that some tax-exempt property owners would be paying stormwater management fees for the first time (and, as stakeholders with specific concerns, should be engaged in program design efforts).
- Utility proposals that included "credit systems" that offered property owners reduced user fees if they took action within their property boundaries to reduce stormwater impacts.
- User fees that were roughly equivalent to those of similar communities.
- Accountability for how funds would be spent.
- In some cases, keeping fees "low on the public radar" (for example, by intentionally proposing artificially low user fees and/or by subsuming stormwater user fees into existing water and sewer bills).

Program Management. Contacts also noted that the need for community support did not end once a utility was adopted. It was critical, they said, to effectively launch and implement user fee billing to avoid generating controversy from stakeholders that may only have found out about the utility when the first bills arrived. Key lessons were:

- Be competent and responsive during the initial billing cycles.
- Demonstrate that programs are providing the promised level of services.
- Ensure that the ordinance establishing the utility includes a process to adjust fees to generate adequate revenue over time.

Litigation. Nationally, threatened or actual litigation has influenced whether stormwater utilities were adopted by decision-makers or whether they were repealed. Litigation has typically centered on whether stormwater fees were, in fact, "fees" (which municipalities typically have the authority to charge) or an unauthorized tax. With the exception of Lewiston, Maine, litigation was not a significant issue in the communities studied for this project. However, lessons drawn from these communities' experiences suggest that well-planned public outreach and stakeholder engagement strategies can help communities avoid litigation by:

- Revealing and resolving legal vulnerabilities raised by conflicting stakeholder interests through discussions.
- Involving stakeholder groups that might legally challenge a utility in stakeholder deliberations from the beginning.

Availability of Resources. For many communities, the cost of implementing public outreach and stakeholder engagement processes influenced whether and to what degree the communities involved stakeholders in program design. Case contacts identified several factors that influenced their towns' decision on whether to implement such efforts:

- The degree to which a community's political leadership and staff time were devoted to public outreach and stakeholder engagement.
- The cost of third-party neutral facilitation and process support.
- Additional costs for technical support to stakeholder advisory committees.
- The degree and complexity of the public outreach and stakeholder processes required.

Role of Local Decision-Makers. Local decision-makers' understanding of, and commitment to, a funding solution was an important factor in utility adoption as well. Regardless of the quality of the stormwater funding proposal, it must ultimately be adopted by city councils, county councils, Boards of Selectmen, Boards of Aldermen, or other local political representatives. Case contacts suggested factors in addition to public outreach and stakeholder engagement that influenced whether decision-makers adopted stormwater utility proposals:

- The extent to which decision-makers were seeking out a funding mechanism and providing strong, early support for a solution.
- Whether there was a local champion that made a compelling case early and often to decision-makers.
- Whether decision-makers were kept involved throughout the stakeholder engagement and/or program design process.
- The extent to which political risk was minimized for elected officials.
- The extent to which decision-makers were assured that program services would be adequate and that user fees would be fair, rational, and supported by their stakeholder constituencies.

New England-Specific Challenges. Finally, the evaluation identified stormwater program funding challenges that may particularly affect New England's MS4 communities:

- Old and failing infrastructure with concomitantly high maintenance and construction costs (i.e., retrofitting).
- Weak or non-existent county government.
- No critical mass of nearby successful utilities for interested MS4s to join or emulate.

Recommendations

Case contacts and stormwater funding experts suggested that federal and state entities could take a number of actions and provide resources to help communities develop and implement stormwater funding mechanisms. Recommendations included:

- Offer incentives to communities developing funding mechanisms to support their stormwater management plans, such as funding for stormwater utility feasibility studies, program design assistance, stakeholder consensus-building process design and facilitation, GIS mapping services and aerial photography to calculate impervious surface square footage, and green infrastructure demonstration projects.
- Enhance communication to MS4 communities about state and federal stormwater requirements; for example, through an EPA national awareness campaign or through state regulators' participation at local municipal meetings.
- Offer state and/or federal incentives for regional, inter-municipal watershed-based funding solutions.

Recommendations for agencies or institutions involved in stormwater management, such as NGOs, regional planning commissions, universities, law schools and bar associations, included:

- Identify or develop model stormwater utility ordinances based on state enabling legislation.
- Continue to evaluate and compile evaluations of MS4 communities' stormwater program funding efforts, and analyze those that demonstrate strategic approaches to program development, funding solutions developed through stakeholder consensus, and trouble-free implementation.
- Establish an online clearinghouse to share the resources listed above.

1. Introduction

Small and medium-sized communities with municipal separate storm sewer systems (MS4s) face significant fiscal and other challenges in implementing stormwater management programs to comply with Clean Water Act requirements, control flooding, and protect local water resources.[2] A critical element of an effective stormwater management program is adequate and sustainable funding. MS4 experience across the country suggests that development of support among stakeholders in the community is an important step for communities seeking to adopt and implement stormwater funding strategies.[3]

1.1. Purpose and Scope of the Evaluation

The evaluation on which this report is based examined the role of public outreach and stakeholder engagement in stormwater funding decisions based on the experiences of eleven small and medium-sized communities in New England and other communities around the country.[4] The evaluation had two complementary goals. The first was to evaluate whether and how public outreach and stakeholder engagement efforts, including techniques for building consensus, were critical to the successful adoption of sustainable stormwater funding mechanisms.[5] The second goal was to draw on the eleven communities' experiences to identify lessons for MS4 communities seeking agreement on stormwater program funding solutions in the future. The project on which this report is based followed a rigorous evaluation methodology guided by standard practices used in program evaluations supported by EPA's Evaluation Support Division and by a methodology report developed at the beginning of the project.

The analysis focused on stormwater utilities as fee-based funding mechanisms because they are prominent throughout the country and were the primary funding mechanism under consideration in the communities evaluated. Stormwater utilities typically fund stormwater programs by charging residential, commercial, industrial, and non-profit property owners a fee based on the amount of

[2] A municipal separate storm sewer system (MS4) includes (but is not limited to) catch basins, curbs, gutters, ditches, man-made channels, pipes, tunnels, and/or storm drains that discharge to surface waters. To be recognized as an MS4 for regulatory purposes, it must be owned by a state, city, town, village or other public entity. An MS4 cannot be part of a Publicly Owned Treatment Works and may not operate as a combined sewer. For a complete definition, see 40 C.F.R. 122.26(b)(8).

[3] In the context of this report, "stakeholders" are all groups, individuals or organizations that may be affected by the outcomes of a project or proposal. A subset of the term is "key stakeholders," who have the ability to stop a proposed project or cause it to fail.

[4] In the context of this report, "public outreach" means proactive distribution of information about stormwater control programs and funding solutions to as many people as possible in a community. Often, this is done through the dissemination of brochures, bill inserts, and other materials and through local media and public meetings. "Stakeholder engagement" is defined as convening stakeholder representatives and engaging them in a process to understand, provide input on, and/or reach agreement on a stormwater program funding solution. In the communities studied for this project, this was often done by appointing stakeholder advisory committees or meeting individually with stakeholder groups.

[5] Consensus building is a group decision-making process that seeks to craft acceptable agreements among stakeholders. Stakeholders can be said to have reached consensus when, after every effort has been made to meet their respective interests, everyone agrees that they can live with the final proposal: http://web.mit.edu/publicdisputes/practice/cbh_ch1.html.

impervious area on their properties as a proxy for their use of, or impact on, the public stormwater system. Although this report focuses on stormwater utilities, this focus does not imply that the U.S. Environmental Protection Agency (EPA) endorses this or any other specific stormwater funding mechanism; that decision is up to individual MS4 communities. Many of the insights and lessons in this report will apply to other sustainable stormwater funding strategies that communities may consider.

The evaluation focused on New England municipalities, where stormwater utilities are far less prevalent than in other regions of the country. The theory that New England communities face particular challenges to adopting stormwater funding mechanisms led EPA Region 1 to propose the project on which this report is based. Although the evaluation focuses on Region 1, it also considers municipalities in other states to draw on a broader set of community experiences and to provide a comparison with New England.

The findings set out in this report confirm that stakeholder support plays a critical role in successful adoption and implementation of stormwater funding mechanisms and that public outreach strategies and focused stakeholder engagement protocols are critical elements of creating support for a funding mechanism. The specific factors that municipal decision-makers must take into account—such as citizen or business opposition, the policy environment, anti-tax sentiments, chronic flooding and others—will differ from town to town. Therefore, the specific design of any public outreach and stakeholder engagement strategy must address these factors and the stakeholder concerns they may raise. Although the specific approaches used in the eleven communities for communicating with and involving stakeholders differed, the communities that were able to adopt and implement funding mechanisms were predominantly those that designed approaches that addressed their stakeholders' specific concerns.

1.2. Intended Audience

This report is written primarily for municipal stormwater managers and decision-makers in small and medium-sized MS4 communities and other stakeholders involved in local decisions about stormwater funding. The report also provides information useful for state and federal agencies that write permits, and provide assistance to MS4 communities.

1.3. Report Organization

Section 2 provides background on MS4 communities and stormwater utilities across the country and in New England. Section 3 summarizes the project methodology (additional detail is contained in Appendix A). Section 4 describes key findings about the role and benefits of public outreach and stakeholder engagement, other factors that influence the successful adoption and implementation of stormwater utilities, and specific funding challenges for New England MS4 communities. The section also provides

summary information on each case. (Appendix B provides a more detailed description of each MS4 case study.) Section 5 describes recommendations suggested by project contacts about how state, regional, and federal agencies and organizations can help communities successfully achieve stormwater funding solutions. Section 6 summarizes key points of the report.

Throughout the report, hyperlinks in footnotes are included when information or documents were accessed online. The hyperlinks were accessed during the period of development for this report and all hyperlinks were valid as of the final date of this report.

2. Stormwater Regulatory Framework and Funding

2.1. Stormwater Regulatory Framework

Controlling stormwater helps mitigate flood events, reduce stream erosion, and reduce the amount of contaminants entering municipal streams and other water sources. In short, it is an important part of protecting human health and the environment and moderating the negative economic impacts of stormwater runoff.

In 1987, amendments to the Clean Water Act (CWA)[6] were passed that required EPA to regulate municipal stormwater discharges through the National Pollutant Discharge Elimination System (NPDES) permitting process (NPDES permits control point source discharges into waters of the United States). EPA established permitting requirements in two phases. In 1990, the agency promulgated NPDES Phase I stormwater rules, which required MS4 systems in an incorporated place or county with populations greater than 250,000 (large MS4s) and MS4 systems in an incorporated place or county with populations between 100,000 and 249,999 people (medium MS4s) to obtain NPDES permits for their stormwater discharges.[7] The Phase I stormwater rules also applied to discharges in the construction and industrial sectors. In 1999, EPA issued Phase II rules, which required a designated subset of small MS4s—referred to as *regulated* small MS4s—to obtain NPDES permit coverage for their stormwater discharges. Regulated small MS4s include MS4 systems serving less than 100,000 people in "urbanized areas" (as defined by the Bureau of the Census) and other MS4 systems that the permitting authority may designate for NPDES permit coverage. Most states with federally delegated CWA programs then issued their own (sometimes more stringent) Phase II MS4 stormwater permits.

Phase II stormwater permits require small MS4 municipalities to develop, implement and enforce stormwater management programs to reduce their discharges to the maximum extent practicable.[8] These programs are required to set out goals and best management practices (BMPs) covering six minimum control measures:

1. Public education and outreach;
2. Public involvement and participation;
3. Construction site stormwater runoff control;
4. Post-construction site stormwater runoff control;
5. Illicit discharge detection and elimination; and
6. Pollution prevention and good housekeeping.

[6] Water Quality Act of 1987 (P.L. 100-4) amending the CWA (33 U.S.C. §1251 et seq. [1972]).
[7] Some MS4s that serve populations less than 100,000 have been brought into the Phase I program by a NPDES permitting authority and are treated as medium or large MS4s, independent of the size of the population served.
[8] EPA's regulations addressing the control of storm water discharges are found, generally, at 40 C.F.R. Part 122. EPA's authority to designate stormwater discharges for NPDES permitting purposes is found at 40 C.F.R. 122.26(a).

Some MS4 municipal boundaries include significantly impaired water bodies subject to the CWA's Total Maximum Daily Load (TMDL) provisions.[9] MS4 stormwater permits covering such impaired water bodies often include specific requirements for BMPs to further reduce loadings from stormwater runoff. For example, in the Chesapeake Bay Watershed, nutrient and other TMDL criteria have been incorporated into MS4 permits issued to communities in Virginia, Maryland, Pennsylvania, and the District of Columbia.[10]

In addition to discharges covered under NPDES Phase I and Phase II rules, Congress provided "residual designation authority" (RDA) allowing EPA to require permits from additional dischargers where any of the following are true: RDA is needed to meet TMDL allocations; discharges contribute to water quality violations; or discharges are a "significant contributor" of pollutants.[11] RDA is a discretionary action that EPA and states can exercise, and the parameters under which it is exercised continue to evolve. The possible exercise of RDA had a direct impact in at least one of the cases studied for this evaluation.

2.2. Stormwater Funding

Most small and medium-sized communities that develop enhanced stormwater management programs are responding primarily, but not exclusively, to state and federal MS4 permit requirements. In a 2012 EPA survey of regulated MS4 communities, over 70% of respondents noted that the main driver for their implementation of stormwater control practices (increasingly, green infrastructure and low impact development practices) was their MS4 permits.[12] The remainder stated that flooding was their primary driver.

No direct federal funding has been provided for implementation of the NPDES Phase II requirements, but municipal stormwater work may be eligible for subsidized loans through State Revolving Funds, which are supported by federal funding. MS4 communities often find current budgets for stormwater management insufficient to fund the more stringent permit requirements. Historically, stormwater programs have often been funded through property tax revenues (i.e., a "general fund"), and stormwater management responsibilities were typically distributed among various local government departments (e.g., streets, public works, engineering, etc.). Many communities planning upgraded MS4 compliance activities are therefore unaware of their precise level of stormwater-related spending

[9] Total Maximum Daily Load (TMDL): A TMDL establishes the amount of a pollutant that a water body can assimilate without exceeding its water quality standard for the pollutant. See section 303(d) of the CWA and 40 C.F.R. Part 130; EPA Residual Designation Pursuant to Clean Water Act, Region 1: http://www.epa.gov/region1/charles/pdfs/RODfinalNov12.pdf.
[10] Laurens van der Tak, et.al, "Trends in Stormwater Utility Implementation." *Stormwater* 13:5 (July-August 2012). See: http://www.stormh2o.com/SW/Articles/Trends_in_Stormwater_Utility_Implementation_17636.aspx.
[11] See Section 402(p)(2)(E) and (6) of the CWA, and 40 C.F.R. 122.26(a)(9)(i)(C) and (D).
[12] Holly Galavotti, et al., *National Overview of the Municipal Separate Storm Sewer System (MS4) Program: Status and Progress* (2012).

because activities and costs are budgeted as separate line items among many departments within municipal government.

MS4 communities have several potential options for funding new stormwater programs. However, the public funding discussion usually centers on whether to continue to fund stormwater management through the general fund or to create a dedicated fund by establishing a utility (or a combination of the two approaches).[13] Stormwater utilities were first implemented in the 1970s to raise funds to construct flood control infrastructure. Stormwater utility adoption increased as Phase I and Phase II permits were issued.

Stormwater utilities are usually funded through the collection of user fees from all property owners within the community. User fees are calculated based upon Equivalent Residential Units (ERUs). One ERU is equal to the average single-family residential lot's square footage of impervious surface. Properties that encompass larger impervious surface areas pay fees based on multiples of an ERU. As alternatives to calculating fees based on impervious area, some communities use other proxies such as water consumption (measured by water meter readings) or even the number of parking spaces on a property.

Utility fee structures generally include credit systems that encourage property owners to reduce stormwater volumes flowing from their properties by offering fee reductions based on practices or infrastructure investments that reduce runoff (e.g., rain gardens, pervious pavement, etc.).

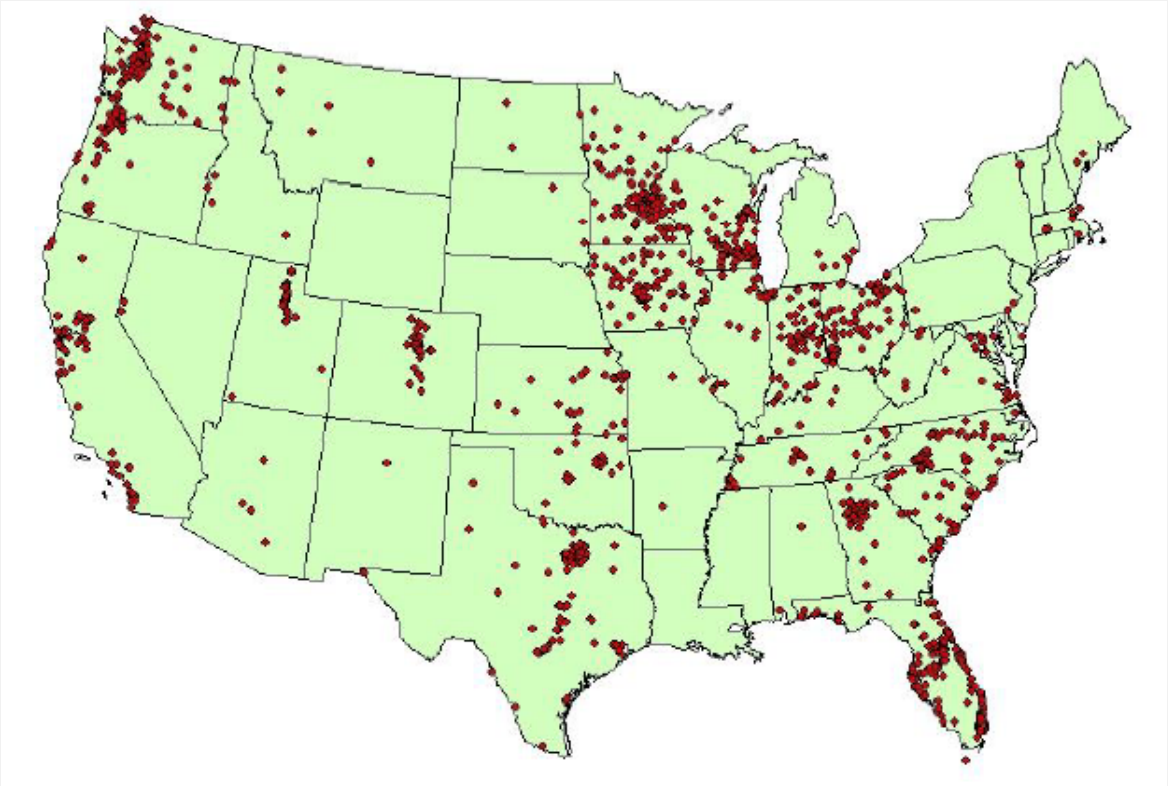
2.3. Stormwater Utilities in the United States

According to a 2012 annual stormwater utility survey conducted by Western Kentucky University, there are between 1,500 and 2,000 stormwater utilities in the United States.[14] (This survey is the most comprehensive analysis of stormwater utility implementation throughout the country and is referenced several times in this report.) Stormwater utilities have been implemented in 39 states and the District of Columbia, in communities ranging from 30 people to over 3 million (see map in this section). States with the most stormwater utilities are Florida (173 utilities), Minnesota (129 utilities), Washington (110 utilities), and Wisconsin (103 utilities).

Of the systems surveyed by Western Kentucky University, the lowest average monthly single family residential fee was less than one dollar, and the highest was over twenty dollars. Most fell in the range of two to six dollars per month.

[13] For a brief description of additional options for funding stormwater, see EPA, "Funding Stormwater Programs": http://www.epa.gov/region1/npdes/stormwater/assets/pdfs/FundingStormwater.pdf.
[14] C. Warren Campbell, et al., *Western Kentucky University Stormwater Utility Survey 2012:* http://www.wku.edu/engineering/documents/swusurveys/swusurvey-2012.pdf.

Stormwater Utilities 2012



Source: Western Kentucky University Stormwater Utility Survey 2012

2.4. Stormwater Regulation and Utilities in New England

In New England, the states of Connecticut, Maine, Rhode Island, and Vermont administer delegated NPDES Stormwater Permit Programs and issue small MS4 stormwater permits in response to the NPDES Phase II regulations (see Table 1).[15]

[15] General permits for delegated states, which include effective dates and expiration dates, are available at the following links:
- Connecticut: http://www.ct.gov/dep/cwp/view.asp?a=2721&q=325702&depNav_GID=1654
- Maine: http://www.maine.gov/dep/land/stormwater/ms4/final_2008_ms4_gp.pdf
- Rhode Island: http://www.dem.ri.gov/pubs/regs/regs/water/ms4final.pdf
- Vermont: http://www.vtwaterquality.org/stormwater/docs/ms4/sw_Final_MS4_permit_12_5_12.pdf

Table 1: Small MS4 Permit Status for Delegated New England States

State	Effective Date of General Permit	Expiration Date of General Permit
Connecticut	January 9, 2011	January 8, 2013
Maine	July 1, 2008	June 30, 2013
Rhode Island	December 19, 2003	December 19, 2008[+]
Vermont	December 5, 2012	December 4, 2017[++]

[+] Permits have expired but are administratively continued pending issuance of the Phase II permit; the expired permit remains in full force and municipalities are required to continue to implement it.
[++] Prior to the general permit issued in 2012, Vermont had a general permit issued March 19, 2003.

EPA administers NPDES stormwater permit programs for Massachusetts and New Hampshire.[16] In 2003, EPA Region 1 issued general permits for MS4 operators located in these states. The 2003 Small MS4 General Permit expired May 1, 2008 but has been administratively continued. Operators covered by the 2003 Small MS4 General Permit will remain covered until EPA authorizes their MS4 discharges under a new permit or otherwise revokes permit authorization.[17]

Table 2 shows the number of New England communities subject to NPDES Phase II requirements as well as the number of communities that have established stormwater utilities. Of the approximately 500 New England communities subject to NPDES Phase II requirements, only 10 have established stormwater utilities. This is in spite of the fact that all of the New England states have passed legislation authorizing municipalities to establish stormwater utilities or determined that existing state law authorizes their establishment. New England accounts for less than 1% of the total number of stormwater utilities in the United States.

[16] For further information, see EPA Region 1's NPDES permitting website: http://www.epa.gov/region1/npdes/permits/permit_final_ms4.pdf.
[17] For further information, see EPA Region 1's Small MS4 General Permit Update website: http://www.epa.gov/region1/npdes/stormwater/updated-info-sms4gp.html.

Table 2: Summary of New England Phase II Status and Stormwater Utilities

State	Number of Communities Subject to Phase II Requirements[18]	Number of Communities with Stormwater Utilities[19]	Date of State Stormwater Utility Enabling Legislation[20] [21]
Connecticut	130	0	2007 for pilot studies in New Haven, New London, and Norwalk; no state-wide authorization
Maine	28	3	Authorized under existing state law
Massachusetts	238	5	2006
New Hampshire	38	0	2007 (Manchester only); 2008 (statewide)
Rhode Island	39	0	2002
Vermont	9[+]	2	2003
Total	482	10	

[+] Along with specific communities, the Vermont permit includes the University of Vermont, Burlington International Airport and the Vermont Agency of Transportation.

[18] Connecticut Department of Environmental Protection: Final MS4 General Permit, Appendix C: http://www.ct.gov/dep/lib/dep/Permits_and_Licenses/Water_Discharge_General_Permits/MS4_gp.pdf
Maine Dept. of Environmental Protection: Final MS4 General Permit, Appendix A: http://www.maine.gov/dep/land/stormwater/ms4/final_2008_ms4_gp.pdf
Massachusetts: EPA Region 1 Summary of Permit Year 8 Reporting: http://www.epa.gov/region1/npdes/stormwater/assets/pdfs/MA-SWMP-Summaries-Metrics-Yr-8.pdf
New Hampshire: EPA Region 1 Summary of Permit Year 8 Reporting: http://www.epa.gov/region1/npdes/stormwater/assets/pdfs/MA-SWMP-Summaries-Metrics-Yr-9.pdf
Rhode Island Dept. of Environmental Management, Office of Water Resources webpage: http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/stwater/t6faq/faq.htm
Vermont Agency of Natural Resources, Department of Environmental Conservation: Fact sheet for NDPES General Permit 3-9014 (2010) for Stormwater Discharges from MS4s: http://www.anr.state.vt.us/dec/waterq/stormwater/docs/ms4/sw_ms4_draftfactsheet.pdf

[19] Campbell, 13 – 50.

[20] US EPA, New England Region, *Funding Stormwater Programs* (April 2009) EPA 901-F-09-004: http://www.epa.gov/region1/npdes/stormwater/assets/pdfs/FundingStormwater.pdf.

[21] Specific references for authorizing legislation are:
Massachusetts: MGL Chapter 83–Sections 1 and 16, and MGL Chapter 40 – Section 1A.
Maine: 38 M.R.S.A. §480-F; 30-A.M.R.S.A §§ 3001 and 4352.
New Hampshire: NH RSA Chapter 149-Ia.
Vermont: Chapter 18 V.R.S.A., §8-311 (incorporating Act 109 of the Vermont Legislature (2002)).
Connecticut: Public Act 7-154, Section 2(b) (Municipal Stormwater Authority Pilot Program).
Rhode Island: R.I. Gen. Laws Title 45, Chapters 45-61 (Rhode Island Stormwater Management and Utility District Act of 2002.

3. Methodology

The research on which this report is based followed a program evaluation methodology consistent with other program evaluations supported by EPA's Evaluation Support Division (ESD) using methods common in the program evaluation field. It is based on a methodology report developed at the outset of the project.[22] The project began with the development of a logic model, which is a graphic representation of the inputs, activities, outputs, and outcomes for the system or process to be evaluated, and the key relationships among those elements. The logic model for this project described a generalized process of a community's development, adoption, and implementation of a stormwater funding mechanism, including key participants and processes for stakeholder engagement and public outreach (the logic model is contained in Appendix A).

Following the development of a logic model, the project team identified evaluation hypotheses and developed the evaluation questions the project would seek to answer (these questions are described later in this section). The team then developed the data collection methodology, including:

- Design of data collection and analysis protocols based on a comparative case study approach;
- Design of a community case selection process to facilitate comparisons among communities and answer the evaluation questions; and
- An approach for data collection through background and case study research and discussions with case contacts and experts.

Preliminary findings from data analysis and synthesis were discussed at an October 2012 New England Regional Stormwater Program Funding Symposium attended by New England stormwater managers, officials, and others, which also provided the project team an opportunity to gather additional information through audience comments.[23] A summary of information shared at the symposium is included as Appendix D.

The remainder of this section describes the evaluation hypotheses and evaluation questions, including the extent to which each evaluation question was answered (Section 3.1). The section goes on to provide an overview of the approach for information collection and analysis (Section 3.2).

[22] "Evaluation Methodology: Effective Approaches to Establishing Municipal Stormwater Funding Mechanisms" (Draft 2/27/12).
[23] A copy of the presentation delivered during the symposium is available at: http://www.horsleywitten.com/stormwaterfunding/pdf/Stormwater_symposium.pdf.

3.1. Evaluation Hypotheses and Questions

The evaluation was informed by hypotheses about the value of public outreach and stakeholder engagement in community adoption of a stormwater funding mechanism, with a specific focus on the value of consensus-building techniques. They were:

- *Hypothesis 1:* MS4 communities are more likely to reach agreement on stormwater funding mechanisms if they use some form of consensus building to arrive at their decisions.
- *Hypothesis 2:* Communities are more likely to adopt and effectively implement funding mechanisms that are developed based on stakeholder agreements that result from consensus building processes.
- *Hypothesis 3:* MS4 communities that try and fail to fund their programs either are not using a consensus building process (or its key elements), or are not effectively implementing it.

These hypotheses informed the development of specific evaluation questions, as described below. They also helped guide the selection of case studies to include both cases that used extensive consensus-building as part of their decision-making about stormwater utilities and cases that did not.

The discussion below lists the evaluation questions and provides a general overview of the extent to which these questions were answered by the information collected during the project. It also describes some key findings and describes where answers to the questions are discussed more fully in the findings and recommendations sections of this report. In general, the research was able to address all of the questions, although there are some areas of suggested further research. Some key findings were not fully anticipated by the evaluation questions, and these are summarized below where most appropriate. Examples of findings that were not fully anticipated at the outset of the project included:

- A broad range of approaches to stakeholder engagement generated public support for stormwater funding solutions depending on community conditions.
- Building early support for funding solutions among city and county councils and other local decision-making bodies was an important factor influencing whether a stormwater funding solution was ultimately adopted.
- The emergence, in some cases, of effective opposition to stormwater funding outside of stakeholder advisory committees could prevent adoption of a stormwater funding solution even if committee members unanimously supported the solution.

Question numbers below refer to the numbers used in the methodology report where “EQ” is short for “Evaluation Question.” Some questions are addressed together where appropriate.

EQ-1. To what extent is a stakeholder process desirable for a community to decide on, and accept, a stormwater funding mechanism? Are there other alternative approaches that lead to the same outcomes?
EQ-2. What factors drive the need for, and value of, stakeholder processes in communities?

The experience of the communities confirms that public support plays a critical role in successful adoption and implementation of stormwater funding mechanisms and that public outreach activities and stakeholder engagement protocols are important for generating public support. The specific value of public outreach and stakeholder engagement—along with lessons drawn from the experience of the eleven case communities—are described in Section 4.2. Among others, key benefits include:

- Creating a forum to proactively educate stakeholders about the need for improved stormwater management.
- The ability to access local knowledge and expertise.
- An opportunity to generate collaborative solutions and refine program designs.

At the same time, the evaluation showed that not all communities that successfully adopted and implemented stormwater utilities used the same type of approach to public outreach and stakeholder engagement. Some communities used stakeholder advisory committees in conjunction with extensive outreach while others were able to build support through targeted one-on-one meetings with key stakeholders. This fact illustrates that there is no single prescription for how to effectively engage stakeholders, and it highlights that other factors influence program adoption and implementation (these are described in Section 4.3). In general, the more complex and contentious the issues in a community, the more need there was for extensive and multi-faceted public outreach and stakeholder engagement. Factors that made funding issues more complex and contentious in some of the communities studied included:

- The drivers for program development and/or potential funding solutions were complex and required substantial analysis and creative strategies.
- A stormwater fee system would significantly redistribute stormwater management costs among stakeholder groups (including groups that had not previously been required to contribute to stormwater funding).
- There were few or no existing program models in the region or state.
- Stormwater management costs—and therefore utility fees—were high compared to similarly-sized communities nearby.
- There was a reasonable likelihood that a stakeholder group or groups could oppose the funding mechanism and encourage decision-makers to reject or repeal it.
- The potential for stakeholder opposition and/or intra-stakeholder conflict was high.
- Local decision-makers were uncertain about the level of community support for a stormwater funding mechanism and the political risk they might face in approving it.

EQ-3. What specific elements of stakeholder processes help create or derail agreement on an effective approach to stormwater funding?

The cases offered several lessons about how to undertake successful stakeholder engagement and public outreach processes that can create agreement on a stormwater funding solution. These are detailed in Sections 4.2.2 and 4.2.3. Key strategies for creating stakeholder agreement include:

- Identify and involve all key stakeholders.
- Proactively engage both stakeholders that support developing a utility and those that oppose it.
- Foster deliberation and exchange of ideas among stakeholders with many points of view.
- Start by discussing what the proposed program should accomplish, and only then talk about how to fund it.
- Implement a stakeholder engagement process appropriate to the community's circumstances and budget.
- Recognize that building community support takes more than getting agreement among a small group of people on an advisory committee.

EQ-4. What contextual factors make stakeholder agreement on an effective approach to stormwater funding more or less challenging and in what ways?

- *Are there factors that make agreement in small and medium sized communities more or less difficult? If so, what are they?*
- *Are there factors that make agreement in New England communities more or less difficult? If so, what are they?*

EQ-5. How can stakeholder processes be designed to overcome contextual challenges?

The project identified several factors related to community conditions and program design that influenced the extent to which communities could agree on stormwater funding proposals and whether decision-makers adopted them. These are described in Section 4.3. Examples of key factors include:

- The visibility of the program and the magnitude of consequences felt by many stakeholders if a solution is not implemented.
- Litigation risk.
- Affirmative state legislation enabling municipal stormwater fees.
- Regional clustering of stormwater utilities.
- Inclusion of "credit systems" that give property owners reduced fees for practices that reduce stormwater impacts within their property boundaries.

Additionally, program contacts identified factors that have made adoption of stormwater utilities particularly challenging in New England. As described in section 4.3.6, these included old and failing

infrastructure and high maintenance costs, weak county government, and no critical mass of successful utilities in the region. Because many of the project contacts discussed challenges for small and medium-sized communities in the context of challenges for these types of communities in New England, the report focuses on New England rather than on small and medium-sized communities generally. Future research on small and medium-sized communities across the country may identify common challenges in addition to those faced in New England.

EQ-6. How are stakeholder processes and decisions about stormwater funding mechanisms influenced by the overall cost of stormwater management and the community's resources to address it?

- *What are effective ways that communities have addressed the relative priority of funding stormwater (vs. other community priorities)?*
- *What are effective ways that communities have considered and agreed on allocating the costs of stormwater management?*
- *Can stakeholder agreement reduce the total cost of stormwater management?*

As described above, the project identified several contextual and program design factors that influenced the outcomes in these communities. Several of these related to the cost of stormwater programs and how those costs are distributed among property owners through fee structures. Because most communities were required to enhance stormwater programs to meet regulatory requirements (or face fines, etc.), the discussion was less about whether to pay for enhanced stormwater programs (versus other community priorities) but how to do so (and, in a few cases, when to begin collecting new revenues). Several of the findings throughout Section 4 relate to these issues of cost and how responsibility for paying for stormwater services should be allocated among property owners in the community. Key cost-related factors that influenced community acceptance of stormwater fees included:

- The amount of the fees given the magnitude of stormwater program costs and funding needs.
- The perceived fairness of how stormwater costs were allocated to properties through fee structures.
- The relative priority of funding stormwater versus other policy priorities.

EQ-7. Where a stormwater funding mechanism (e.g., stormwater utility) has been adopted, what were the strongest influences on adoption? What role, if any, did stakeholder agreement play?

As noted above, public support played a critical role in successful adoption and implementation of stormwater funding mechanisms, and public outreach and stakeholder engagement were important for generating public support. Project contacts offered insights into several other factors that also influenced adoption, such as community conditions, program design, cost, litigation risk, and the understanding and support of local-decision makers. These additional factors are the focus of Section 4.3.

EQ-8. Where a stormwater funding mechanism (e.g., stormwater utility) has been effectively implemented, what were the strongest influences on implementation? What role did stakeholder agreement play?

Project contacts also offered several insights into how to maintain public support through the critical period of initial implementation (these are described in Section 4.3.2 along with findings about program design). Key factors include:

- Competence and responsiveness during initial billing.
- Demonstrating that programs are providing the promised level of services.
- Building in a process to adjust fees over time to generate adequate revenues.

EQ-9. Can stakeholder agreement reduce litigation over stormwater funding mechanisms?

The analysis did not specifically answer the question about whether stakeholder agreement can reduce litigation over stormwater funding mechanisms. This was largely because the eleven cases examined did not involve extensive litigation initiated by stakeholders against the utilities. Instead, the analysis focused on how legal uncertainty (e.g., resulting from a lack of state enabling legislation for stormwater utilities) and the threat of litigation influenced the program development and adoption process. Section 4.3.3 describes these findings and suggests some ways in which stakeholder engagement may reduce the likelihood of successful legal challenges to stormwater utilities. Lessons from communities suggest that good public outreach and stakeholder engagement can help communities avoid litigation by revealing and resolving legal vulnerabilities through stakeholder discussions and creating buy-in from those that might otherwise bring a legal challenge. Future research, possibly building on the annual survey of stormwater utilities conducted by Western Kentucky University, would help inform the relationship between stakeholder engagement and litigation.

EQ-10. How much does it cost to run a stakeholder process to effectively consider stormwater funding options?

There was little information available from case contacts or case documentation about the specific costs of public outreach and stakeholder engagement efforts. In many cases, this information was proprietary. In other cases, public outreach and stakeholder engagement support services were bundled into an overall set of technical and support services, and not broken out by line item in available documentation. However, discussion with case contacts revealed information about the types of costs and factors that influence their magnitude. Section 4.3.4 specifically addresses the cost of implementing public outreach and stakeholder engagement activities. Key factors affecting these costs are:

- The amount of leadership and staff resources devoted to public outreach and stakeholder engagement.
- The cost of third-party neutral facilitation and process support.
- The cost of technical experts involved in stakeholder engagement efforts.
- The degree and complexity of public outreach.

Additional future research on actual costs of public outreach and stakeholder engagement may be helpful for local stormwater managers and stakeholders.

EQ-11. How can federal and state agencies help communities and stakeholders effectively consider stormwater funding options?
EQ-12. What guides, tools or other resources would be most useful to communities considering stormwater funding mechanisms?

Case contacts offered several suggestions about how federal and state agencies could assist communities and what types of guides, tools, or other resources would be most useful. This information was used as the basis for the recommendations presented in Section 5:

- Create incentives to develop funding mechanisms in conjunction with stormwater management plans.
- Enhance communication about state and federal stormwater requirements.
- Offer state and/or federal incentives for regional, watershed-based solutions.
- Provide state and federal program development funding for activities such as stormwater utility feasibility studies and program design assistance, stakeholder consensus-building process design and facilitation, access to GIS mapping services to support development of fee structures based on impervious surface square footage, and/or stormwater infrastructure demonstration projects.
- Provide specific technical assistance or technical tools for developing funding programs, such as assistance with calculation of impervious surface areas, aerial photography, and/or a state or regional "circuit rider" program modeled on other programs for technical assistance to small and medium-sized towns.
- Develop model stormwater utility ordinances (and/or communicate about existing ones).
- Develop case studies and examples of effective program development, adoption, and implementation.
- Establish online clearinghouses of model public outreach and stakeholder engagement plans.

3.2. Information Collection and Analysis

The primary information collection and analysis methodology for the project was comparative case study analysis supplemented by discussions with national experts on stormwater program development, funding, and consensus building. Comparative case study analysis is an appropriate methodology to evaluate complex policy development processes and other topics characterized by:

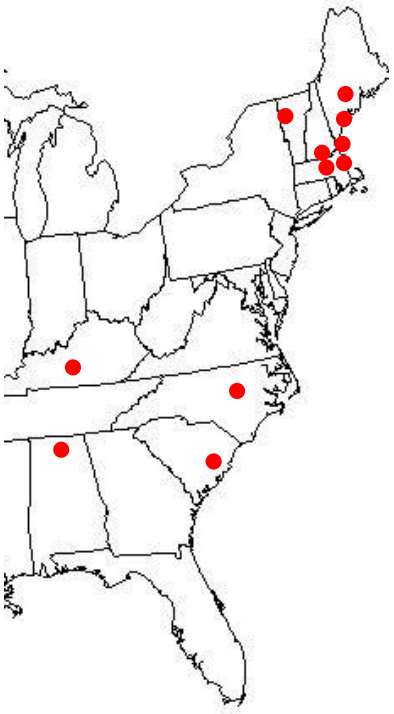
- Unique contextual factors that affect activities, outputs, and outcomes;
- Program designs that are customized to particular community circumstances;
- Relationships between activities, outputs, and outcomes that are not well understood and may be unpredictable; and
- Unique outcomes that may warrant further investigation.[24]

Using case study analysis allowed the evaluators to collect information at a level of detail sufficient to analyze the project's hypotheses and answer its evaluation questions.

Case studies were selected based on a purposive sampling of MS4 communities. Purposive sampling is a process of selecting cases to represent certain types of processes or outcomes. It is designed explicitly to create cross-community comparisons that reveal insights related to the evaluation questions, rather than as a random sampling of all possible cases. Specific cases were identified using a snowball approach. A snowball approach identifies case studies on an ongoing basis through discussions with evaluation project contacts and resources, including the evaluation team, written compilations of cases, discussions with experts, and discussions with case study contacts. Specifically, cases were selected to:

- Represent a spectrum of stakeholder engagement from no or little engagement to "gold standard" consensus-based processes.
- Represent cases that achieved stakeholder agreement, decision-maker adoption, and/or effective implementation—and cases that failed to do so.
- Represent relatively recent cases (i.e., in the last eight years).

Community Case Studies



[24] Balbach, Edith. *Using Case Studies to do Program Evaluation*: California Department of Health Services, Tufts Univ., 1999.

Cases included New England communities, as well as communities outside New England that served as a comparison group to identify possible challenges that might be unique to the New England region.

The eleven selected community case studies were:

- Berkeley County, South Carolina
- Dover, New Hampshire
- Huntsville, Alabama
- Lewiston, Maine
- Manchester, New Hampshire
- Newton, Massachusetts
- Raleigh, North Carolina
- Reading, Massachusetts
- South Burlington, Vermont
- South Portland/Long Creek, Maine
- Warren County, Kentucky

Full case descriptions of these communities are included in Appendix B.

In addition to these eleven communities, the report analyzed specific aspects of additional communities' experiences with stormwater funding mechanism development, adoption, and implementation. These included Bangor and Portland, Maine; Chicopee and Ayer, Massachusetts; Nampa, Idaho; Colorado Springs, Colorado; and Poway, California.

Information to support this evaluation was obtained using the following methods:

- Open-ended discussions with people familiar with the history of stormwater funding discussions in their communities. These contacts included lead staff from stormwater management agencies, process facilitators, and participating stakeholder representatives.
- Primary document research, such as city or county council meeting minutes, newspaper articles and stormwater ordinances.
- Published case studies.

This information was supplemented by open-ended discussions with national stormwater experts. These conversations identified cross-cutting factors, issues and challenges faced by communities. They also helped identify potential cases for in-depth analysis and existing resources that would be useful to MS4 communities. These individuals are identified in Appendix C.

A New England Regional Stormwater Program Funding Symposium held in New Hampshire in October 2012, provided an opportunity to discuss and refine preliminary findings with over 100 participants from MS4 communities throughout New England. A summary of the information shared at the symposium is included in Appendix D.

3.3. Caveats and Limitations

Although the case study methodology used for this report generated rich detail across the cases and revealed several common themes related to the evaluation questions, it had some limitations. These limitations should be taken into account when interpreting the report's findings. They are:

- *Findings are based on a case study approach.* Cases were intentionally selected based on their processes and outcomes in order to provide explicit comparisons among cases that would inform the evaluation questions. The methodology did not involve a random selection of cases, comparison against a control group, or other features of a study design aimed to generate statistically valid comparisons. As these data are qualitative in nature, data were subject to qualitative analyses that would preclude quantitative statistical analyses.
- *Findings are based on a limited number of cases*. Although common themes emerged among the cases studied, it may be that examination of additional cases across the country would identify other themes or challenge the findings identified in this report. The analysis of eleven selected cases cannot ensure external validity of these findings or generalizability beyond the selected cases. A concern about external validity within the New England region is lessened because the report covers a substantial number of the existing stormwater utilities in New England. Moreover, the October 2012 New England Regional Stormwater Program Funding Symposium brought together representatives from many other communities in New England to provide feedback on initial findings; the information shared at the symposium was generally consistent with the findings of the report. Also, discussions with stormwater funding experts around the country drew on their experience with other communities.
- *Information about cases came from a limited number of people involved in each case and available documentation.* One to four people provided information about each case. Information they provided may be influenced by their recollection, role, and opinions about events. The primary contacts for information about the cases were lead staff from the local agencies that managed the stormwater funding program development process. A sub-set of cases also drew on discussion with facilitators and stakeholder representatives participating in these processes. There were no discrepancies in how multiple contacts described the facts of any particular case nor were there contradictions between information provided by case contacts and written documentation of the cases. However, a more detailed analysis of cases drawing on the perspectives of multiple participants would certainly identify new information and nuances about the cases.

Taken together, these factors could mean that a study examining different communities or using a different type of methodology could arrive at a different set of findings and recommendations. Such studies would be useful in increasing our knowledge and understanding of the role of stakeholder processes in stormwater funding decisions.

4. Findings

This section describes the findings of the report. It is divided into three sub-sections. Section 4.1 provides an overview of the eleven communities studied. These communities employed diverse strategies to involve their stakeholders. Their approaches and range of outcomes provide a rich base of experience for the findings discussed later in the section. Section 4.2 describes findings related to the role of public outreach and stakeholder engagement. Several of these findings are expressed as lessons for other communities interested in how to successfully implement these processes. Section 4.3 describes other factors—including community conditions, program design, litigation risk, and cost—that influenced adoption and implementation of stormwater utilities in the communities. Section 4.3 also describes challenges unique to communities in New England.

4.1. Overview of Communities

Strategies for public outreach and stakeholder engagement differed widely among the eleven communities. Outcomes differed as well: stormwater utilities were adopted in some communities and rejected in others. This sub-section provides an overview of the communities and describes these differences. Subsequent sections describe more of the detail of the cases in relation to specific findings.

Four local jurisdictions employed extensive public outreach and stakeholder engagement efforts—including convening a committee of stakeholders to advise on program design. All four stormwater utility proposals were subsequently adopted. The experience of these four communities highlights the benefits of stakeholder engagement and public outreach and illustrates how these processes can help lead to program adoption. They are:

- South Portland/Long Creek (ME), which involved a consensus-based process led by a neutral facilitator that emphasized identifying and involving key stakeholders (both opponents and proponents of stormwater fees) and fostering consensus-based decisions by a stakeholder advisory committee. Participants developed and established a stormwater utility that local commercial property owners could choose to participate in to satisfy stormwater regulatory requirements.
- Raleigh (NC), which also undertook a consensus-building process through a stakeholder advisory committee supported by a neutral facilitator. This effort was supplemented by meetings around the city with stakeholder groups. The stormwater utility proposal recommended by the committee was passed by the City Council.
- South Burlington (VT), which used a combination of extensive public outreach, input from a stakeholder advisory committee, and one-on-one meetings with key stakeholder groups to develop a stormwater utility proposal that was subsequently adopted by the City Council.

- Reading (MA), which worked through two stakeholder advisory committees and engagement with the city's Town Meeting process to design and adopt a stormwater utility program.

The benefits of public outreach and stakeholder engagement highlighted by the four communities above are reinforced by the stories of two other communities that did not involve stakeholders in program development; these communities subsequently failed to adopt a stormwater funding mechanism and provide a cautionary tale about what can happen if stakeholders are not involved in program development. They are:

- Manchester (NH), where a funding proposal was developed by city staff, but never brought to a vote because of opposition from local elected officials based on their perception of economic conditions.
- Berkeley County (SC), in which a funding proposal was developed by county staff but was rejected by a vote of the County Council when significant stakeholder opposition to the proposal emerged.

Two other communities convened stakeholder advisory committees, but their recommended funding proposals were not adopted. These two cases, described below, illustrate how opposition from stakeholders can emerge outside of advisory committee processes if some stakeholders are not aware of funding proposals or involved in their design. The two cases also illustrate how factors such as legal uncertainty can influence the adoption of stormwater utilities. They are:

- Huntsville (AL), in which a stormwater utility proposal was developed by a stakeholder advisory committee and brought before the local City Council; the proposal stalled amid public controversy and legal uncertainty and was never voted on.
- Dover (NH), in which a proposal from a stakeholder advisory committee was rejected by the City Council amid public opposition.

How did communities engage and inform stakeholders (or not)?

Across the cases, stakeholder engagement and public outreach involved a combination of one or all of the following approaches:

- Broad public outreach to homeowners to inform them about the needs and benefits of a stormwater program and funding mechanism;
- Small group or one-on-one meetings with key stakeholder representatives, including those expected to pay relatively high fees (e.g., commercial property owners), non-profit organizations not required to pay property taxes (e.g., churches, certain hospitals, etc.), and neighborhood or homeowner associations; and/or
- Stakeholder advisory committees that deliberated on possible funding approaches and ultimately recommended that a specific funding solution be adopted.

In the communities that did not pursue any of the public outreach or stakeholder engagement processes described above, program development was typically undertaken solely by municipal stormwater managers, often with the assistance of a technical consulting firm.

Two communities performed little to no public outreach and did little to engage stakeholders. Stormwater utilities were adopted in both. These communities were:

- Newton (MA), in which the city was under an EPA consent order to address illicit connections, and the Board of Aldermen adopted a stormwater utility that was developed quickly by city staff with little public outreach and no stakeholder engagement.
- Warren County (KY), in which the development of the stormwater utility was championed by the county's Judge-Executive, the highest public official in the county. There was no public outreach or stakeholder engagement in program design, but the utility was adopted and implemented without any legal challenges.

Finally, Lewiston (ME) adopted a stormwater utility proposal after engaging key commercial stakeholders through one-on-one meetings (however, the city did no broader public outreach). These companies would pay fees under the new system. Although most of these businesses did not like the idea of the stormwater fee, they did not actively oppose it when it was considered and passed by the City Council.

These last three cases—Newton, Warren County, and Lewiston—illustrate how the degree and type of stakeholder engagement needed (or not needed at all) to address stakeholder concerns and successfully adopt stormwater utilities can vary widely depending on community conditions, stakeholder concerns, and factors such as program design and local decision-maker support.

Table 3 summarizes the eleven cases by showing whether a stormwater funding mechanism was adopted in the community.

Table 3: Summary of Program Adoption Status among Case Study Communities

Did the community adopt a stormwater funding mechanism?	
Yes	**No**
South Portland/Long Creek, ME South Burlington, VT Reading, MA Raleigh, NC Lewiston, ME Newton, MA Warren County, KY	Huntsville, AL Dover, NH Manchester, NH Berkeley County, SC

Table 4 provides more detail on the drivers that led each community to seek a stormwater utility, the use of public outreach and stakeholder engagement, information about whether a utility was adopted, and the range of fees adopted or considered. As outlined in the table, MS4 regulatory requirements were key drivers in most of the communities, but flooding, water quality, erosion, sedimentation, aging

infrastructure, and other issues also drove communities to improve stormwater management and seek stormwater funding solutions.

Table 4: Summary of Communities' Public Outreach and Stakeholder Engagement, Utility Adoption, and Stormwater Fees

Case Study	Drivers	Public Outreach and Stakeholder Engagement Process	Stormwater Funding Mechanism Adoption	Fee Summary
South Portland/ Long Creek, ME	• Impairment designation under CWA • EPA exercise of Residual Designation Authority	• Stakeholder Advisory Committee (Long Creek Restoration Project Steering Committee) and stakeholder sub-committees • Watershed Committee of all interested local stakeholders	• Committee developed the Long Creek Watershed Management Plan; four-municipalities involved signed an inter-local agreement to create quasi-public Long Creek Watershed Management District to implement plan and fee system. (Commercial property owners then signed individual agreements to participate.)	• Commercial: variable fee based on impervious surface ($250/month per acre) • No residential fee (the geographic area does not include residential properties)
South Burlington, VT	• Compliance with MS4 and TMDL requirements • Pressure from homeowners associations, developers and others to resolve stormwater permit issues	• Stakeholder Advisory Committee (Stormwater Advisory Committee) • Targeted meetings with homeowners associations and large property owners • Public outreach through public presentations and brochures	• Approved by City Council (2005)	• Residential: flat fee ($5.94 per month per single-family lot; increased from original $4.50 per lot) • Commercial: tiered fee based on impervious surface (ten tiers)

Case Study	Drivers	Public Outreach and Stakeholder Engagement Process	Stormwater Funding Mechanism Adoption	Fee Summary
Reading, MA	• Compliance with MS4 and TMDL requirements • Poor surface water quality • Flood control • Erosion and sedimentation	• Stakeholder Advisory Committees (Ad Hoc Stormwater Committee and Water, Sewer, and Stormwater Management Advisory Committee) • Some limited public outreach and education (e.g. through bill inserts and Town Meeting process)	• Approved by Board of Selectmen (2005) • Approved by Town Meeting (2006)	• Residential: flat fee of $3.30/month • Commercial: variable fee based on impervious surface ($3.30/month per 2,552 sq. ft)
Raleigh, NC	• Backlog of capital improvement projects and system maintenance for flood control	• Stakeholder Advisory Committee (Stormwater Utility Stakeholder Group) • 10 public meetings around the City • One-on-one meetings with local citizen action groups	• Approved by City Council (2003)	• Residential: tiered fee structure based on home size (from $1.60 to $11.60/month) • Commercial: variable fee based on impervious surface ($4/month per 2,260 sq. ft)
Warren County, KY	• Anticipated MS4 permit requirements	• No public outreach or stakeholder engagement during program development	• Approved by County Board of Magistrates and Judge Executive	• Residential: flat fee ($4/month per water meter) • Commercial: flat fee ($10/month per water meter)
Newton, MA	• Poor maintenance and failing stormwater infrastructure • Flooding and water quality problems • EPA consent order to address illicit connections	• No public outreach or stakeholder engagement during program development • Limited public education through utility bill inserts and video on local TV channel	• Approved by Board of Aldermen (2006)	• Residential: flat fee (approx. $2/month) • Commercial: flat fee ($12.50/month)

Case Study	Drivers	Public Outreach and Stakeholder Engagement Process	Stormwater Funding Mechanism Adoption	Fee Summary
Lewiston, ME	• Need for a sewer and stormwater system upgrade as a result of a consent agreement between city, state, and US EPA	• Meetings with 10–15 entities that stood to pay the highest fees • Public hearings as part of City Council decision to approve stormwater utility	• Approved by City Council (2006)	• Residential: flat fee ($4.15 per month) • Commercial: flat fee of ($4.15 per month) plus variable fee ($0.054/sq ft of impervious surface) for area exceeding 2,900 square feet base amount
Huntsville, AL	• Severe flooding	• Stakeholder Advisory Committee (Flood Mitigation Planning Committee) • Public meetings (once fees proposed)	• Utility not voted on by City Council pending state enabling legislation	*(Note: fees proposed but not adopted)* • Residential: flat fee estimated at $2-$5/month • Commercial: not specified
Dover, NH	• Anticipation of more stringent MS4 permit requirements	• Stakeholder Advisory Committee (Ad-Hoc Stormwater Utility Study Committee) • Public workshop and question and answer sessions (once fees proposed)	• Rejected by City Council (2011)	*(Note: fees proposed but not adopted)* • Residential: flat fee (approximately $7/month in year 1 increasing to approximately $12/month in year six) • Commercial: variable fee based on impervious area ($7/month per 3,919 sq. ft increasing to $12/month in year 6)
Berkeley County, SC	• Anticipated changes to SC NPDES Phase II MS4 permit	• No public outreach or stakeholder engagement during program development • City held two public hearings in conjunction with consideration of ordinance by County Council	• Rejected by County Council (2011)	*(Note: fees proposed but not adopted)* • Residential: flat fee ($3/month) • Commercial: flat fee ($9/month for commercial and industrial properties; $6.50/month for non-profit and tax-exempt properties)

Case Study	Drivers	Public Outreach and Stakeholder Engagement Process	Stormwater Funding Mechanism Adoption	Fee Summary
Manchester, NH	• Flooding • Compliance with anticipated regulatory requirements	• No public outreach or stakeholder engagement during program development	• Citing the economic climate, the elected officials did not support forming a utility	*(Note: fees proposed but not adopted)* • Residential: tiered fees • Commercial: variable fee based on impervious area ($2.80/month/ERU)

4.2. Public Outreach and Stakeholder Engagement

This section describes findings related to the benefits of public outreach and stakeholder engagement. It also describes lessons drawn from the communities studied about how to effectively implement stakeholder engagement and conduct public outreach.

4.2.1. The Benefits of Public Outreach and Stakeholder Engagement

The experiences of the communities suggest several ways that public outreach and stakeholder engagement can contribute to the development and adoption of stormwater funding mechanisms. They are:

- A forum to proactively educate stakeholders about the need for improved stormwater management and funding and, as importantly, for stakeholder to educate stormwater utility proponents about their concerns.
- An opportunity to test and refine program design by soliciting stakeholder feedback.
- An opportunity to develop innovative, collaborative solutions.
- An opportunity to find the balance between costs and services that fee payers can support.
- Access to local knowledge and expertise.
- Creation of support and momentum for a consensus-based solution.

Each of these benefits is discussed in more detail below.

A forum to <u>proactively</u> educate stakeholders about the need for improved stormwater management and funding and, as importantly, for stakeholder to educate stormwater utility proponents about their concerns. Communities used public outreach and stakeholder engagement strategies to inform stakeholders about the need to manage stormwater, the benefits of doing so, and the importance of adequate and stable funding. Engaging the public early about the "case" for stormwater management and funding allowed the communities to build understanding and support and to identify and work through potential controversies.

In South Burlington, Vermont, for example, the Departments of Public Works and Planning and Zoning actively sought out homeowners associations and large commercial property owners to discuss the need for improved stormwater management and funding, and to discuss how the proposed program could benefit them. (For example, the city identified approximately 80 commercial property owners that would receive bills of over $1,000 per year and invited them to breakfast meetings to discuss the purpose and basis for the impending fees.) The City of Raleigh pursued a similar approach, holding at least 10 public meetings with neighborhood stakeholder groups and community action groups to describe the need for enhanced stormwater management and stable funding—in addition to convening a stakeholder advisory committee.

How Stakeholder Engagement can Strengthen Support for Program Design: Comparison of Reading, MA and Berkeley County, SC

A comparison of two communities that both proposed flat residential fees—with much different outcomes—illustrates the value of stakeholder engagement in program design.

In Reading, MA, a key discussion point for the stakeholder advisory committee was whether (and how) to charge fees based on each property's actual impervious surface area. The committee concluded that collecting valid data would require the town to conduct expensive aerial surveys every three years. The committee decided instead to use a flat fee for residential properties rather than one calibrated to each property's actual impervious surface area. The program ultimately adopted by Reading's Town Meeting included this flat fee structure.

In contrast, Berkeley County, SC, did not engage stakeholders in the development of its program and therefore did not have the opportunity to test and refine its proposed program design. Like Reading, the design used a flat stormwater fee for residential properties. When County Engineering Department staff members brought the proposal forward to the County Council—and members of the public attending Council meetings—the staff found itself having to explain and defend the flat fee structure (among many other plan elements) as it was asking the Council to approve the proposal. Council members and citizens raised fairness concerns about how the flat fee did not take into account differences in square footage of impervious areas between commercial, residential, and farm properties (e.g., businesses with large parking lots would pay only a little more than a rural home on farmland). At every Berkeley County Council meeting in which the proposal was discussed, questions and controversy escalated, ultimately leading to the Council's rejection of the proposal. If the Berkeley County Engineering Department had established a stakeholder committee, these types of issues might have been identified and potentially resolved before bringing a proposal to the County Council for approval.

An opportunity to test and refine program design by soliciting stakeholder feedback. Stakeholder advisory committees, in particular, gave funding proponents an opportunity to test and refine program design by considering the multiple perspectives of community stakeholder groups. Frequent topics of discussion included determining the amount of revenue that would be needed to supply various levels of service, who would pay the stormwater fees, and how fees would be calculated given the community's pattern of property ownership. These discussions often revealed underlying concerns or disagreements that could be worked through deliberatively and led to program proposals with broad support.

An opportunity to develop innovative, collaborative solutions. By working collaboratively with stakeholders, some communities were able to identify and develop innovative and cost-effective stormwater management solutions that would not have been recognized and adopted without stakeholder participation. For example, in South Portland/Long Creek, a stakeholder committee of commercial businesses designed a coordinated program in which local property owners could voluntarily participate in a stormwater utility funding mechanism rather than separately pursue individual Maine Pollutant Discharge Elimination System (MPDES) permits for each property. Funds would be used to pay for riparian and structural restoration projects to manage stormwater. These community-wide projects were more cost-effective than if each landowner were to comply on its own. By one estimate, this strategy reduced compliance costs to participating landowners by 75%.

An opportunity to find the balance between costs and services that fee payers can support. A key stormwater program design challenge is determining the level of stormwater services a community is willing to pay for. In Raleigh, this question was taken directly to Raleigh's Stormwater Utility Stakeholder Group and was a principal focus of the group's deliberations. Participants in this group represented a broad array of community institutions, interests and perspectives. They were presented with four different options for levels of service, what each would cost, and the associated stormwater fees (see call out box in this section). Project contacts said the city staff members were surprised that stakeholders chose option "B," which represented a substantial increase in services and costs over the status quo (which was equivalent to a mix of options C and D). A stakeholder committee member said that the group coalesced around option B because participants felt that the city needed to be proactive in its stormwater program, and that option B would allow it to plan and prioritize stormwater-related activities. Option B was ultimately adopted by the City Council and implemented.

Summary of Level of Service Options and Costs: Raleigh, North Carolina

Shaded boxes represent existing levels of costs and services at the time of the program design process. Stakeholders chose to recommend option B, which was an increased level of services and cost.

Level of Service	*Annual O&M*	*Annual Management, Compliance and Implementation Cost*	*Annual Capital Improvement Projects*	*Annual Program Cost*	*Estimated User Fee ($/SFU/month)*	*Equivalent Tax Rate ($/$100)*
A	$6 million Fully Preventative/100% Routine	$5 million Comprehensive Planning + Compliance + Full Implementation	$6 million 16-year program	$17 million	$5.76	$0.067
B	$4.8 million Mixture of Routine and Inspection Based	$3 million Pro-Active Planning + Compliance + Systematic Implementation	$4 million 25-year program	$11.8 million	$4.00	$0.046
C	$3 million Inspection Based Only	$2 million Priority Planning + Compliance + Partial Implementation	$3 million 33-year program	$8.0 million	$2.71	$0.032
D	$2 million Responsive Only	n/a	$2 million	$6.0 million	$2.03	$0.024

Source: City of Raleigh Stormwater Management Funding Study: Final Report, March 2003.

Access to local knowledge and expertise. A few communities engaged stakeholders explicitly to access their knowledge and expertise about stormwater. For example, in Reading, the town convened an ad-hoc advisory committee on stormwater to tap into community expertise rather than hiring consultants. Members included citizens that had been appointed to positions on other town boards and that were knowledgeable on stormwater issues. Similarly, in South Portland/Long Creek, one of the explicit rationales for convening a stakeholder-based steering committee of local businesses was to access their knowledge about the area's commercial properties and current stormwater management practices, and to use that information to inform feasible approaches for stormwater management and program funding. During this process, participating stakeholders contributed critically important financial analyses of stormwater costs and fees. These analyses were credited by project contacts as critical in developing a consensus-based agreement.

Creation of support and momentum for a consensus-based solution. Many communities found that generating public support and "buy in" through public outreach and stakeholder engagement showed decision makers that their programs had community support. One person involved in the process in

Raleigh, for example, stated that without a stakeholder group "it would have been like previous times where we talked about it but nothing happened."

4.2.2. Lessons about Stakeholder Engagement

In addition to highlighting the benefits of public outreach and stakeholder involvement, the case studies offer lessons for other communities. This sub-section describes lessons related to stakeholder engagement. The next sub-section describes lessons related to public outreach.

Key lessons from the communities about how to effectively implement stakeholder engagement include:

- Identify and involve all key stakeholders.
- Proactively engage both stakeholders that support developing a utility and those that oppose it.
- Foster deliberation and exchange of ideas among stakeholders with many points of view.
- Start by discussing what the proposed program should accomplish, and only then talk about how to fund it.
- Implement a stakeholder engagement process appropriate to the community's circumstances and budget.
- Recognize that building community support takes more than getting agreement among a small group of people on an advisory committee.

Each of these lessons is described below.

Identify and involve all key stakeholders. Several of the communities made a concerted effort to proactively identify and reach out to key stakeholders. South Portland/Long Creek used a facilitator who initiated a stakeholder engagement process by convening meetings and interviews with individuals in the community to determine who should be involved in the process. In Raleigh, a facilitator recommended that fifteen different stakeholder groups be represented on the advisory committee and asked the City Council to nominate representatives for each of these groups. According to case contacts, the stakeholder list ensured that a variety of interests were represented. To complement the stakeholder committee process, Raleigh staff met with neighborhood associations as part of the program development process. Similarly, in South Burlington, city staff and contractors identified approximately 80 commercial property owners that would receive bills totaling over $1,000 per year and met with them to discuss the impending fee.

Proactively engage both stakeholders that support developing a utility and those that oppose it. Stakeholder engagement is fundamentally about the exchange of ideas, concerns, and interests to create a program that meets the needs and interests of all stakeholder groups. As such, it is important to include supporters and opponents. Raleigh's facilitator advised cities to include their biggest

advocates and their biggest critics in deliberations on program design. In South Portland/Long Creek, participants chose to include a representative of the Conservation Law Foundation on the stakeholder committee even though the Foundation was instrumental in taking legal action that dramatically increased compliance responsibilities and costs for many of the commercial property owners on the committee. This decision, case contacts said, was critical to the success of the process. The Steering Committee in South Portland/Long Creek also actively sought out business leaders who had expressed negative opinions about the stormwater utility concept, and invited them to participate in the stakeholder engagement process. A consideration for Dover and Huntsville—where significant public opposition emerged after the stakeholder advisory process concluded with consensus recommendations for stormwater utilities—is whether more extensive representation of stakeholder interests on their committees could have allowed a broader exchange of ideas and concerns and a more broadly accepted solution.

Foster deliberation and exchange of ideas among stakeholders with many points of view. Stakeholder processes encourage the exchange of ideas and deliberation about program alternatives from many perspectives. Neutral facilitators can help foster this type of deliberative environment, as they did in Raleigh and South Portland/Long Creek. In Dover and Huntsville, the lack of a deliberative forum to address controversy when it emerged derailed funding proposals. In both of these communities, conflict emerged during public meetings after the advisory committee process had concluded. Public meetings offer stakeholders a forum to make their opinions known, but they are not good forums for discussion or consensus-building. Moreover, the Dover and Huntsville public meetings tended to attract only opponents. The Dover Feasibility Study, written after the rejection of the utility, noted that public meetings "were attended and dominated by a small group of citizens strongly opposed to establishing the utility." The study stated that, in retrospect, it would have been helpful to have stakeholder committee members "attend the City Council meetings and public hearings and talk in support of the committee's recommendation" and to make sure that other stakeholder groups in favor of the utility attended.

Start by discussing what the proposed program should accomplish, and only then talk about how to fund it. In Raleigh, participants said it was critical that the stakeholder committee process initially focused on the desired level of service—and only then addressed how revenues would be raised. As noted earlier, the stakeholder group selected a higher level of service (at a higher cost but also allowing for a more proactive program) than other options on the table. Only after several meetings were held to come to agreement on a level of service did the group consider funding options.

Implement a stakeholder engagement process appropriate to the community's circumstances and budget. When it comes to designing a stakeholder engagement process appropriate to a community, it is difficult to be prescriptive. One community, Lewiston, held one-on-one meetings with prominent businesses and was able to adopt a program without much controversy. Other communities used far more extensive processes. Even communities that convened stakeholder committees engaged them in

different ways. Some communities looked to their committees to fully develop and agree on program design recommendations. Others used their committees more as sounding boards for ideas generated by city staff. Some communities complemented the work of stakeholder committees with a parallel effort by meeting one-on-one with stakeholder groups to inform them about proposed programs and gauge their concerns. Differences in local decision-making culture, the public's need for broadly disseminated information, the relative value of stakeholder "buy-in" to a consensus-based solution, and several other factors seem to have influenced process design and its ultimate adoption.

In general, communities are well advised to implement more intensive stakeholder engagement processes—generally involving a committee of stakeholder representatives seeking consensus on a funding program design—when:

- The drivers for program development and/or potential funding solutions are complex and require substantial analysis and creative strategies.
- A stormwater fee system would significantly redistribute stormwater management costs among stakeholder groups (including groups that have not previously been required to contribute to stormwater funding).
- There are few or no existing program models in the region or state.
- Stormwater management costs—and therefore utility fees—are high compared to similarly-sized communities nearby.
- There is a reasonable likelihood that a stakeholder group or groups could oppose the funding mechanism and encourage decision-makers to reject or repeal it. That is, the potential for stakeholder opposition and/or intra-stakeholder conflict is high.
- Local decision-makers are uncertain about the level of community support for a stormwater funding mechanisms and the political risk they may face in approving it.

Effective Stakeholder Process Design in Raleigh, NC

Raleigh is one example of a formal, consensus-based stakeholder process designed by a professional facilitator that led participants through a series of analyses and discussions that resulted in consensus recommendations. The stakeholder group was comprised of 25–30 participants representing the development community, environmental groups, the real estate industry, neighborhood groups and schools.

The stakeholder group held eight meetings from October 2002 to February 2003. The meeting structure was as follows:

- ***Meeting 1:*** Reviewed existing stormwater program, funding options, and the role of the stakeholder group. City staff outlined the need to improve the city's stormwater management program and funding.
- ***Meeting 2:*** Discussed the stormwater program's current level of service. The discussion emphasized that a utility user fee would not necessarily be the group's final recommendation. The facilitator distributed take-home questionnaires to solicit stakeholder feedback regarding levels of service that they thought the city should provide.
- ***Meeting 3:*** Reviewed an example of an effective stormwater management program (Charlotte-Mecklenburg County, NC) and a case study on the Mine Creek Drainage Basin; discussed stakeholder feedback on the level of service issue as reflected in questionnaire responses.
- ***Meeting 4:*** Participated in a field trip to look at several stormwater control infrastructure projects (i.e., culvert upgrades, stream restoration, wetland creation, regional stormwater pond).
- ***Meeting 5:*** Discussed stakeholder reactions to the field trip. Participants participated in a voting exercise to identify preferred levels of service for each area of the stormwater program. Stakeholders also discussed various funding options such as property taxes, municipal service districts, special assessments, sales taxes, and a dedicated stormwater fund.
- ***Meeting 6:*** Discussed funding options and residential and non-residential rate structure options.
- ***Meeting 7:*** Discussed residential and non-residential rate structure options and credit options.
- ***Meeting 8:*** Finalized recommendations to the Raleigh City Council.

Recognize that building community support takes more than getting agreement among a small group of people on an advisory committee. Huntsville and Dover convened stakeholder committees to inform the design of stormwater programs, including funding proposals. In both cases, committee members unanimously recommended adoption of a stormwater utility. However, vocal citizen opposition emerged once fee structures were announced, and local decision-makers rejected the funding proposals. There was little proactive outreach to the broader stakeholder community by either community during program design. Stormwater funding proposals were presented to the public only after the committees had completed their discussions and developed recommendations.

Dover's feasibility study—written by the city's consultants after the City Council rejected the stormwater utility proposal—said that the city should have implemented a broad stakeholder outreach strategy. It suggested that the city was lulled by the success of its stakeholder planning committee, and thought that there would be little community opposition. The feasibility study stated:

"In general the public stakeholder process was a very successful approach gaining the buy-in of key people that would be most affected by a stormwater utility. However, the success with gaining this sector's support may have created a bit of a false sense of security that didn't take into consideration the opponents that were not part of the process and would strongly voice their concerns during the public process."[25]

Warren Campbell, primary author of the Western Kentucky University Stormwater Utility Survey and a participant in the process in Huntsville, echoed this assessment. He noted that achieving consensus agreement among a small group of participants in a stakeholder committee does not necessarily translate into community-wide support. He wrote:

"My experience indicates that most reasonable people can be educated to the need for consistent stormwater funding and will support the formation of stormwater utilities when a real need exists. However, the public at large may see only a "rain tax" and one more movement by local governments to take money from its citizens."[26]

4.2.3. Lessons about Public Outreach

As highlighted by the experience of Dover and Huntsville, public outreach—as distinct from more intensive stakeholder engagement efforts—plays an important role in building support for program adoption. Whereas stakeholder engagement emphasizes focused deliberation among stakeholders, public outreach focuses on broad dissemination of information throughout the community about the benefits of stormwater management, the appropriateness of the funding program, and what to expect when the funding program is implemented. It refers to the process of information dissemination as well as the content of what is communicated to the community. Effective public outreach requires planning, thoughtful design, and the commitment of staff and other resources. The communities offered several lessons about public outreach content and process:

- Make a locally compelling case that a stormwater funding program meets a critical need.
- Demonstrate the cost-effectiveness of the funding approach.
- Use several forms of proactive outreach.
- Recognize that despite these outreach efforts, many people won't hear about new fees until the first bills are mailed out—be responsive and flexible through the first few billing cycles.

Each of these lessons is described below.

[25] City of Dover, New Hampshire, *Dover, New Hampshire Stormwater Utility Feasibility Study Final Report*: http://des.nh.gov/organization/divisions/water/stormwater/documents/dover-final-report.pdf, p. 6.
[26] Campbell, 6.

Make a locally compelling case that a stormwater funding program meets a critical need. For the communities that adopted and implemented stormwater funding mechanisms, it was critical to establish that more effective stormwater management offered the community tangible benefits. Portland's *Public Outreach Plan* put it succinctly: "It is not about how the money is raised—it is about how the money is spent." (For more on Portland's *Public Outreach Plan* see the call-out box in this section).

Raleigh made a point of inviting communities with a history of drainage and flooding problems to public meetings so that the city could demonstrate how its program would resolve these problems. The city was so successful in describing how improved stormwater management would address flooding that, at one public meeting, citizens told a state senator to sit down as he lambasted city staff over the stormwater proposal. Their message was: "We are here to talk about solutions."

Stormwater Messages in Portland, Maine

In 2012, the City of Portland, ME published the *Sustainable Stormwater Funding Outreach Plan* as a component of its effort to develop and implement what the city called a "stormwater use charge." Based on analysis of target audiences, the plan outlined several key messages that resonated with the citizens of Portland. (Although Portland has a combined stormwater and sewer system—and the messages reflect the need to improve the sewer system as well as control stormwater—the general themes resonate for separate stormwater systems as well.) Key messages were:

- *Clean Growth:* Sewer system improvements will ensure the city can continue to grow into the future, while sustaining a healthy natural environment for residents and visitors to enjoy, and maintain regional competitiveness.
- *Definable Needs:* Sewer system maintenance needs—and costs to meet these needs—have been documented by a credible science and engineering entity.
- *Accountability:* Sewer funds are obligated to only sewer system projects under local law; to ensure accountability for the use of additional revenue, implementation of the repair and improvement plans will be periodically audited and results distributed.
- *Fairness:* New sewer rate calculations are fair, as opposed to the current billing system, which is not. The less water you use or send into the sewer system, the less you pay to maintain and improve this system.
- *Cost-Savings:* Some businesses, including important city employers, and many residents will see lower overall bills.
- *Incentives:* Residents and businesses can lower their runoff management fees if they take steps to reduce runoff from their property.
- *Social Norm:* According to a recent survey, residents are receptive to the fee if they are convinced the money will be used as promised and will ultimately benefit the economy.

The plan also emphasizes using local images to emphasize the benefits of the program, such as "before and after" pictures of infrastructure repairs, flooded streets and basements, repair crews at work, and local shellfish harvesting. It also suggests communicating facts such as program successes to date and maintenance backlogs under the current system.

Source: City of Portland, "Sustainable Stormwater Funding Outreach Plan": http://www.portlandmaine.gov/stormwater/stormwaterfundingoutreachplan012612.pdf

Demonstrate the cost-effectiveness of the funding approach. One of the most compelling arguments in communities that adopted a stormwater utility was that it was more cost-effective than other possible alternatives. In Bangor, ME, for example, lead city staff emphasized a comparison of the costs of funding a stormwater program through a utility to the cost of funding it through a property tax increase. They then compared the costs of both to the consequences and costs of non-compliance. Their rationale was picked up by a local paper, which wrote that a typical residence would pay $22 per year through a stormwater utility fee but would pay $83 per year if revenue were collected via property taxes.[27]

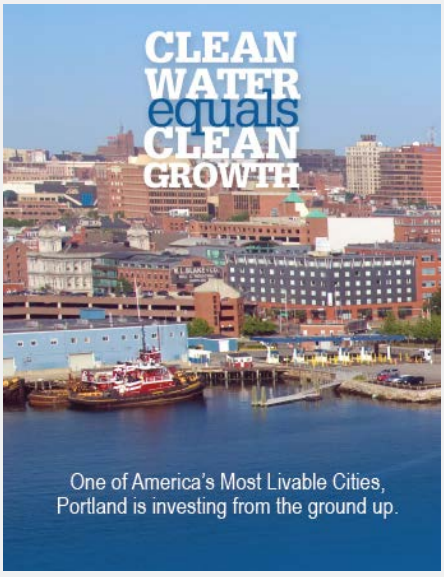
[27] Andrew Neff, "Bangor residents will pay new fee for stormwater upgrades," *Bangor Daily News,* Feb. 7, 2012: http://bangordailynews.com/2012/02/07/news/bangor/bangor-residents-will-pay-new-fee-for-stormwater-upgrades/.

Comparing Stormwater Utilities to Use of General Funds

Compared to use of general funds for stormwater programs, many communities find several advantages to stormwater utilities, including:

- Fees are equitable because they are based on how much the properties contribute to stormwater runoff.
- Fees are spread over a larger base because they typically include tax-exempt properties.
- Fees are stable over time and are not subject to declines in property value or local general fund budgeting decisions.
- Fees can take stormwater revenue "off the books," allowing reductions in local property taxes or funding for other community priorities.
- Fees can be calibrated to meet total stormwater program revenue needs and are often adjusted over time as revenue needs change.
- Credit systems and approaches for calculating impervious area create incentives for investments or activities that reduce run-off.
- Utilities raise awareness about the need for stormwater management and bring transparency to the amount of public investment in it.

Portland Maine Emphasizes that "Clean Water Equals Clean Growth"



Source: http://www.portlandmaine.gov/stormwater/cleanwaterequalscleangrowth.pdf

Use several forms of proactive outreach. People receive information in different ways, and successful programs sought out and used the written, visual, and in-person channels through which their citizens most frequently got information. These programs also conducted outreach early in program development rather than announcing fully developed proposals just prior to consideration by decision-making bodies.

Many case study communities used multiple methods of outreach, including bill inserts, newspaper articles and public meetings. Programs also enlisted the efforts of others in their communication efforts. In Raleigh, for example, a local reporter was invited to meetings of the stakeholder advisory committee. In Newton, a video produced by a local college student was aired on a local cable channel, and effectively communicated the need for a sustainable stormwater funding mechanism.

The case studies illustrate that it is important that public outreach be proactive rather than passive. In Dover, stakeholder committee meetings were open to the public but no one other than committee members

attended. The meetings were broadcast on a public access channel as well. Nevertheless, a key criticism leveled during council meetings by Dover residents and City Council members was that very few members of the community knew about the process or the proposed utility.

Recognize that despite these outreach efforts, many people won't hear about new fees until the first bills are mailed out—be responsive and flexible through the first few billing cycles. No matter the quality of public outreach, some community members won't know about the stormwater fee until initial bills arrive in the mailbox. Recognizing this, Lewiston focused on public outreach during the implementation phase. After its stormwater utility ordinance was adopted, the Director of Public Works spent about twelve months meeting with individual property owners to explain the new fee and how impervious surfaces contributed to stormwater problems. Sub-section 4.3.2 below provides some specific lessons for communities about responsiveness during initial billing.

4.3. Other Factors Influencing Funding Mechanism Adoption and Support

The experience of the cases illustrates that public outreach strategies and focused stakeholder engagement protocols are critical elements of creating support for a funding mechanism. However, these processes do not exist in a vacuum. Other factors also affect whether communities will adopt stormwater utilities and successfully implement them. This sub-section describes several of these factors that were highlighted by case contacts. They are grouped into the following sub-sections:

- Local community conditions.
- Program design and initial implementation strategies.
- Litigation risk.
- The cost of funding public outreach and stakeholder engagement.
- Local decision-makers' understanding and commitment to a funding solution.
- Stormwater utility challenges that may be unique to New England.

4.3.1. Local Community Conditions

Case contacts highlighted several aspects of local community conditions that can influence the degree of community support for utility proposals and the likelihood that proposals will be adopted. They are:

- A highly visible problem, such as frequent flooding, impairment of valued water bodies, or pending litigation.
- Significant consequences felt by many stakeholders if a solution is not implemented.
- Affirmative state legislation enabling municipal stormwater fees.
- Regional clustering of stormwater utilities.
- Policy priorities and/or fiscal realities that favor moving stormwater costs to a separate fund.
- Per-capita stormwater costs.

- Economic conditions.
- The presence of an active local anti-tax, anti-government movement.

Each of these factors is described below.

A highly visible problem, such as frequent flooding, impairment of valued water bodies, or pending litigation. Communities that can clearly demonstrate the need for improved stormwater management and funding in terms that local citizens understand and value are more likely to earn community support for a funding solution. In Newton and Raleigh, for example, flooding events made stormwater needs highly visible and created public pressure for a solution. The authors of the Western Kentucky University Stormwater Utility Survey wrote that floods are "the only 100% effective form of outreach."[28] (See the example of Chicopee, Massachusetts in the call-out box on this page.)

Basement Flooding Makes the Case for a Stormwater Fee in Chicopee, Massachusetts

The City of Chicopee established a system in 1998 to collect fees from residents specifically for managing storm water. Residents said they were willing to pay a new fee if the funds could address highly visible problems, such as sewer back-ups in wet weather that flooded their basements.

Source: EPA, "Creating a Storm Water Utility in Chicopee, Massachusetts": http://water.epa.gov/polwaste/nps/success319/innov_ma.cfm

Public awareness of impending costs can also build support for stormwater funding solutions. In South Burlington, for example, many private stormwater systems were in disrepair and out of compliance; as a result, many property owners were acutely aware that they might be required to pay for upgrades individually rather than through a community-wide funding mechanism. In addition, polluted stormwater was affecting the water quality of Lake Champlain, a highly valued and visible community resource. According to a case contact, these factors "did outreach for us."

Severe consequences felt by many stakeholders if a solution is not implemented. The potential for high costs and negative consequences if a funding agreement is not reached can generate stakeholder support for a stormwater funding solution. As noted above, the possibility that homeowners would be required to pay individually for privately owned stormwater system upgrades in South Burlington was a strong motivator for a community-wide solution. Similarly, stakeholders in South Portland/Long Creek were highly motivated by the opportunity to avoid the regulatory regime associated with EPA exercising its Residual Designation Authority (RDA) under the CWA. (The Conservation Law Foundation had already petitioned EPA for RDA; absent a community-wide solution the RDA would have significantly increased potential future costs by requiring each landowner to pursue an individual permit and stormwater

[28] Campbell, 9.

treatment projects.) This created pressure among the participants to agree on an alternative, collaborative solution. [29] Litigation, chronic flooding, and other undesirable consequences can also motivate communities to pursue stormwater utilities.

State legislation authorizing municipal stormwater fees. A key conclusion of the 2012 Western Kentucky University Stormwater Utility Survey was that "The first step in transforming a state from [stormwater utility (SWU)]-hostile to SWU-friendly would be to assure that all cities, counties, and watersheds in the state have the authority to enact stormwater utilities and assess fees."[30] Indeed, the communities without state legislation explicitly authorizing local stormwater utilities were subject to legal challenges. Regardless of whether the issue was litigated, the issue could stall progress. In Huntsville, for example, amid a public outcry about proposed stormwater fees, the city attorney declared that the city did not have the legal authority to create a stormwater utility and needed a state law to authorize it. Local proponents were never able to marshal support for passage of enabling legislation in the state legislature. The stormwater utility was never adopted.

Residents Ask: Why Now?

When public opposition to a stormwater utility emerged in Dover, some citizens asked why the city should act now when the revised general stormwater permit covering the state had not been issued. In short, the consequences of not implementing a utility were not imminent. An excerpt from a local newspaper article "Dover Council rejects stormwater utility plan" captures the sentiment:

> *"Resident after resident, some waiting in the hall for their turn to speak as every seat in council chambers was filled prior to the meeting's beginning, took the stand to speak against the creation of the utility. … [A] former city councilor, set the tone for what most of the public's comments revolved around during the public hearing portion of the meeting. As the EPA has yet to formally mandate the city to take stormwater actions … [he] said, the utility should not be proposed for the upcoming fiscal year budget."*

Similarly, a key argument against a proposed stormwater program in Berkeley County, South Carolina was that its necessity was based only on the intangible expectation that the community would someday be subject to stricter stormwater regulations under a proposed revision to the state's general MS4 permit.

Regional clustering of stormwater utilities. When it comes to implementing a stormwater utility in a state, it is easier to follow than to lead. The Western Kentucky University Stormwater Utility Survey states, "after one city develops a utility, surrounding suburbs and communities see the benefits and form their own."

Several project contacts noted the importance of regional clustering and the fact that a clustering pattern has yet to develop in New England (as the map in Section 2 illustrates). Contacts in Huntsville said that a key challenge was the lack of in-state stormwater utility examples. Conversely, the contacts

[29] EPA issued a final RDA for Long Creek on October 28, 2009. ME DEP then issued a general permit enforcing the RDA requirements to the Long Creek Management District (the utility) and an individual permit to landowners who did not join the District arrangement.
[30] Campbell, 10.

in Raleigh said that the ability to point to nearby communities that had already established stormwater utilities was important for successful adoption of the utility.

Policy priorities and/or fiscal realities that favor moving stormwater program costs to a separate fund. Competition among policy priorities is a familiar municipal budget dilemma. Sometimes this dynamic played to the advantage of stormwater funding. Because stormwater utilities move expenditures from a general fund (paid by local taxes) to an enterprise fund (paid by fees), they were perceived in some communities as releasing general funds to cover other priorities. In Reading, for example, the Town Manager and the Board of Selectmen saw a stormwater fee as a welcome strategy to allocate additional general funds to key priorities such as schools. Reading had struggled to balance its budget in the past, and state law limited property tax increases.

Per-capita stormwater program costs. The cost of stormwater programs, and therefore the amount of revenues that must be generated through fees, varies by community. There is no obvious answer to "how high is too high?" when it comes to fees. However, several case study contacts noted that there is a threshold above which fees become unacceptable to a community. (In the cases analyzed in this study, monthly residential fees were typically in the range of $2.00-$6.00 per month). In one community, fees were recently raised from $4.50 to $6.00 per household with no controversy; however, a case contact said that future costs could require fees around $20, which are expected to be very controversial.

Economic conditions. Several case contacts said that proposing new fees during an economic downturn was particularly challenging. The testimony of one citizen at a Berkeley County Council meeting captures the sentiment: "The economy is in disrepair; at the same time you want to place another financial burden on folks who least can afford it."

The presence of an active local anti-tax, anti-government movement. Several project contacts noted a key contextual challenge for communities was the presence of an active local stakeholder group opposed to new taxes and fees. The manner in which local opposition derailed stormwater utilities in Huntsville and Dover is described earlier in this report. A similar process played out in Berkeley County. During the required readings of the stormwater utility proposal for the Berkeley County Council's Committee on Public Works, a small but organized and active group of citizens emerged to oppose the fee. Combined with the skepticism of some council members, this opposition ultimately contributed to the council's rejection of the proposal.

4.3.2. Program Design and Initial Implementation Strategies

Case contacts highlighted several aspects of program design that influence the level of stakeholder and decision-maker support for utility proposals. Contacts also noted that the need for community support does not end with stormwater utility adoption. It is critical, they said, to be competent and flexible through initial implementation of the fees to avoid generating controversy from stakeholders that only

find out about the stormwater utility when the first bills arrive. Key factors identified by case contacts are:

- Early, robust, and transparent technical analysis of costs and fees.
- Fee structures that are perceived as fair.
- Recognition that some property owners will be paying for stormwater management for the first time.
- Inclusion of "credit systems" that give property owners reduced fees for practices that reduce stormwater impacts within their property boundaries.
- Fee amounts that are roughly equivalent to those in other similar communities.
- Ensuring accountability for how funds will be spent.
- In some cases, keeping fees "low on the public radar."
- Competence and responsiveness during initial billing.
- Demonstrating that programs are providing the promised level of services.
- Building in a process to adjust fees over time to generate adequate revenues.

Each of these factors is described below.

Early, robust, and transparent technical analysis of costs and fees. Stakeholder-supported programs developed accurate estimates of stormwater management costs early in the design phase. Transparent analysis made these costs credible to participants. In South Portland/Long Creek, for example, case contacts said that accurate information about fees was vital because large commercial stakeholders were literally weighing the costs and benefits of paying the fee versus litigation.

In communities where costs weren't clearly analyzed, opponents could claim that fee structures were arbitrary and inequitable, or that the community was being asked to "sign a blank check." In Berkeley County, proponents offered to cut the revenue collected by the utility by two-thirds during final deliberations by the County Council. Doing so may have undermined the credibility of the cost analysis originally prepared by county staff. (Decision makers voted to reject the utility.)

Fee structures that are perceived as fair. In some communities, the argument that a stormwater utility was more equitable than funding stormwater through property taxes was compelling. In many cases, it was significant that tax-exempt properties would pay stormwater utility fees but not stormwater program costs funded by property taxes. For example, in Lewiston Maine, residential properties accounted for approximately 40% of all impervious surfaces but paid 53% of all property taxes, while tax-exempt properties accounted for around 12% of impervious surfaces and paid no property taxes.

Fee designs based on individual properties' actual impervious areas were perceived as the most credible and fair. Programs such as Raleigh's stormwater utility achieved a balance between equity and simplicity by designating several property size tiers, each with its own fee. Systems with flat fees (i.e., one

standard fee for residences and one standard fee for businesses) ran the risk of complaints when fee payers compared properties and fees. They wondered, for example, why a home with a short dirt driveway paid the same fee as a home with a long paved driveway—or only a little less than a large mall with a parking area.

Recognition that some property owners will be paying for stormwater management for the first time. Stormwater utilities charge fees to property owners regardless of their tax status. Thus, communities that funded their stormwater programs through property tax revenues might now assess stormwater user fees on tax-exempt entities—and charge these property owners for stormwater services for the first time. This could include large properties such as universities, hospitals, and churches with large areas of impervious surface. Often, such institutions are highly influential in the community, and can oppose funding proposals. Lessons from cases about the value of including opponents in stakeholder engagement processes suggest including these types of entities in program design deliberations.

Inclusion of credit systems that give property owners lower fees for practices that reduce stormwater impacts within their property boundaries. Many case contacts cited credit systems as important to building community confidence that fee systems were fair. Under credit systems, fees can be reduced through management practices or infrastructure investments that limit stormwater runoff. Credit systems enhanced the perceived fairness of utility proposals and built support for adoption; however, few residents or businesses actually took advantage of them once utilities were adopted in the communities (largely because projects were too costly or the credit process was too cumbersome compared to simply paying the fee).

Fee amounts that are roughly equivalent to those in other similar communities. Fee payers and local decision-makers in the communities studied for this project often wanted assurance that they were not paying more than other communities of comparable size and with similar stormwater management needs (or that fee differences were justifiable). Lack of comparability emerged as a point of controversy in Dover, New Hampshire. The stakeholder committee estimated that the typical Dover home would pay around $130 per year in stormwater fees based on cost calculations done as part of the feasibility study. Such fees would be much higher than fees that other municipalities in New Hampshire had proposed. For example, the City of Nashua's proposed fee was approximately $25 per home per year.

Ensuring accountability for how funds will be spent. In some communities, it was important that funds raised through stormwater fees could only be spent on stormwater. One of the factors that derailed the adoption of a stormwater utility in Berkeley County, for example, was a perception that the revenues were creating a "slush fund."

Typically, stormwater fees are deposited into a fund dedicated solely to the stormwater program, where local budgeting processes provide some oversight and accountability. In the case of South Portland/Long Creek, stakeholders went a step further by establishing a standing committee to oversee use of stormwater funds. Similarly, the Stormwater Working Group established in Raleigh, North Carolina to

help design the stormwater fee system evolved into an ongoing advisory committee acting as a quasi-Board of Directors for utility implementation.

AMEC's Top 10 Reasons Stormwater Utilities Fail

In August 2007, Andy Reese with the consulting firm AMEC published a list of the top ten reasons stormwater utilities fail. This list is based on his extensive experience working with communities on stormwater. Excerpted from his article "CSI Utility," which was published in *Stormwater* magazine, the top 10 list is:

- *Reason #10:* Our database was messed up without the ability to easily fix its problems.
- *Reason #9:* Our program or performance did not meet community expectations.
- *Reason #8:* Our rate structure unexpectedly limited our ability to move forward with our program.
- *Reason #7:* We didn't prepare our elected officials for vocal complaints.
- *Reason #6:* We couldn't explain our program and funding strategy or rates.
- *Reason #5:* We didn't involve the community early enough or in the right ways.
- *Reason #4:* It was not legal.
- *Reason #3:* We didn't understand the process.
- *Reason #2:* We didn't present a true compelling case.
- *Reason #1:* We did it the convenient and inexpensive way, not the right way.

Source: Andy Reese, "CSI Utility," *Stormwater* (August 31, 2007)

In some cases, keeping fees "low on the public radar." Some communities used program design strategies that kept utility fees below their citizens' radar, including:

- ***Intentionally low fees.*** Newton felt that it was important to keep fees low to increase the chances of getting the utility enacted; it focused on raising "seed money" for the stormwater program rather than ensuring full funding. The city is now seeking to raise fees and is planning to implement a stakeholder engagement and public outreach strategy to support its effort; see the call-out box in this section illustrating the consequences of setting low fees). Warren County assessed commercial businesses only a $10 per

The Consequences of Low Fees

Newton's political leaders initially adopted a flat fee ($25 per year for residences, and $150 per year for commercial properties), but now have to go back to property owners with a proposal for substantially increased fees. The initial low fees have not generated sufficient revenue to cover much more than administrative costs for its stormwater program. Inequities in the current fee structure are also being addressed; for example, residential properties comprise 60% of the impervious area in the city but contribute 78% of stormwater revenues. The City is developing a new system that bases fees for multi-family and commercial properties on each property's impervious surface area. Some commercial property owners would see substantial increases in fees under the proposed scenario; for example, the city estimates that one apartment complex currently paying $25 per year would have its stormwater fee increase to $1,653 per year.

month flat fee, regardless of the size of their impermeable surface area; it also notified those businesses that could take advantage of credits to reduce their fees to $4 per month.

- ***Fees added to existing water and/or sewer bills.*** In Newton, not only were fees low, they were added to existing water and sewer bills. A project contact said that the low fees and billing approach meant that "people barely noticed" the new fee. Several other communities included stormwater fees in the monthly water and/or sewer bill.
- ***Good timing.*** At the time that the stormwater utility was being considered by Newton's Board of Aldermen, the city received national attention for spending $197 million to replace its high school. Although the school cost over-runs sensitized the local Board of Aldermen to new expenditures, it also served to distract the Newton Taxpayer Association and deflected attention from the stormwater utility effort.
- ***Tolerating some non-payment.*** Warren County chose not to pursue a small number of customers that refused to pay, thereby avoiding enforcement costs and potentially unwanted controversy about the fee.

Competence and responsiveness during initial billing. Having staff available to respond to customer concerns during initial billing cycles was critical to communities seeking to avoid a public backlash against new fees. One case study contact advised communities to expect controversy and concerns with the first billing cycle and be ready to respond.

Accurate billing systems were critical to the new programs' credibility. Good systems allowed communities to generate accurate bills from the start. In Reading, Massachusetts, the town conducted a complete dry run of its system before sending out its first stormwater bills. This allowed Reading to check for and eliminate any anomalies, such as double billing, which helped reduce complaints.

Effective Initial Implementation

Reading, Lewiston, Raleigh, South Burlington and other communities issued their first bills with relatively few problems. Their collective experiences suggest a collection of several "best practices" that can help smooth initial implementation:

- Distribute a fact sheet describing the stormwater fees with residents' water bills prior to the initial stormwater bill cycle, and again when the stormwater bills are issued.
- Establish a dedicated phone line for questions and complaints.
- Have well-trained and responsive city employees staffing the phone lines to respond to complaints and questions.
- Solve obvious billing errors quickly and transparently.
- Give staff some flexibility to resolve bill disputes quickly when customers present compelling facts about billing errors.

Demonstrating that programs are providing the promised level of services. To sustain support for the stormwater funding program over time, communities need to demonstrate that they are delivering what they promised (and what people are paying for). Some case contacts suggested giving stormwater-related construction projects, and any other use of stormwater utility revenues, high visibility. For

example, South Portland/Long Creek's first project was installation of a stormwater treatment system at the Maine Mall, which demonstrated how revenues would be invested in stormwater solutions. In contrast, Newton, Massachusetts is currently encountering difficulty publicly demonstrating the value of its stormwater program because revenue is only enough to cover staff and operating expenses and not visible capital projects. Raleigh contacts advised: "Citizens expect increased levels of service with new fees, so make sure you are able to explain what the money is being used for."

Build-in a process to adjust fees to generate adequate revenues. As communities grow and their stormwater management responsibilities expand over time, increased revenue may be required. Program designs should build in a process allowing local decision-makers to revisit and adjust fees. As noted above, Newton is currently revisiting its fee structure and considering how to engage citizens in the process. Some communities, such as Reading, built in an automatic escalation in fees based on a fixed annual percentage increase.

4.3.3. Litigation Risk

Actual litigation or the threat of it can influence whether stormwater utilities are adopted by local decision-makers. Western Kentucky University's 2012 Stormwater Survey described legal challenges to stormwater utilities across the country. Thirty-six legal challenges were decided in the utilities' favor. Twelve decisions struck utilities down, and two were listed in the survey as "unfavorable" to the utility. The survey also stated that four stormwater utilities were repealed by local decision makers (three of these are described in a call-out box in this section).

Litigation typically centers on whether stormwater fees are, in fact, "fees" (which municipalities typically have the authority to charge) or a tax, which municipalities must be legislatively authorized to impose. Legal definitions for "fee" and "tax" can vary from state to state. However, a "fee" is generally defined as a "charge for a specific service" while a "tax" is a general obligation not paid in exchange for any specific benefit or service.[31] Therefore, if fees are collected in excess of the amount budgeted for stormwater services and are spent on activities other than stormwater, courts may determine that they are a tax.

Among the eleven communities studied for this project, actual litigation was not as significant an issue as it has been in other communities around country where lawsuits or the threat of them led decision-makers to reject utility proposals or repeal existing utilities. Of the seven cases among the eleven communities studied in which a stormwater utility was adopted:

[31] Janice Kasperson "The Stormwater Utility: Will it Work in Your Community?" *Stormwater* 1:1 (November-December 2000): http://www.stormh2o.com/SW/Articles/The_Stormwater_Utility_Will_It_Work_in_Your_Commun_212.aspx.

- Five communities faced no legal challenges.
- Reading faced a legal challenge (from two citizens charging that the fee was really a tax and should be deductible). The suit was dropped before going to trial.
- Lewiston initiated legal proceedings against non-payers, with one case ultimately going to the state Supreme Court, which decided in favor of the city. (See the call-out box on this section.)

Lewiston Goes to Court

In 2011, the City of Lewiston took the owner of a small strip mall to the Maine Superior Court seeking payment of overdue stormwater utility fees. The Court issued a decision in favor of the city. In its opinion, the Court backed the city's 2006 ordinance and its stormwater fees, rejecting the property owner's claims that the city had no legal right to impose or collect fees and that these fees constituted a tax. Specifically, the Superior Court confirmed the legitimate purpose of the stormwater utility as funding expenses necessary to provide stormwater management services to comply with federal and state water quality requirements. The Court also upheld the city's use of "impervious surface" as the basis for determining the fee applied to a property. As a result, the Court issued a judgment for the City of Lewiston for the unpaid fees, interest, penalty, and a portion of the city's attorney fees. The property owner appealed the decision to the Maine Supreme Judicial Court. In 2012, the Maine Supreme Judicial Court decision fully affirmed the lower Court's decision.[11]

For the four remaining cases in which stormwater utilities were not adopted, case contacts did not point to potential legal challenges as a factor that influenced the towns' decisions. (In Huntsville, legal ambiguity in the absence of state law was a factor, but there was no actual lawsuit).

Examples of Stormwater Utilities Repealed

Although not in New England, some stormwater utilities have been so controversial that they have been repealed. These examples are described below.

Poway, California. In November 2007 the City Council in Poway created a stormwater utility. The city mailed notices to all property owners informing them of the fee. Under state law, property owners objecting to the fee were required to send a written notice to the city, and if a simple majority of property owners subject to the fee objected, the fee would not be enacted. Only 20 objections were received and the city proceeded to collect the fee. (The average annual fee per household was $44.) The fee provided 80% of the city's $1.6 million annual stormwater budget. However, in November 2010, the state passed Proposition 26, which broadened the definition of "tax" to include many pre-existing fees and charges. Since a tax assessment required two-thirds voter approval for implementation, the city decided to discontinue collecting the fee and send rebates to ratepayers covering 12 months of fee collection. (The city code places a one year statute of limitations on rebates).

Colorado Springs, Colorado. In 2006, the Colorado Springs City Council established a stormwater enterprise fund to address a backlog of approximately $300 million in drainage projects. Over the following three years, the stormwater enterprise fund collected an average of $16 million per year through fees, approximately half of which was spent on capital projects. Citizens opposed to the enterprise fund placed an initiative on the 2009 Colorado Springs ballot. The initiative mandated a phase-out of the stormwater fee over an eight-year period. It passed, and after a brief debate about its applicability to the enterprise fund, the City Council voted to discontinue it.

Nampa, Idaho. In May, 2011 the Nampa, Idaho City Council adopted an ordinance charging a stormwater fee ($6.00 every two months). Afterwards, a similar fee in Lewiston, Idaho was struck down by the Idaho Supreme Court, which concluded that the fee amounted to a tax—and that taxes must be enacted legislatively by the state legislature. (Lewiston subsequently cancelled its program and issued refunds). Following the Supreme Court decision, two lawsuits were brought against the Nampa stormwater program charging that the stormwater fee was an unauthorized tax. In response to the Supreme Court decision and local lawsuits, the Nampa City Council (at least one member of which had campaigned against the fee) voted to repeal the stormwater utility a year after it had originally passed, and refunded all of the money collected.

Although there are no guarantees, good public outreach and stakeholder engagement can help communities avoid litigation in two key ways:

- **Robust program design.** As noted above, a key benefit of stakeholder engagement—particularly when an advisory committee is formed to work on program design over a period of months—is to test program design elements. Although they do not necessarily involve rigorous legal review, stakeholder discussions are likely to reveal issues that may make program elements subject to legal challenge. This is particularly true for discussions of fairness and accountability, which tend to strengthen the tie between how much a property pays in fees and how much that property contributes to stormwater problems (and thereby utilizes stormwater services). This can strengthen a program's ability to demonstrate that fees are tied directly and solely to stormwater services.

- **Creating buy-in from those that might otherwise bring a legal challenge.** In several programs, stakeholder engagement swayed the opinion of those that initially opposed fees and might otherwise have pursued legal challenges.

Additional factors not directly related to public outreach or stakeholder engagement can determine a program's resistance to legal challenge. State and municipal enabling legislation, local administrative codes, and state case law precedents can all play a role. A full assessment of these factors is beyond the scope of this report. In Newton, case contacts said that consultation with city and state lawyers during program development was important in preventing legal difficulties.

4.3.4. The Cost of Funding Public Outreach and Stakeholder Engagement

For many communities, the cost of public outreach and stakeholder engagement can influence whether and how communities involve stakeholders in stormwater program design. Given the importance of building stakeholder support, lack of funds for these processes can hamper adoption of stormwater utilities.

There was little information available from case contacts or case documentation about the specific costs of public outreach and stakeholder engagement activities, and research in this area may be useful to communities. However, case contacts identified some key factors that influence how much it costs to involve and inform stakeholders. Key factors are described below.

The amount of leadership and staff resources devoted to public outreach and stakeholder engagement. As noted above, many communities had a "champion" employed by city or county agencies that led the effort to develop and adopt a stormwater utility. One of the many jobs for such champions was being the public face of the program for stakeholders, putting these champions on the front lines of public inquiries, advisory committee meetings, public meetings, city and county council meetings, and myriad other activities. In addition, city technical staff often played a role in developing analysis and materials primarily for a stakeholder audience. The staff time devoted to these efforts increased relative to several factors, including: how controversial the issue was, the length and complexity of the public outreach and stakeholder engagement processes, and the complexity of the stormwater funding mechanism design and adoption process.

The cost of third party neutral facilitation and process support. Like internal staff time, the cost of facilitation and process support increased with the complexity of the project. For example, the facilitator in South Portland/Long Creek conducted substantial stakeholder interviews to identify potential stakeholder advisory committee participants and to scope key issues even before the advisory committee process began. Project contacts say this was critical to the success of the process, but it required significant investment—in addition to the investment in advisory committee facilitation and other outreach to stakeholders. Raleigh was another example where the city chose to make a

substantial investment in facilitation and process support. In both cases, facilitation was regarded as one of the key factors for success.

The cost of technical experts involved in stakeholder engagement efforts. Many communities hire technical experts to conduct feasibility studies and participate in other aspects of program design (in some cases, these firms also provide facilitation services). While much of this work would be necessary even if there were no stakeholder engagement process, technical experts are often involved in stakeholder engagement activities, as resources for technical sub-committees, for example. Communities can reduce costs if some technical analysis can be done voluntarily. For example, Reading intentionally recruited advisory committee members that were knowledgeable about stormwater and that could provide technical guidance. Stakeholder groups participating in the South Portland/Long Creek advisory committee also provided voluntary technical analysis.

The degree and complexity of public outreach. Extensive public outreach efforts require investment in audience analysis, messaging, communications product development, and use of multiple communications channels (some of which, such as mass media advertising or direct mail, can require substantial investment). These costs increase along with the number of audience segments, products, and channels used. Some communities studied were able to get free public outreach through the work of stakeholder organizations or individuals. In Newton, for example, a media alert by the Charles River Watershed Association and a video about stormwater developed by a Boston College student, raised public awareness about stormwater issues.

Some communities were able to defray costs by obtaining state and federal planning grants that supported some or all of their efforts. The process in South Portland/Long Creek, for example, was funded through a grant from a CWA grant from the Maine Department of Environmental Protection. In Dover and Manchester, the cities' feasibility studies were funded through a state grant.

4.3.5. Local Decision-Makers' Understanding and Commitment to a Funding Solution

Regardless of the process used to develop a stormwater funding program, it must ultimately be adopted by local decision-makers—such as city councils, county councils, Boards of Selectmen, Boards of Aldermen, or other local political representatives. In New England, this step often involves approval at local Town Meetings as well. Case contacts suggested factors in addition to public outreach and stakeholder engagement that influence whether or not local decision-makers will adopt a stormwater utility proposal. They are:

- Strong, early support from local decision-makers.
- Local champion that made a compelling case early and often.
- Decision-makers involved throughout the design process.
- Limited political risk.

- Decision-makers assured that the program design was solid and supported by their constituencies.

These factors are described below.

Strong, early support from local decision-makers. In many of the communities studied, local decision-makers needed to be convinced by local agency staff and stakeholders that they should support a stormwater utility. In contrast, local decision-makers in some communities—such as Lewiston, Newton, and Reading—were very interested in a stormwater utility early on and helped drive the process forward (see call-out box). These were also cases in which decision-makers adopted stormwater utilities with much less public outreach or stakeholder engagement than the other cases where utilities were adopted.

Local champion that made a compelling case early and often. Local agency staff can build support for a stormwater funding program—and ultimately smooth its path to adoption—by preparing local decision-makers over relatively long periods of time. For example, the town engineer leading stormwater program development in Reading prepared the Board of Selectmen and Town Meeting representatives to make decisions about stormwater funding for several years by attending meetings and describing the needs for enhanced stormwater management practices and funding.

In Some Cases, Local Decision-makers Actively Sought a Stormwater Solution

In some cases city staff needed to "sell" the stormwater utility concept to skeptical local decision-makers. In other cases, local decision-makers actively sought to quickly adopt and implement a stormwater funding solution to solve local fiscal, regulatory, or legal challenges.

For example, In Lewiston, the City faced a state-wide tax revolt that emerged around 2003–2004. The revolt increased pressure on politicians to avoid property tax increases (property tax receipts paid for half of the city's stormwater costs; residential wastewater fees for sewage services paid for the other half). The Director of Public Works and the City Administrator suggested that a stormwater utility would provide tax relief for city residents and create more equity in the tax system by capturing tax exempt properties. According to Lewiston's Director of Public Works, the opportunity to raise funds without the political risk of raising taxes changed the Council's attitude toward a stormwater utility from "We don't want to do this" to "We really need to do this now." The Council asked the Director to develop a utility in six months. Although some community opposition emerged, the City Council voted to approve the utility, avoiding the need for a large tax increase.

In Newton, the Board of Aldermen "required some convincing" that a stormwater utility was the solution, but the city was under an EPA consent order to address illicit connections and supported the stormwater utility proposal when it was brought for a vote. In Warren County, a project contact noted that a key factor in program adoption was the leadership of the County's Judge-Executive, the highest public official in the county. He acted as a "champion" for the program because he understood the regulatory drivers for developing a stormwater program. Timing was also important in that the utility was created during a budget "crunch" and—as was the case in Lewiston—provided a new means of collecting revenue.

Warren Campbell, the author of the annual Western Kentucky University stormwater utility survey noted that the chances of a community adopting a stormwater utility without a local champion are

"next to nil."[32] Contacts in several communities that adopted stormwater funding mechanisms could point to such a local champion who moved the process forward and consistently kept the issue before local decision-makers.

Decision-makers involved throughout the program design process. Raleigh is a good example of keeping local decision-makers involved in the program design process. The Stormwater Division of the city's Department of Public Works managed the program design and stakeholder engagement process and kept the Raleigh City Council proactively involved. This included having the Council appoint stakeholder representatives to the advisory committee, which ensured that the Council remained confident in the integrity of the process and that all key stakeholders' views were represented. (Interestingly, there was an explicit decision not to have City Council members on the committee so that all participants could speak freely). The Council was kept apprised of the progress of the committee by Stormwater Division staff.

Limited political risk. The emergence of vocal opposition, legal uncertainty, and other factors can easily increase political risk for decision-makers and derail adoption of a stormwater funding mechanism. In Huntsville, for example, vocal public opposition increased the political risk for Council members if they adopted the proposed utility. That political risk was further increased when the City Attorney called into question the legality of the utility fees. (Indeed, the legal questions may have gotten Council members "off the hook" of making a decision on the utility). Overlapping election cycles for City Council seats and Mayor meant the city was perpetually in an election cycle, so decision-makers were even more attuned to political risk. (According to a project contact, the City Council and Mayor will not take on controversial issues within one year of an election.)

Decision-makers assured that the program design is solid and supported by their constituencies. The process in Raleigh was successful in building decision-maker confidence that its community supported the proposed program. All stakeholder committee members showed their support by attending the final meeting at which the Council voted on the program. The program passed by a 7-1 vote. According to case contacts, there was little discussion among Council members after receiving the recommendation. They were apparently satisfied with the committee's work and confident of community support for its conclusions. By that time, one contact said, "everyone understood that if we wanted to move forward…we needed a stable funding source." In contrast, only one stakeholder representative on Dover's Ad-Hoc Stormwater Utility Study Committee attended the City Council meeting at which the City Council voted on the utility proposal. That person was the sole citizen who spoke in favor of the utility. At the end of the meeting, the Council rejected the proposal.

[32] Campbell, C. Warren. Personal discussion. 17 Sept. 2012.

4.3.6. Stormwater Utility Challenges in New England

This section describes specific stormwater program funding challenges faced by New England's MS4 communities that may help to explain why New England communities have been slow to adopt utilities. Key challenges include:

- Old and failing infrastructure and high maintenance costs.
- Weak or non-existent county government.
- No critical mass of successful utilities in the region.

Each key challenge is discussed below.

Old and failing infrastructure and high maintenance costs. Given the age of New England communities, stormwater infrastructure tends to be old and costly to maintain. In Lewiston, for example, 120-year-old pipes are still in use. Where communities have continued to grow, their stormwater systems are often under-sized. This puts additional pressure on existing infrastructure and creates demand for new investment to allow continued development. (One case contact contrasted New England's undersized systems with systems in the Midwest, which are often over-sized by design to accommodate future growth). Increasing maintenance costs for old infrastructure can result in increased per-capita costs, which may be reflected in increased tax burden or relatively high stormwater fees compared to the rest of the country.

Some New England communities that established stormwater utilities dealt with high per-capita costs by instituting fees that paid for only part of their stormwater program. For example, Reading, Massachusetts chose to use its general fund to pay for stormwater-related activities already underway at the time the utility was established, and fund new compliance-related activities (i.e., under a more stringent MS4 permit) through stormwater utility revenues. Newton, Massachusetts also chose to pay for only part of its stormwater program through utility fees.

Weak or non-existent county government. Whereas some parts of the country can create watershed-wide solutions and leverage regional resources through county governments, the county structure of government in New England is either weak or non-existent. Connecticut and Rhode Island have abolished their county systems, and Massachusetts has abolished eight of its fourteen counties. Counties are often large enough that they encompass all or much of a watershed. In contrast, the legal boundaries of MS4 communities in New England tend to be smaller, and watersheds encompass many town boundaries. In New England, then, jurisdictions need to cooperate to develop efficient watershed protection solutions. In areas of high density with numerous municipalities impacting local water bodies, asking residents to pay for a stormwater program that would mainly generate benefits downstream or address problems created upstream (i.e., citizens asking, "why should *we* pay for *their* problem?") is challenging—especially if it is for a water resource that is underutilized by the community.

Some Maine communities have successfully cooperated regionally. They provide models of regional cooperation that other New England communities should study. The South Portland/Long Creek solution was created by an agreement entered into by the communities of South Portland, Westbrook, Portland and Scarborough and all their relevant stakeholders. Bangor is developing its own regional approach. State legislative action and state- and federally-funded technical support could be used to encourage regionally based stormwater control solutions. The EPA-funded "Sustainable Stormwater Funding Evaluation for the Upper Charles River" represents such an approach.

No critical mass of successful utilities in the region. As described earlier, stormwater utilities tend to proliferate as regional clusters. However, no New England state hosts a critical mass of utilities that might ease the adoption process for other nearby communities that may want to adopt or join one. It may be intimidating for a community to consider becoming a utility "pioneer." For example, New Hampshire communities considering utility adoption closely observed events in Manchester and Dover, which ended with the rejection of both utility proposals. These New Hampshire communities perceived the Manchester and Dover outcomes as discouraging, which was a deterrent to considering utility adoption themselves.

New England utility proponents could consider leveraging existing utilities to encourage adjacent towns to create their own fund or join an existing utility. Doing so could ultimately create a regional mass of utilities that encourage other towns to follow suit. This would mean, for example, encouraging towns adjacent to existing utilities to adopt their own. It could also mean expanding a utility's jurisdiction to include adjacent and satellite communities, adjacent unincorporated areas, or other political jurisdictions in the watershed. If adjacent jurisdictions join a stormwater utility, it may result in lower stormwater fees due to economies of scale, which may help create stakeholder support. Such a solution could be mutually beneficial for the existing utility, which would gain ratepayers. It could also be beneficial to the joining jurisdiction, which would avoid the costs of setting up a new program and may result in lower rates. To encourage these types of solutions, communities could broaden stakeholder processes to include representatives from nearby municipalities and conduct public outreach across all potentially participating jurisdictions. These efforts should emphasize the benefits—including lower costs—of a stormwater utility covering a broader geographic area.

5. Recommendations

Community contacts and stormwater funding experts consulted for this project suggested several activities and resources that would help communities seeking to develop and implement stormwater funding mechanisms. They are presented here as recommendations for actions that could be undertaken by state and federal regulatory agencies and/or other state or regional agencies institutions involved in stormwater management.

5.1. Recommendations for State and Federal Stormwater Regulatory Agencies

Create incentives to develop funding mechanisms in conjunction with stormwater management plans. A municipality's ability to comply with its stormwater permit is dependent on its ability to pay for the design, adoption, installation and maintenance of stormwater control technologies and practices. Municipalities that fail to fund their programs will almost certainly fail to comply with their legal requirements. Several local agency contacts with responsibility for stormwater management suggested that regulatory agencies should create strong incentives or even requirements for communities to develop funding proposals concurrent with their MS4 stormwater permits. For example, a few contacts suggested that MS4 permits should be amended to require permittees to set out the manner in which they plan to fund their stormwater programs. One contact suggested that state agencies or EPA should require a detailed line item budget for how stormwater programs will be funded. State agencies operating delegated MS4 programs or EPA (in the case of non-delegated programs) should consider what requirements or guidance are feasible and appropriate for ensuring that communities with MS4 permits have considered the revenues needed to pay for these programs and have a plan for generating sufficient revenues.

Enhance communication about state and federal stormwater requirements. Some contacts suggested EPA should pursue a national awareness campaign on the benefits of effective stormwater management and funding. On a state level, one contact suggested, state regulatory agencies should attend meetings of city councils or other local decision-makers to educate them about regulatory requirements and compliance needs. State and federal entities should seek to clearly communicate stormwater regulatory requirements, with a particular focus on clear messages to local decision-makers. These agencies could work through stormwater or public utility associations, such as chapters of the American Public Works Association, as part of their communication strategy.

Offer state and/or federal incentives for regional, watershed-based solutions. Given the challenges to implementing watershed-based or regional strategies in New England, some contacts suggested channeling state or federal grant resources to regional planning and design efforts. The local jurisdictional cooperation in the South Portland/Long Creek case and the regional efforts centering on Bangor, Maine may be useful models.

Provide state and federal program development funding. Several program contacts suggested that state and federal agencies fund key program design activities, including:

- Stormwater utility feasibility studies and program design assistance. This was illustrated in the State of New Hampshire's funding for several stormwater utility feasibility studies for communities in the state.
- Stakeholder consensus-building process design and facilitation. For example, the South Portland/Long Creek stakeholder engagement process was funded through a grant from the Maine Department of Environmental Protection using CWA 319 funds.
- Access to GIS mapping services to support development of fee structures based on impervious surface square footage.
- Stormwater infrastructure demonstration projects featuring low impact development and sustainable technologies that lead to effective treatment of polluted stormwater and compliance with permits.

Provide specific technical assistance or technical tools for developing funding programs. State or federal government could provide useful technical analysis or tools to communities. For example, they could help with calculation of impervious surface areas. States, in particular, may be able to leverage resources for specific watersheds—for example, funding regional watershed aerial photography covering multiple municipalities. At the 2012 New England Regional Stormwater Program Funding Symposium, some participants suggested a state or regional "circuit rider" program modeled on other programs for technical assistance to small and medium-sized towns. For example, the Rural Water Association has a circuit rider program that provides traveling technical experts employed by the association to rural towns.[33] These types of programs could provide direct technical assistance on stormwater funding to communities.

5.2. Recommendations for State or Regional Agencies and Organizations

Develop model stormwater utility ordinances (and/or communicate about existing ones). The author of the Western Kentucky Stormwater Utility Survey, Warren Campbell, advised that "once [state] statutory authority is established, create a model stormwater utility ordinance that conforms to state law. All a community would have to do is write in the jurisdiction name, determine the funding method, and adopt the ordinance."[34] In Lewiston, the Director of Public Works drafted the city's stormwater utility ordinance based on a model utility ordinance developed for Maine communities.[35] State agencies or other organizations involved in stormwater management—such as regional planning agencies—could

[33] See, for example, the West Virginia Rural Water Association: http://www.wvrwa.org/programs/circuit_rider.aspx and MA DEP wetlands circuit rider program: http://www.mass.gov/dep/water/resources/cridr.htm.
[34] Campbell, 10.
[35] Maine State Planning Office, Main Coastal Program, *A Model Stormwater Utility for the State of Maine* (June 2005): www.maine.gov/doc/nrimc/mcp/downloads/nonpoint/modelstormwaterutility_jun05.pdf.

develop similar stormwater utility model ordinances consistent with state enabling legislation and stormwater regulatory requirements. [36]

Develop case studies and examples of effective program development, adoption, and implementation. Several case communities looked to other, similar municipalities for information about how to approach stormwater management and funding. Raleigh, for example, drew on the experiences of Austin and Tallahassee in designing its program. Case contacts suggested developing a searchable information "clearinghouse" focusing on successful funding program designs, descriptions of how communities developed and adopted stormwater funding proposals, and information about the effectiveness of stormwater funding programs over time. One contact said that successful models used by other communities could show local decision-makers that there is "light at the end of the tunnel." State agencies and state or regional organizations involved in stormwater management could develop case studies of MS4 communities in their areas and convene other communities to learn about experiences in their region.

Establish clearinghouses of model public outreach and stakeholder engagement plans. Several case contacts were interested in seeing model public outreach and stakeholder engagement plans. A key source of such plans is successful MS4 communities themselves. South Burlington's strategy sets out a good example of a multi-faceted public outreach and stakeholder engagement effort. Raleigh and South Portland/Long Creek provide models for multi-stakeholder consensus-building. The Portland public outreach plan provides a good model for thoughtful development of tailored messages that resonate with key stakeholder groups in the community. State agencies or state or regional organizations involved in stormwater management could develop a clearinghouse for these types of model plans.

[36] Two New England Regional Planning Organizations involved in stormwater are the Pioneer Valley Planning Commission (for their Model Stormwater Management Ordinance, see: http://www.pvpc.org/resources/landuse/ero_sedi_bylaw.pdf) and the Metropolitan Area Planning Council (for its stormwater resources, see: http://mapc.org/resources/low-impact-dev-toolkit/stormwater-bylaws).

6. Conclusion

The experiences of the communities outlined in this report underline the important role stakeholder involvement and support plays in successful adoption and implementation of stormwater funding mechanisms. Public outreach strategies and focused stakeholder engagement protocols are critical elements of creating support for a funding mechanism. The experiences of these communities suggest that small and medium-sized municipalities must assess their own unique contextual circumstances and adapt their approaches to public outreach and stakeholder engagement to build stakeholder support and give decision-makers confidence that adopting a stormwater utility is responsive to the needs of their community. The lessons contained in this report are intended to help small and medium-sized communities accomplish this goal.

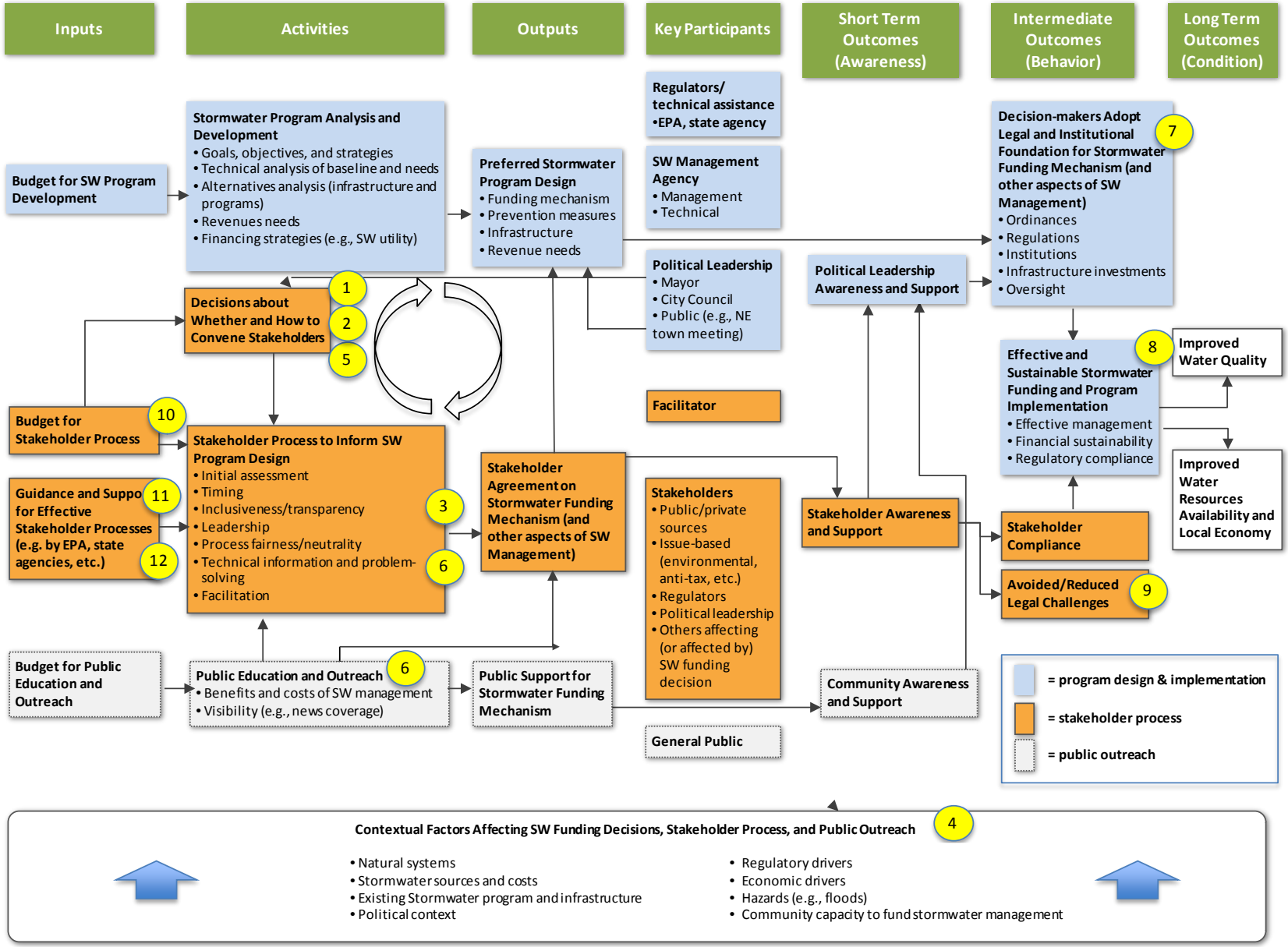
Appendix A: Logic Model

One of the first steps in designing the methodology for this project was developing a logic model. A logic model is a graphic representation that describes the inputs, activities, outputs, and outcomes for a system or process to be evaluated, and the key relationships among these elements. The logic model for this project described the key elements of, and participants in, the development of a community's stormwater funding mechanism (see Exhibit A on the following page). It recognized that the development of a stormwater funding mechanism is generally a component of a broader effort to design or re-design a community's overall stormwater management program.

In the logic model, the blue boxes represent the administrative process of analysis and design of a stormwater management program (including its funding mechanism) followed by adoption by decision-makers (e.g., a city council) and then implementation by a stormwater management agency or equivalent institution. The orange boxes represent a stakeholder engagement process that contributes to program design and ultimately, according to the logic of the model, increases stakeholder awareness and support for effective implementation. The pink boxes at the bottom of the diagram represent a process of public outreach that helps create community-wide awareness and support for the stormwater funding mechanism. (It is important to note that not all of the elements of this logic model are present in every case of stormwater funding mechanism development or in the cases analyzed in this evaluation.)

The circled numbers in the logic model illustrate the evaluation questions to which the elements of the model corresponds. (Evaluation questions are highlighted in Section 3 of this report.) The evaluation questions focus primarily on the relationship between the stakeholder engagement process (orange boxes in the logic model) and the process of program development, adoption, and implementation (blue boxes).

Exhibit A: Logic Model: Establishing and Effective Stormwater Funding Mechanism



Appendix B: Description of Communities

The following sections describe the eleven cases on which much of the report is based. These case descriptions contain information from multiple sources including public meeting records, discussions with public officials and civil servants, consultant reports, feasibility studies, municipal websites, and published articles.

South Portland/Long Creek, Maine

Size of Community: Approximately 125 commercial properties /3.5 square miles

Key Milestones and Dates

Milestone	Date
South Portland awarded a Maine Department of Environmental Protection (DEP) grant to begin stormwater management planning	2007
Long Creek Watershed Restoration Project Stakeholder Meetings	2007-2009
Long Creek Watershed Management Plan published	July 2009
Interlocal agreement signed (Portland, South Portland, Scarborough, and Westbrook)	2009
MPDES General Permit issued	October 2009
Long Creek Watershed Management District filed articles of incorporation	January 2010
First assessments due for participating landowners	May 2010

Key Drivers for Stormwater Management

The Long Creek Watershed is a 3.5-mile area comprised almost entirely of commercial properties. It falls within the municipalities of South Portland, Westbrook, Portland, and Scarborough, Maine. Prior to the events described in this case description, the cities of South Portland, Westbrook, and Portland operated independent stormwater systems. (An additional participating city, Scarborough, did not have a piped drainage system but did have a system of culverts and ditches for stormwater conveyance.)

Several studies, including studies by US EPA and Maine Department of Environmental Protection (DEP) indicated that Long Creek was contaminated with heavy metals and other pollutants, and stormwater runoff was a contributing factor.[37] Conversion of rural land in the watershed over multiple decades had resulted in increased impervious cover. Maine DEP designated Long Creek an "urban impaired stream" under the Clean Water Act (CWA) because it failed to meet water quality standards due to stormwater runoff.

A process to develop a stormwater solution (as described below) was already underway when legal action by the Conservation Law Foundation (CLF) led EPA to exercise its Residual Designation Authority[38] under the CWA to require specific commercial property landowners to address stormwater runoff from their properties. EPA's action significantly increased potential future compliance costs for these landowners and increased the pressure on potential stakeholders to create a collaborative solution.

[37] See, for example, "Causal Analysis of Biological Impairment in Long Creek, a Sandy-Bottomed Stream in Coastal Southern Maine," EPA/600/R-06/065A: http://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=470459.

[38] RDA allows EPA to require permits from additional dischargers where any of the following are true: RDA is needed to meet TMDL allocations; discharges contribute to water quality violations; or discharges are a "significant contributor" of pollutants. See also: http://www.epa.gov/region1/npdes/stormwater/assets/pdfs/LongCreekFinalResidualDesignation.pdf.

Stormwater Funding Mechanism Development

Stormwater planning began in 2007 when the City of South Portland received a CWA Section 319 grant from Maine DEP. The city hired a neutral facilitator who began by identifying and meeting with stakeholder groups. The facilitator identified stakeholder representatives to represent each group's interests and organized stakeholder representatives into a thirty-eight member Long Creek Restoration Project Steering Committee. Committee members included commercial property owners (the largest and most significant stakeholder group), nonprofit organizations, public and quasi-public agencies and four municipalities.[39]

For the next eighteen months, the committee worked to produce a "Long Creek Watershed Restoration Plan." Technical consultants were hired using Section 319 grant funds. The final plan identified the critical infrastructure improvements and remediation work needed to achieve compliance and estimated costs. The facilitator led committee meetings and worked with members to develop consensus on the plan. At the same time, the Conservation Law Foundation was pressing its concern that unregulated runoff was contributing to the impairment of the creek's water quality and petitioned EPA to impose strict new requirements on landowners in the watershed with large areas of impermeable pavement and rooftops.

The Long Creek Watershed Restoration Plan proposed a collaborative funding mechanism in which landowners would pay a stormwater fee based on their property's square footage of impervious surface. Their fees would be deposited into a stormwater utility. The utility would undertake construction and maintenance projects in the area (including on the properties of its members) to reduce stormwater run-off. Technical and financial analyses provided by the Cumberland County Soil and Water Conservation District (CCSWCD) and the Casco Bay Estuary Partnership (an NGO)[40] demonstrated that landowners' compliance costs would be far less with this collaborative approach than if they chose to comply with individual permits on a property-by-property basis. This "go it alone" approach would require each landowner to obtain a permit for each of their properties. They would then have to fund the required compliance activities for each property as well.

The four municipalities of South Portland, Westbrook, Portland, and Scarborough signed an inter-local agreement in 2009 to establish the Long Creek Management District, which would administer the watershed plan and fee system. The District's stormwater activities were managed by the CCSWCD, which also operated the utility. Participating property owners' obligations were set out in a "Participating Landowner Agreement."[41] Property owners signing the agreement committed to:

[39] The area's residential population is quite small. Therefore, homeowners were not represented.
[40] CCSWCD and the Casco Bay Estuary Partnership both participated on the Steering Committee, Technical Advisory Subcommittee, and the Models and Outreach Subcommittee.
[41] See: http://www.restorelongcreek.org/docs/landowner_agreement/pla_final.pdf.

- Enter into and remain covered by Maine's General Permit.
- Pay an annual stormwater fee (see section below).
- Authorize an easement allowing the Utility District to perform work on participants' private property.

The Watershed Management Plan outlined a ten-year timeline and described anticipated management measures to be funded through the stormwater fee.

The committee's identification of critical compliance projects set out in the Long Creek Watershed Management Plan helped strengthen CCSWCD's proposal for federal Recovery Act funding, which resulted in securing a $2.1 million zero-interest loan to begin its work.

Stakeholder Engagement and Public Outreach

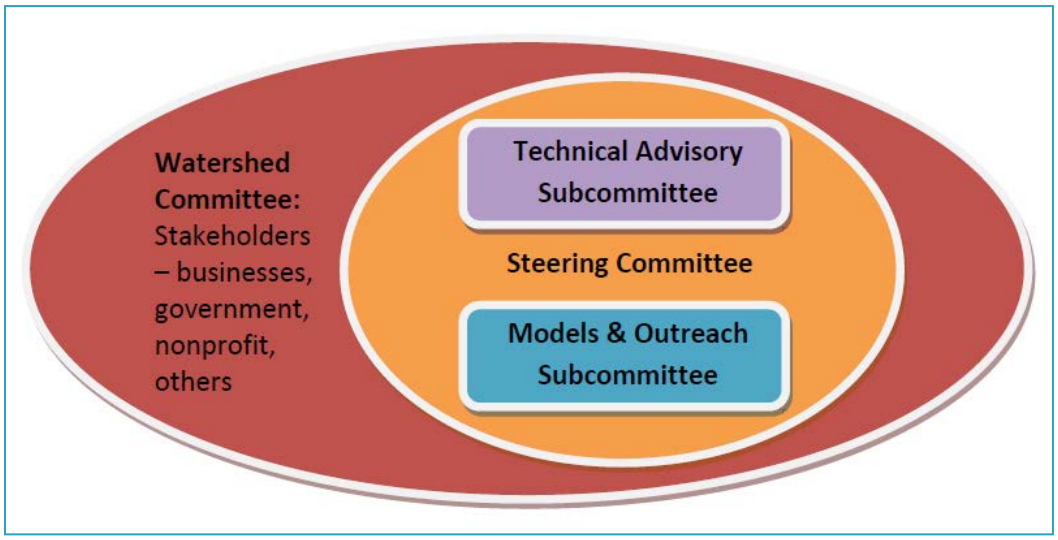
The neutral facilitator designed the stakeholder engagement and public outreach strategy. She identified key stakeholder groups and encouraged them to appoint representatives to a steering committee.

The process included:

- A Steering Committee that led the planning process.
- Sub-committees that provided technical analysis and other services to the committee.
- A large Watershed Committee of local commercial businesses, governments, and community organizations that participated in meetings led by the Steering Committee and provided guidance on the development and implementation of the Watershed Plan.

The Steering Committee also decided to invite CLF to join the committee. Many stakeholders viewed CLF as the originator of their stormwater compliance problems. However, according to project contacts, CLF's participation significantly contributed to the quality of the final plan.

Figure 1: Organization of Long Creek Watershed Restoration Project



Source: Long Creek Watershed Management Plan

The committee's challenge was developing a stormwater management plan acceptable to the interests of each group represented by a committee member and a funding approach that garnered enough voluntary participation to be financially viable. Committee members knew that their utility proposal required a compelling financial case. Project contacts noted that, in the end, commercial property stakeholders calculated whether it would be cheaper for them to fight their individual permit requirements in court or to join the utility. The committee's data convinced them that a utility could lower commercial property compliance costs by as much as 75% compared to the cost of complying individually. The *Maine Policy Review* reported that ultimately, over "100 of the 125 landowners designated by EPA as requiring a stormwater discharge permit made a preliminary election to participate in the collaborative program."

Factors that helped create stakeholder agreement included:

- Neutral facilitation that provided effective process management.
- Committee members with a wide range of interests and views. The facilitator made sure to include business leaders skeptical of the utility concept for as well as stakeholders such as CLF more inclined to favor this approach.
- Willingness of business leaders to participate as stakeholders to develop creative solutions, rather than sending legal proxies to represent them.
- Impending regulatory requirements that exerted pressure on all stakeholder groups to develop a solution.

- The committee's demonstration of the potential cost-effectiveness of a collaborative solution over "going it alone." The technical and financial analyses provided by technical consultants, the CCSWCD, and the Casco Bay Estuary Partnership (an NGO) to the committee allowed stakeholders to determine whether their respective interests would be better served by joining the utility.

In addition to the Steering and Watershed Committees, which engaged stakeholders directly in the decision-making process, a Models and Outreach Subcommittee conducted ongoing public education and outreach efforts, including the development of the Project website (www.restorelongcreek.org).

Program Adoption

Articles of incorporation for the Long Creek Watershed Management District were filed in 2010. Legislation specifically recognizing the use of interlocal agreement authority to establish the District was enacted by the Maine Legislature in the same year.[42]

Continued stakeholder participation on the District's Governing Board gives stakeholders ongoing input into and oversight over the program.

Stormwater Funding Mechanism

In May 2010, initial utility assessments became due. Participating landowners were initially assessed $3,000 annually per acre of impervious cover. Fee increases were limited to 2% per year plus inflation pending annual approval by the District Governing Board.[43] The Steering Committee recommended the annual cap to ensure that stormwater fees would not increase by unpredictably large amounts year-to-year. Credits were available if landowners installed onsite stormwater management practices.

Public sector entities were allowed to contribute services in lieu of all or a portion of their stormwater fees. For example, state and local departments of transportation could contribute road construction and maintenance resources, or engineering and technical expertise.

Program Implementation

According to presentations made at the 2012 annual District meeting, the program has been financially stable. Its FY 2011 budget was approximately $1.4 million, 61% of which was spent on construction and maintenance activities. The District planned to meet water quality standards by 2020. By the time of its 2012 meeting, the District had completed two of ten planned mitigation projects, and commenced undertaking many non-structural activities, including street sweeping, catch basin cleaning, BMP site inspections and winter maintenance.

[42] See: http://www.mainelegislature.org/ros/LOM/LOM124th/124R2/PUBLIC506.asp.
[43] Inflation was determined based on the Consumer Price Index, which is a measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services.

Summary of Legal Challenges, as Appropriate

There were no legal challenges to the plan.

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South Burlington, Vermont

Size of Community: Population 15,814 / 16 square miles

Key Milestones and Dates

Milestone	Date
Stormwater utility Feasibility Study conducted	2001 (finalized in December 2003)
Stormwater Utility District approved by City Council	March 2005
First utility bills sent out	July 2005

Key Drivers for Stormwater Management

The City of South Burlington faced several stormwater-related issues that included compliance with new MS4 and TMDL regulatory requirements, deteriorated residential stormwater systems, beach closures, localized flooding, erosion, sedimentation and unstable stream banks. Seven water bodies in the city were deemed "impaired" by the State of Vermont. A number of highly visible stormwater systems, many of which were privately owned, were failing and needed costly repairs or upgrades. State law required properties totaling two or more acres of impervious cover to obtain stormwater discharge permits, and hundreds of these permits had expired. This was important because Vermont law requires property owners to hold a valid stormwater discharge permit when transferring title. Thus, permit expirations created uncertainties about real estate transactions. Finally, there was a threat of a development moratorium due to legal challenges brought by the Conservation Law Foundation under the Clean Water Act that proposed to disallow any new discharges to impaired waters. Homeowner associations, developers and others pressured the city to develop a solution.

Stormwater Funding Mechanism Development

Stormwater utility development was led by the city's Department of Public Works (DPW) and Department of Planning and Zoning. A Stormwater Advisory Committee (SWAC) was formed, and an engineering consulting firm was hired.

In 2001, the consultants conducted a feasibility study, which assessed the city's stormwater budget (spread across various agencies) and estimated the cost of future activities such as infrastructure investments, operations, and maintenance.

The city established the SWAC to help it develop a stormwater program design and funding mechanism proposal. The committee reviewed the city's minimum baseline stormwater budget and developed a "wish list" of stormwater-related activities, equipment and staff support if funding were not a constraint. The SWAC then assessed possible funding sources and recommended the creation of a

stormwater utility. The SWAC advised that citizens would be willing to pay between $4 and $5 per month in utility fees.

During the next phase of program development, consultants worked with municipal staff to refine the proposed stormwater utility design. The consultant proposed using impervious surface area as the basis for the rate structure, since this mechanism was legally defensible and tested nationally. A technical committee, comprised of staff from the University of Vermont Spatial Analysis Laboratory and the Chittenden County Regional Planning Commission, estimated the area of impervious surfaces for properties within the city's limits using satellite imagery.

Stakeholder Engagement and Public Outreach

During program development, the city and its technical consultants engaged with stakeholder representatives through the SWAC stakeholder advisory committee and engaged directly with many developers, homeowners associations, and large property owners in the city. The city also conducted broad public outreach and education about program needs and benefits.

The SWAC was composed of homeowners, developers, local business owners, environmental organizations, technical experts and members of the education community. It acted as a sounding board for city staff and consultants as they developed the stormwater program in addition to providing advice on messaging and outreach.

Stakeholder engagement via the SWAC was complemented by targeted outreach to homeowners associations and large ratepayers. City staff and consultants spent significant time and effort educating homeowners associations about how stormwater fees would be calculated and charged to condominiums and other multi-tenant properties, as well as discussing the associations' needs, concerns and perceptions about state regulations, ongoing lawsuits, and the condition of their infrastructure. City staff and contractors identified approximately eighty commercial property owners who would receive bills totaling over $1,000 per year and sent each of them a personal invitation to breakfast meetings to discuss the impending fees. The discussions were framed as opportunities for these property owners to provide input on how the proposed stormwater program could provide value for them. Through these meetings, stakeholders stated that their key need was receiving city assistance on how to comply with the state's evolving stormwater regulations.

Important insights from the SWAC process and other stakeholder meetings included:

- The importance of helping large ratepayers navigate the permitting process.
- The importance of encouraging the city to work cooperatively with property owners during program implementation to resolve compliance issues before enforcement action was taken.

- Inclusion of a stormwater fee credit program.
- Identifying the correct balance between stormwater fees and service levels.

The city also conducted broad public outreach about the need for a comprehensive stormwater solution. The city conducted several public presentations describing problem areas, benefits, the differences between a tax and a utility, and information on how rates would be structured. It also developed public information brochures. As noted above, stormwater issues were highly visible in the community because of high profile lawsuits, the impact of expired state permits on property transactions, impending high costs to meet regulatory requirements, the threat of a stormwater-based development moratorium, beach closures, and localized flooding and erosion.

Program Adoption

The proposed stormwater utility was presented twice to the City Council. Presentations included an overview of stormwater, its impacts, and problem areas. They also included a description of the proposed stormwater utility structure and its benefits, including possible projects that the utility would fund. In March 2005, the City Council adopted the proposed stormwater program and established a utility to pay for its activities. There was no significant public controversy.

Stormwater Funding Mechanism

Through the stormwater utility, residences were assessed a flat monthly fee of $4.50 per single-family lot (increased to $5.94 in 2011). There was no credit system for residences. However, the city committed to operate and maintain privately-owned residential systems once they were upgraded to meet current state standards. (Prior to this, owners of the private systems were responsible for their own operation and maintenance.) Residential stormwater fees were included in water and wastewater bills (billed quarterly).

For commercial properties, the utility established a tiered fee system based on each property's impervious surface area (depending on size, properties fell into one of ten fee tiers). Commercial properties could participate in a credit program by implementing stormwater management practices.

Program Implementation

After the first bills went out, the city received many calls from ratepayers with concerns and questions about the fees. The city was well prepared, having established a troubleshooting phone number for ratepayers to call and a script for staff to follow. In some cases, the city had made billing mistakes and worked with owners to correct them. Most calls were from residential owners. A possible reason for fewer calls from commercial entities was that the city had met with many of them one-on-one during the program development phase.

After approximately three billing cycles, negative feedback faded. One person involved in the effort said that new utilities should expect controversy during the first billing cycle, especially with homeowners who are not aware of (or involved with) program development. The best plan, she said, is to be prepared, competent, helpful, and flexible.

The city focused on undertaking highly visible stormwater projects to show that the ratepayers' stormwater fees were being put to good use.

The City Council increased fees for the first time in April 2011; there was little to no opposition from the community. Currently, the utility raises approximately $1.8 million per year from stormwater fees (it obtains additional stormwater program funding through grants). Many of the utility's objectives have been accomplished, including repair and replacement of failing infrastructure. Currently, the utility's budget is sufficient to meet its needs; however, the cost to meet impending TMDL requirements may require increased future revenues.

Legal Challenges

There were no legal challenges to the fee. However, some large institutional entities refused to pay. The city had to work out specific payment arrangements with the University of Vermont, the Vermont Agency of Transportation, and Burlington International Airport; all are now paying their fees.

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Reading, Massachusetts

Size of Community: Population 24,747 / 9.9 square miles

Key Milestones and Dates

Milestone	Date
MS4 permit issued to Reading	2003
Reading established an Ad Hoc Stormwater Committee to work on the MS4 permit	2003
The Board of Selectmen asked the Water and Sewer Advisory Committee (renamed The Water, Sewer, and Stormwater Management Advisory Committee, or WSSMAC) to analyze and recommend stormwater funding options	2004
WSSMAC recommended a stormwater utility to the Board of Selectmen	August 2005
DPW presented the stormwater utility concept to Town Meeting	November 2005
Stormwater utility adopted by Town Meeting	April 2006
First billing	September 2006

Key Drivers for Stormwater Management

The primary driver for development of a stormwater utility in Reading was compliance with new MS4 requirements, which significantly increased the need for stormwater management activities and their related costs. Other drivers included improving poor surface water quality, flood control, and controlling severe erosion and sedimentation in the town's three rivers: the Aberjona, Ipswich, and Saugus.

Stormwater Funding Mechanism Development

The development of a stormwater utility in Reading was led by its DPW. When Reading's new MS4 permit was issued in 2003, DPW established the Ad Hoc Stormwater Committee to help the town develop its Notice of Intent (NOI) to comply with the permit.[44]

The Ad Hoc Stormwater Committee included citizens appointed to town boards (the Planning Board, Conservation Commission, and Board of Health). The Committee was asked to investigate current stormwater-related expenditures and activities, what work would be needed to comply with MS4 requirements and their associated costs, and to identify funding options. (Before establishment of the stormwater utility, funding was provided by the general fund, which could only pay for limited maintenance.) The committee estimated that total operating and capital costs to comply with its new permit could total $540,350 a year. At that time, Reading allocated only $165,350 per year to stormwater activities through the general fund. The committee met for approximately nine months and

[44] Designated MS4 entities are required to submit a general permit application, referred to as a Notice of Intent letter, within ninety (90) days of the Rule's effective date. The principal function of the NOI letter submittal is to identify the MS4 entity or entities seeking coverage under the general permit NOI letter, and to ensure, via a legally binding agreement if necessary, that all requirements of this Rule will be addressed during the 5-year permit term.

then presented its recommendations to Reading's Board of Selectmen. At that point, the town realized that raising stormwater revenues that were sufficient to achieve compliance was going to be a major challenge. It did not want to commit to permit compliance without having a funding source in place.

The Board of Selectmen then asked the town's water and sewer committee to more specifically analyze stormwater funding and options. The water and sewer committee was renamed the Water, Sewer, and Stormwater Management Advisory Committee (WSSMAC). After six months, the WSSMAC outlined funding options for the Board of Selectmen and recommended that a stormwater utility be established. Around the same time, Reading's DPW presented the stormwater utility concept at Reading's Town Meeting, with nearly 200 people present (Reading has an elected Town Meeting form of government).

The Board of Selectmen and Town Manager supported the stormwater fee proposal. The Board of Selectmen requested that the WSSMAC and DPW develop the stormwater utility idea further. The WSSMAC and DPW responded by analyzing user fee options. A key question was whether (and how) to charge fees based on each property's impervious surface area. The WSSMAC realized that the town would have to fund photographic flyovers every three years to update its data on the size of properties' impervious surface areas. Given this challenge and expense—and that the difference between a variable fee and a fixed fee would be small—the committee decided on a flat fee for residential properties.

After about a year of work by the WSSMAC, a specific stormwater utility proposal was brought to the Board of Selectmen. By this time, a few of the selectmen had been replaced and the new members were not as supportive of a stormwater utility. Originally, the town had anticipated covering all stormwater costs through the stormwater utility. However, the Board of Selectmen now decided that a utility should only cover the costs of additional stormwater management activities required by the new permit; all other stormwater costs should still be covered by the general fund. The WSSMAC and DPW compromised and recommended that the general fund cover activities already underway such as street sweeping and catch basin cleaning; activities required by the new MS4 permit—including new capital projects—would be covered by the stormwater utility fee.

In the spring of 2005, the WSSMAC and DPW were ready to present a proposal but could not get on the Town Meeting calendar until November 2005. At that point, some citizen opposition to the proposal emerged, and one individual threatened to file suit if a utility were established. As a result, the WSSMAC and DPW presented at the November 2005 Town Meeting but did not ask for a vote on the utility proposal. In addition, Massachusetts had not yet passed a law that specifically allowed stormwater utilities, and the Town was concerned about passing legal muster.[45] The proposal was tabled and sent

[45] There are two general laws that provide the authority for municipalities to establish a stormwater utility in Massachusetts: Massachusetts General Law (MGL) Chapter 83, Section 1 & 16 and MGL Chapter 40, Section 1A. Through MGL Ch. 83, municipalities have the right to set up a stormwater utility and to charge utility fees in support of stormwater-related services performed. In 2006, this particular section was strengthened to clarify a municipality's ability to establish stormwater utilities. MGL Ch. 40 complements MGL Ch. 83 by providing a definition of a district for the purpose of water pollution abatement, water, sewer, and/or other purposes. Jointly, these pieces of legislation provide a municipality with the authority to charge

to Reading's legal counsel to determine its legality and to the state Department of Revenue to affirm that it would treat a stormwater charge as a fee rather than a tax. Both said that the proposed fee was legally acceptable. Town Meeting members then voted to approve the utility in April 2006. Two residents filed a joint suit after the utility was adopted (see section below on legal challenges), but the suit was later dropped.

Stakeholder Engagement and Public Outreach

Rather than hire consultants, the town developed its stormwater funding program through two committees, both of which relied on community expertise. The first was the Ad Hoc Stormwater Committee that developed the MS4 NOI and highlighted the need for a stormwater funding mechanism. The committee was a voluntary group comprised of town employees, officials, and citizens, all of whom served on various town boards.

After the Ad Hoc Stormwater Committee forwarded its recommendation for a dedicated source of stormwater funding, the Board of Selectmen tasked a second committee, the WSSMAC, to develop a specific stormwater funding proposal. The committee was composed of stakeholders appointed by the Board of Selectmen. The WSSMAC members had previously addressed water and sewer rates and had expertise in this area. According to a study by the Charles River Watershed Association, "having various viewpoints to address stormwater management issues and create a dedicated funding source created a stronger utility proposal."

The former Reading Town Engineer described the WSSMAC as a "working group" that operated as "a clearinghouse and provided an opportunity for public input." The Committee's job was to make recommendations on utility design to the Board of Selectmen. Much of the analytical and program development work was done by town staff and taken to the WSSMAC for feedback. The WSSMAC came to consensus on most of its recommendations to the Board of Selectmen. On some issues on which the group could not come to consensus, the committee members voted.

In addition to the dual committee process, there was some public outreach following approval of the utility in 2006. The town began distributing information to citizens about stormwater program needs through water and sewer bill inserts, letters to the editor of the local newspaper, a newsletter and a website. A key venue for public outreach was the Town Meeting, which generally drew up to 200 attendees. Nevertheless, the former Town Engineer said that the stormwater utility was adopted without broad public knowledge. In retrospect, the Town Engineer said he wished there had been more public outreach early in the process.

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utility fees for stormwater management services just as fees are charged for providing other public services such as drinking water, sanitary sewers and electricity.

Program Adoption

When initially presented with the concept of a stormwater utility, the Board of Selectmen was described by a project contact as "skeptical," but the Board ultimately approved the proposal. Their approval may have been influenced by the fact that Reading is a largely residential community with a small commercial tax base. It had struggled to balance its budget in the past, and state law limited property tax increases. The Town Manager and the Board of Selectmen saw a stormwater fee as a potential strategy for taking stormwater "off budget" (i.e., outside of the general fund, at least in part) so that the general fund could be used for other priorities.

Following Board of Selectmen approval, final approval was needed at Town Meeting. Reading has an elected Town Meeting of 192 members rather than an open Town Meeting (there are 24 elected representatives for each of 8 precincts). This structure was regarded by the Charles River Watershed Association as an advantage to approving the stormwater utility (compared to an open Town Meeting of all residents). Some Town Meeting members had served 10–15 years in their positions and were well aware of stormwater issues.

A key project contact felt that the fact that a committee of local citizens recommended the stormwater utility did not play a large role in swaying the Board of Selectmen or the Town Meeting vote supporting the stormwater utility proposal. It may have helped, he said, but it "didn't push it over the top." More important, he said, was a recognized and long-standing need to address stormwater management—and the town's work to continually raise awareness of the issue and educate the Board of Selectmen and Town Meeting over time.

Stormwater Funding Mechanism

The adopted funding mechanism for residential properties was a flat fee of $39.84 per year ($3.30 per month). Commercial properties paid $39.84 per year for each 2,552 square feet of impervious surface.

Exemptions and credits are available; for example, undeveloped properties are exempt. Early payment results in a 10% discount, and stormwater best management practices can qualify a property for up to a 50% credit.

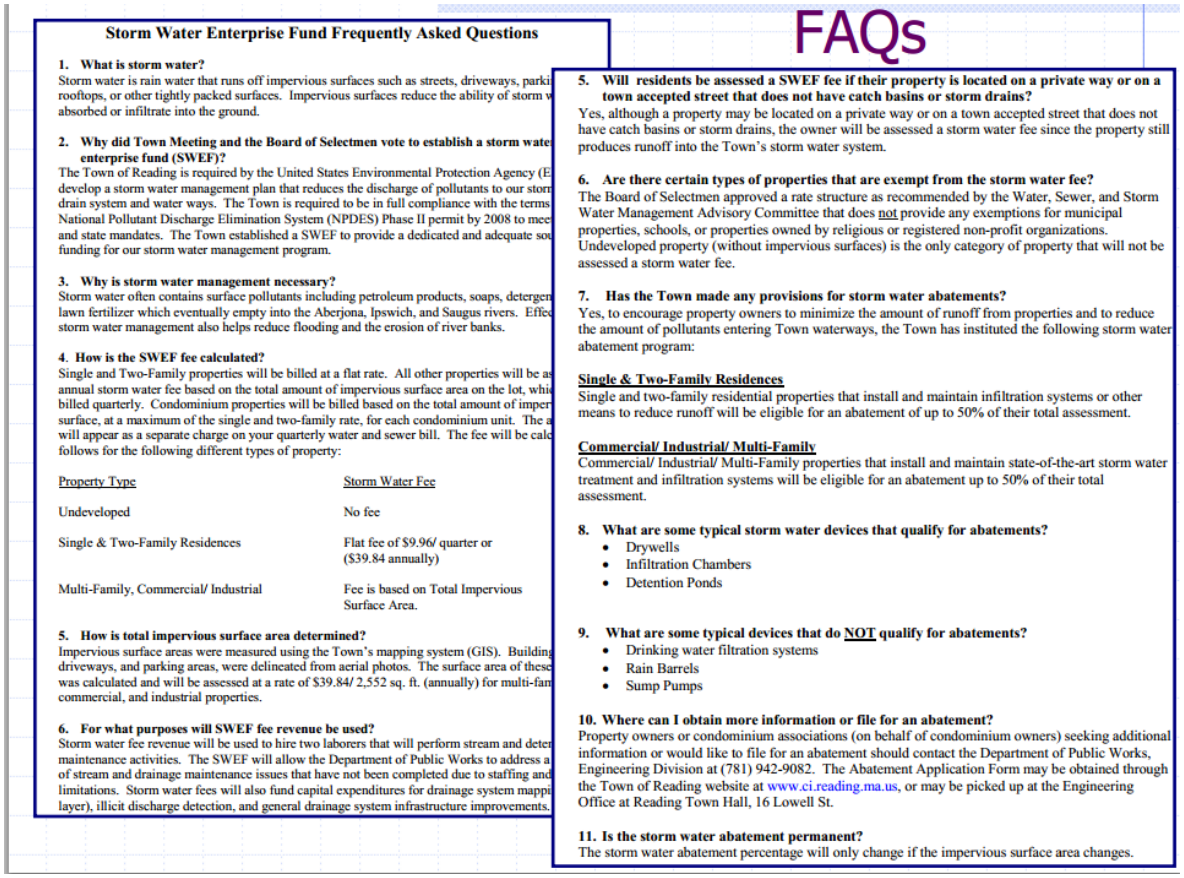
Program Implementation

There was little public opposition when the first stormwater utility bills were sent out. A project contact noted several factors that aided in smooth initial implementation:

- A fact sheet was distributed with residents' water bills before the first stormwater bills were mailed, and again when stormwater bills were issued.

- The DPW Director met with all staff that might interact with the public to make sure that all points of contact for public questions were clear.
- Water and sewer rates in Reading were high, so the stormwater fee appeared relatively low in comparison. (Stormwater fees were included in water/sewer bills).
- A large increase in water and sewer rates occurred around the same time as the first stormwater bills were received, which deflected attention from the new stormwater fee.

Example: Stormwater Utility FAQ Issued by Reading



Storm Water Enterprise Fund Frequently Asked Questions

1. What is storm water?
Storm water is rain water that runs off impervious surfaces such as streets, driveways, parki
rooftops, or other tightly packed surfaces. Impervious surfaces reduce the ability of storm w
absorbed or infiltrate into the ground.

**2. Why did Town Meeting and the Board of Selectmen vote to establish a storm wate
enterprise fund (SWEF)?**
The Town of Reading is required by the United States Environmental Protection Agency (E
develop a storm water management plan that reduces the discharge of pollutants to our storr
drain system and water ways. The Town is required to be in full compliance with the terms
National Pollutant Discharge Elimination System (NPDES) Phase II permit by 2008 to mee
and state mandates. The Town established a SWEF to provide a dedicated and adequate sou
funding for our storm water management program.

3. Why is storm water management necessary?
Storm water often contains surface pollutants including petroleum products, soaps, detergen
lawn fertilizer which eventually empty into the Aberjona, Ipswich, and Saugus rivers. Effec
storm water management also helps reduce flooding and the erosion of river banks.

4. How is the SWEF fee calculated?
Single and Two-Family properties will be billed at a flat rate. All other properties will be as
annual storm water fee based on the total amount of impervious surface area on the lot, whi
billed quarterly. Condominium properties will be billed based on the total amount of imper
surface, at a maximum of the single and two-family rate, for each condominium unit. The a
will appear as a separate charge on your quarterly water and sewer bill. The fee will be calc
follows for the following different types of property:

Property Type	Storm Water Fee
Undeveloped	No fee
Single & Two-Family Residences	Flat fee of $9.96/ quarter or ($39.84 annually)
Multi-Family, Commercial/ Industrial	Fee is based on Total Impervious Surface Area.

5. How is total impervious surface area determined?
Impervious surface areas were measured using the Town's mapping system (GIS). Building
driveways, and parking areas, were delineated from aerial photos. The surface area of these
was calculated and will be assessed at a rate of $39.84/ 2,552 sq. ft. (annually) for multi-fam
commercial, and industrial properties.

6. For what purposes will SWEF fee revenue be used?
Storm water fee revenue will be used to hire two laborers that will perform stream and deter
maintenance activities. The SWEF will allow the Department of Public Works to address a
of stream and drainage maintenance issues that have not been completed due to staffing and
limitations. Storm water fees will also fund capital expenditures for drainage system mappi
layer), illicit discharge detection, and general drainage system infrastructure improvements.

FAQs

5. Will residents be assessed a SWEF fee if their property is located on a private way or on a town accepted street that does not have catch basins or storm drains?
Yes, although a property may be located on a private way or on a town accepted street that does not have catch basins or storm drains, the owner will be assessed a storm water fee since the property still produces runoff into the Town's storm water system.

6. Are there certain types of properties that are exempt from the storm water fee?
The Board of Selectmen approved a rate structure as recommended by the Water, Sewer, and Storm Water Management Advisory Committee that does not provide any exemptions for municipal properties, schools, or properties owned by religious or registered non-profit organizations. Undeveloped property (without impervious surfaces) is the only category of property that will not be assessed a storm water fee.

7. Has the Town made any provisions for storm water abatements?
Yes, to encourage property owners to minimize the amount of runoff from properties and to reduce the amount of pollutants entering Town waterways, the Town has instituted the following storm water abatement program:

Single & Two-Family Residences
Single and two-family residential properties that install and maintain infiltration systems or other means to reduce runoff will be eligible for an abatement of up to 50% of their total assessment.

Commercial/ Industrial/ Multi-Family
Commercial/ Industrial/ Multi-Family properties that install and maintain state-of-the-art storm water treatment and infiltration systems will be eligible for an abatement up to 50% of their total assessment.

8. What are some typical storm water devices that qualify for abatements?
- Drywells
- Infiltration Chambers
- Detention Ponds

9. What are some typical devices that do NOT qualify for abatements?
- Drinking water filtration systems
- Rain Barrels
- Sump Pumps

10. Where can I obtain more information or file for an abatement?
Property owners or condominium associations (on behalf of condominium owners) seeking additional information or would like to file for an abatement should contact the Department of Public Works, Engineering Division at (781) 942-9082. The Abatement Application Form may be obtained through the Town of Reading website at www.ci.reading.ma.us, or may be picked up at the Engineering Office at Reading Town Hall, 16 Lowell St.

11. Is the storm water abatement permanent?
The storm water abatement percentage will only change if the impervious surface area changes.

The stormwater fee raises approximately $300,000 annually. It covers cleaning and rebuilding catch basins, ditch cleaning, detention basin maintenance and street sweeping. The fee was recently raised in order to ensure relatively small, incremental increases over time as stormwater management costs rise and to avoid the need for sudden large increases.

Legal Challenges

Two citizens filed a lawsuit once the stormwater utility was adopted. They argued that the fee was really a tax (and therefore deductible). According to the Town Manager, the lawsuit was dropped in 2009.

Reference Documents

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5. "Storm water made a fee", *Reading Advocate,* April 2006. http://www.wickedlocal.com/reading/news/x902789335. Accessed 8/7/12.
6. Town of Reading – Stormwater Abatement Applications. http://www.ci.reading.ma.us/Pages/ReadingMA_Engineering/permits/stormwater_abatementapp. Accessed 8/7/12.

Raleigh, North Carolina

Size of Community: Population 416,000 / 145 square miles

Key Milestones and Dates

Milestone	Date
First formal discussion of forming a Stormwater Utility / First watershed planning studies undertaken	1985
Development of a Stormwater Comprehensive Plan	1989
Stormwater Division formed—Began work on Raleigh's Phase 1 MS4 NPDES Permit	1989
Severe Flooding in Northeast Raleigh and Hurricane Fran	August 1995/Sept 1996
Public Education Program / Staff Workgroup for a Stormwater Utility began	Mid-2001
Stakeholder group formed to discuss stormwater funding and program options	October 2002
Stakeholder group work completed	March 2003
Stakeholder group recommended to City Council a stormwater utility be approved with a threefold increase in funding and significantly increased service levels	April 2003
Council approved implementation of a Stormwater Utility as part of the budget	June 2003
Stormwater Utility Ordinance and Rate Resolution approved by Council	November 2003
Stormwater fee collection began	March 1, 2004

Key Drivers for Stormwater Management

A major driver for a new approach to stormwater management and funding was the need to address a large backlog of capital improvement projects and system maintenance needs. These projects were needed if the city was to maintain regulatory compliance and control flooding.

Stormwater Funding Mechanism Development

Development of a stormwater utility was led by the DPW's Stormwater Division. Discussions within city departments began in 1985 along with the first watershed planning studies. In 1989, the city's Stormwater Division was formed and began to determine the work needed for Raleigh to comply with its Phase 1 MS4 NPDES Permit. The city's watershed planning studies and stormwater planning analyses indicated the need for large infrastructure investments and an accelerated maintenance program. Severe flooding affected northeast Raleigh in August 1995, and hurricane Fran struck the region in September 1996. The city began a public education program on improved stormwater management and created a staff workgroup for a stormwater utility in 2001.

In 2002, Raleigh contracted with a consultant to develop a stormwater management funding study. The City Council supported the stormwater utility concept and created a Stormwater Utility Stakeholder Group to advise it on program design and funding options. The group met eight times and completed its

study in March 2003 (as described below). In April 2003, the group recommended to the City Council that a stormwater utility be formed. The City Council passed the utility ordinance in November 2003. This was followed by initial billing in March 2004.

Stakeholder Engagement and Public Outreach

The stakeholder group was comprised of 25–30 participants selected by the City Council. To select members, the city's consultant provided the Council with a list of 15 stakeholder categories that should be represented. The City Council then nominated specific individuals to represent each of these categories. (According to one project contact, "everybody knew who needed to be involved.") Participants included representatives from the development community, environmental groups, the real estate industry, neighborhood groups and schools. By convening this group, the city hoped to make sure that the proposed program was what citizens wanted (and were willing to pay for) and thus gain community support. There was an explicit decision not to include City Council members on the committee so that stakeholder group members would be more comfortable speaking freely.

The stakeholder group held eight meetings from October 2002 to February 2003. Facilitators designed the process to initially focus on the stakeholders' desired level of services and only later address funding options. One stakeholder participating in the process said that coming to agreement first on levels of service helped the group agree on the funding mechanism later in the process. The flow of the meetings was as follows:

- ***Meeting 1:*** Reviewed existing stormwater program, funding options, and the role of the stakeholder group. City staff outlined the need to improve the city's stormwater management program and funding.
- ***Meeting 2:*** Discussed the stormwater program's current level of service. The discussion emphasized that a utility user fee would not necessarily be the group's final recommendation. The facilitator distributed take-home questionnaires to solicit stakeholder feedback regarding levels of service that they thought the city should provide.
- ***Meeting 3:*** Reviewed an example of an effective stormwater management program (Charlotte-Mecklenburg County, NC) and a case study on the Mine Creek Drainage Basin; discussed stakeholder feedback on the level of service issue as reflected in questionnaire responses.
- ***Meeting 4:*** Participated in a field trip to look at several stormwater control infrastructure projects (i.e., culvert upgrades, stream restoration, wetland creation, regional stormwater pond).
- ***Meeting 5:*** Discussed stakeholder reactions to the field trip. Participants participated in a voting exercise to identify preferred levels of service for each area of the stormwater program. Stakeholders also discussed various funding options such as property taxes, municipal service districts, special assessments, sales taxes, and a dedicated stormwater fund.
- ***Meeting 6:*** Discussed funding options and residential and non-residential rate structure options.

- ***Meeting 7:*** Discussed residential and non-residential rate structure options and credit options.
- ***Meeting 8:*** Finalized recommendations to the Raleigh City Council.

A key focus for the stakeholder group was agreeing on a balance between their desired level of stormwater funding services and the funding required to provide these services. During the process, a consultant presented stakeholders with a "menu" of funding options that represented different service levels (see table below).

Level of Service	Annual O&M	Annual Management, Compliance and Implementation Cost	Annual Capital Improvement Projects	Annual Program Cost	Estimated User Fee ($/SFU/ month)	Equivalent Tax Rate ($/$100)
A	$6 million Fully Preventative/ 100% Routine	$5 million Comprehensive Planning + Compliance + Full Implementation	$6 million 16-year program	$17 million	$5.76	$0.067
B	$4.8 million Mixture of Routine and Inspection-Based	$3 million Proactive Planning + Compliance + Systematic Implementation	$4 million 25-year program	$11.8 million	$4.00	$0.046
C	$3 million Inspection-Based Only	$2 million Priority Planning + Compliance + Partial Implementation	$3 million 33-year program	$8.0 million	$2.71	$0.032
D	$2 million Responsive Only	n/a	$2 million	$6.0 million	$2.03	$0.024

▢ = Consultant estimate of current City of Raleigh levels of service

Source: City of Raleigh Stormwater Management Funding Study: Final Report, March 2003.

The stakeholders then voted on their preferred level of service. Ultimately, stakeholders agreed on the "B" service level, an increase from existing levels of service, which were in the "C" and "D" range (see highlights in table). The estimated annual cost of level B was $11.8 million. This level of service would provide a mixture of routine and inspection-based maintenance for operations and maintenance, proactive planning, full regulatory compliance and systematic implementation of the stormwater management plan. Project contacts said that staff were surprised that stakeholders chose a higher (and more expensive) level of service. A stakeholder committee member said that the group coalesced around option B because participants felt that the city needed to be proactive in its stormwater program, and that option B would allow it to plan and prioritize stormwater-related activities.

In addition to the stakeholder committee, Raleigh held at least ten public meetings around the city, and distributed information about the stormwater utility in water bills. DPW staff also met with various citizen action groups. City staff invited a local newspaper reporter to sit in on stakeholder group meetings, and the environmental editor for a local paper was invited to sit in near the end of the meeting process.

Program Adoption

From the time that the City Council approved the establishment of a stakeholder committee, it supported the stormwater utility concept. Following the recommendation from stakeholders, the Council passed the utility ordinance in November 2003 by a 7–1 vote. According to the city's Stormwater Manager, there was not much discussion by the Council after receiving the stakeholder committee's recommendation; they were satisfied with the work of the group and by that time, "everyone understood that if we wanted to move forward with an aggressive Capital Investment Plan, we needed a stable funding source." All of the stakeholder committee members attended the final City Council meeting and spoke on behalf of the proposed utility.

Stormwater Funding Mechanism

Residential fees were based on the square footage of impervious area for a property. There were five tiers for single-family homes (i.e., one dwelling on one parcel):

- Tier One: 400 to 1000 square feet = $1.60/month
- Tier Two: 1,001 to 3,870 square feet = $4.00/month
- Tier Three: 3,871 to 6,620 square feet = $6.80/month
- Tier Four: 6,621 to 9,500 square feet = $11.60/month
- Tier Five: Over 9,500 square feet is billed at the commercial rate (see below)

The stormwater fee for commercial, industrial and multi-family properties was determined by their respective proportional amounts of impervious surface as compared to the median residential property. Rates were $4 per 2,260 square feet of impervious surface.

Program Implementation

Stormwater fees were issued as line items in water and sewer bills. The city held public meetings at various locations to inform people about the new fee and sent out information in water bills. A project contact said that it was important to have a phone line for staff to address all questions and concerns about initial bills. Several members of the stakeholder group continued their involvement by joining the Stormwater Management Advisory Committee (SMAC), which was created when the stormwater utility was established. It advises the city on the program on an ongoing basis. One case contact mentioned that the advisory committee provided continuity and helped with the transition to program implementation. Very little education was required for the SMAC to come "up to speed" because

stakeholders who served on the SWAC and went on to serve as SMAC members were already well educated on stormwater issues.

Revenues raised through the utility have been sufficient to cover program costs, and there has been no increase in fees.

Legal Challenges

There were no legal challenges to the utility. A project contact said that some other cities in the area were sued but that many cities in the state had already formed utilities and Raleigh learned from their experience how to design a process and program that reduced the risk of litigation. It was important that North Carolina had enabling legislation in place. The contact said "any time we do something like this in North Carolina there has to be enabling legislation for it."

Reference Documents

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2. City of Raleigh Stormwater Utility homepage: http://www.raleighnc.gov/home/content/PWksStormwater/Articles/StormwaterUtilityMainPage.html. Accessed 7/30/12
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4. Presentation by Danny Bowden, Stormwater Manager, City of Raleigh, North Carolina. http://www.efc.unc.edu/publications/Presentations/stormwater/bowden.pdf. Accessed 7/30/12.
5. City of Raleigh Stormwater Management Funding Study: Final Report, March 2003.

Manchester, New Hampshire

Size of Community: 110,000 population, 34.9 square miles

Key Milestones and Dates

Milestone	Date
City of Manchester adopted ordinance on stormwater management	August 2006
Stormwater feasibility workshop with city staff	October 2007
New Hampshire legislature passed a bill authorizing any state municipality to form a stormwater utility	2008

Key Drivers for Stormwater Management

Key drivers for Manchester to enhance its stormwater program were flooding, water quality, the need for capital improvements, and compliance with anticipated regulatory requirements. Two years prior to starting stormwater utility planning, three 100-year storm events occurred in the area. The city's 2007 stormwater utility feasibility study reported that "it is generally thought that existing stormwater system infrastructure deficiencies (pipe size, slope, etc.) have contributed to the damaging flood events which the city has experienced in recent years." Manchester's existing stormwater infrastructure was described as "large, aging, and somewhat neglected."

Stormwater management responsibilities in Manchester were divided mainly between the Highway Division (engineering, operations and maintenance, and capital improvement) and the Environmental Protection Division (management and regulation). The city's 2007 stormwater budget was $765,000 (not including its capital investment in a major combined sewer outfall upgrade underway at the time). The estimated annual revenue needed to "bring the stormwater program to a moderate level" was approximately $2.6 million. By the time of the 2007 feasibility study, Manchester was required to comply with updated MS4 requirements and develop a Stormwater Management Program.

Stormwater Funding Mechanism Development

In August 2006, Manchester adopted a stormwater management ordinance. The city also began analyzing the feasibility of establishing a stormwater funding mechanism.[46] Working with consultants, the city participated in an initial scoping effort to determine whether a utility made sense and then undertook a more extensive feasibility study. The feasibility study concluded that a user fee was the best option for financing a stormwater program because of its equity, stability, and adequacy. It also outlined a process for creating and implementing a utility, including a stakeholder engagement process, public

[46] Ordinance Amending the Code of Ordinances of the City of Manchester by adding a new Chapter 54: Storm Water to Title V: Public Works. http://manchesternh.gov/website/Portals/2/Departments/environ_protec/AdoptedOrdinancePDF_2007.pdf.

outreach/education campaign, billing system, suggested payment mechanism, and other items. The study outlined a series of next steps and a timeline for adoption and implementation.

While work on the feasibility study was underway, the New Hampshire legislature passed a bill authorizing Manchester to form a stormwater utility. The legislation required approval by two-thirds of city Aldermen in order for a stormwater user fee to be established. In 2008, New Hampshire passed additional legislation authorizing any municipalities in the state to form a stormwater utility with majority approval of the municipality's governing body. [47]

Stakeholder Engagement and Public Outreach

Manchester conducted no stakeholder engagement or public outreach while developing its stormwater utility concept. Consultants ran a stormwater workshop in 2007. It was only attended by city employees, consultants, and two Aldermen at-large. According to project contacts, the next step was to present the plan to the Board of Aldermen and large commercial property owners in the community; however, this step was not taken due to the circumstances set out below.

Program Adoption

With the feasibility study and technical work complete (e.g., GIA analysis, billing system, etc.) and state enabling legislation in place, the pieces were in place to launch the new utility when a new mayoral election was held. Given the economic climate, the newly elected mayor did not support forming a new utility, and the process to further develop a stormwater utility was never launched. Reference Doc. 6

Stormwater Funding Mechanism

Although not implemented, elements of Manchester's planned stormwater fee included:

- A three-tiered system for residential properties. (The feasibility study estimated that residential property owners would be willing to pay roughly $4.00–$5.00 per household per month if a compelling case were made.)
- $33.60 per ERU per year for commercial properties.
- A credit system.

Funds from Manchester's wastewater enterprise fund would also have contributed to the stormwater utility because the city's wastewater and stormwater systems are partially combined and thus the enterprise fund would contribute to some of the system's operations, maintenance, and improvement.

[47] New Hampshire State Law: Title X, Public Health, Chapter 149-I: Sewers; Assessment for Sewers Section 149-I:10-a: http://www.gencourt.state.nh.us/rsa/html/x/149-i/149-i-10-a.htm.

Program Implementation

Adoption and implementation of a stormwater utility is on hold until a more favorable political climate in Manchester develops.

Legal Challenges

There were no legal challenges to the proposed stormwater utility.

Reference Documents

1. City of Manchester – Stormwater website. http://manchesternh.gov/website/Departments/EnvironmentalProtection/Stormwater/tabid/267/Default.aspx. Accessed 8/13/2012.
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4. Robert M Roseen, Director, the UNH Stormwater Center Environmental Research Group, Department of Civil Engineering, University of New Hampshire. Interview: June 7, 2012.
5. City of Manchester Stormwater Ordinance. http://manchesternh.gov/website/Portals/2/Departments/environ_protec/AdoptedOrdinancePDF_2007.pdf. Accessed 8/10/2012.
6. New Hampshire Department of Environmental Services Meeting Minutes: New Hampshire Stormwater "Funding" Feasibility Study Grant Participant Meeting. March 14, 2011.

Berkeley County, South Carolina

Size of Community (unincorporated area): 105,267 population, 1,165 square miles

Key Milestones and Dates

Milestone	Date
Berkeley County adopted a Stormwater Management Ordinance to develop and enforce stormwater management program	2007
SCDHEC (South Carolina Department of Health and Environment Control) authorized Berkeley County to discharge stormwater under its NPDES Phase II MS4 General Permit	2008
New Draft State MS4 General Permit placed on public notice	March 2011
Three readings of the proposed Stormwater Management Utility Ordinance presented to the County Council by the Committee on Public Works and Purchasing	July-Sept. 2011
County Council rejected the proposed ordinance on third reading.	Sept. 2011

Key Drivers for Stormwater Management

Berkeley County was the only coastal county in South Carolina without a stormwater utility. The main driver for new stormwater management revenues was an anticipated and more stringent revision to South Carolina's NPDES Phase II MS4 General Permit (MS4 permit) that would increase requirements for stormwater management. At the time that the stormwater utility was being considered, Berkeley County was operating under the state's MS4 permit (approved by the state in 2008). The permit required the county to implement and enforce a Stormwater Management Program (SWMP). Anticipated permit revisions were expected to significantly increase stormwater management costs.

Stormwater Funding Mechanism Development

Berkeley County sought a new source of revenue to comply with its anticipated MS4 revisions. The proposed fees would only apply to the unincorporated parts of Berkeley County. The county's Engineering Department, working with a consultant, developed the utility concept and its initial design. The county conducted no public outreach activities or stakeholder engagement efforts during program development.

The county didn't have sufficient data to calculate the impervious surface areas of residential and non-residential properties. Therefore, the Engineering Department proposed a flat fee based on land use.[48] The Department saw this fee structure as an "interim step" that would allow the county to raise sufficient funds, including funds to calculate the impervious surface areas of residential and non-residential properties later. The county could then develop a variable fee structure based more closely

[48] Fees would be assessed based on whether the property was single family residential, multifamily residential, a mobile home, non-residential, developed tax-exempt property, or non-profit property.

on actual site conditions. (The county estimated that a detailed study to determine the total area of impervious surface would cost $400,000 to $500,000). In describing the interim fee strategy to the County Council, the County Engineer stated that "We are trying to do the best we can as fast as we can with the information we have." (The time pressure was largely driven by anticipation of the state's revised MS4 permit).

In Berkeley County, proposed ordinances must be read at three meetings of the committee with jurisdiction (in this case, the Committee on Public Works and Purchasing). After the third reading, the Council votes on the measure. To prepare the Council for consideration of the proposal, the county Engineering Department held a budget workshop in which the County Engineer and a consultant described the stormwater utility concept and the revenue needed to manage a program that would achieve regulatory compliance. The consultant for the county subsequently made a presentation to the Council at its Committee Meeting in June 2011 to again describe the proposed utility. The consultant stated that the Council had only two choices (other than non-compliance with the anticipated permit): funding stormwater management through property tax revenues in the general fund or creating a stormwater utility.

During the three readings at meetings of the Committee on Public Works between July and September 2011, City Council members and stakeholders attending the meetings began to voice concerns. A small but active citizens group appeared at these meetings to oppose a stormwater fee. Council members also voiced their increasing concerns about the utility concept. Issues raised included:

"The economy is in disrepair; at the same time you want to place another financial burden on folks who least can afford it, and on top of that, the folks who least contribute to it."

—Testimony at Berkeley County Council Meeting

- Citizens didn't know the utility was coming and didn't understand it.
- This was a new tax not a fee.
- It wasn't fair that businesses with large areas of impervious surface would only pay a bit more than a rural home on farmland.
- The flat fee wasn't fair because it didn't take into account differences in impervious surface areas among properties.
- The county didn't need more money; it was already complying with its existing stormwater permit.
- This was an unfunded federal mandate.
- This could turn into a "cash cow" allowing the county to fund other, unrelated projects.

After the third reading, the proposed ordinance went to the Regular Council Meeting for a vote on September 26, 2011. Concerns similar to those voiced in previous Council and Committee meetings were expressed. The Council voted against the ordinance—even though county staff proposed reducing the stormwater fees by two-thirds.

According to the project contact, new permit requirements will most likely be funded through a tax increase.

Stakeholder Engagement and Public Outreach

The county engaged no stakeholders and performed no public outreach during program development. Once the fee was proposed to the County Council and citizens became aware of it, Council and Committee meetings became the main forum for hearing citizen and Councilmember concerns. The county also held some ad hoc open meetings to which members of the public were invited; during these meetings, county staff attempted to explain the need for, and value of, the stormwater utility.

Program Adoption

Although the county's Engineering Department was being proactive about stormwater funding in light of upcoming regulatory requirements, the County Council hadn't asked the Department to prepare a stormwater funding proposal. The Engineering Department found itself having to "sell" the utility concept to the Council. In the Committee meetings to present the concept, Council members were asking fundamental questions about the need for the utility and its design. In addition, an economic downturn made it difficult to propose new fees.

"At the next meeting of council, I'm going to have a resolution or something for [the South Carolina Department of Health and Environmental Control], and I think it needs to reflect those who voted against doing it, because we now are going to probably face an enforcement action."

—County Supervisor to City Council following rejection of the proposal

In retrospect, the project contact suggested that more stakeholder engagement would have been helpful. A stakeholder committee, she said, could have been a forum for educating citizens and Council members about the need for stormwater management and sources of revenue to pay for it. Although she cautioned that the small group of organized citizens opposing the fees would probably not have been swayed by a public process, a stakeholder engagement process may have provided a means for the county Engineering Department and the County Council to hear from a broader range of supporters and opponents and help build consensus around a solution.

Stormwater Funding Mechanism

The county proposed an "interim flat fee" for single family residential properties ($3/month), multifamily residential properties ($1.50/month), non-residential (commercial or industrial) properties ($9/month), and non-profit/tax-exempt properties ($6/month). Fees would have been added to the property tax bill. The ordinance authorized development of a credit policy.

Program Implementation

The program was not implemented.

Legal Challenges

There were no legal challenges to the proposed stormwater utility.

Reference Documents

1. Berkeley County stormwater website. http://www.berkeleycountysc.gov/dept/engineering/stormwater.asp. Accessed 8/17/2012.
2. Berkeley County Draft Stormwater Management Ordinance. http://www.berkeleycountysc.gov/forms/engineering/BC%20Utility%20Ordinance.pdf. Accessed 8/17/12.
3. Berkeley County Council Meeting Minutes (June 2011-September 2011). http://www.berkeleycountysc.gov/aandm/?dept=. Accessed 8/17/12.
4. Berkeley County Stormwater User Fee Presentation (July 20, 2011). http://www.berkeleycountysc.gov/forms/engineering/BCStormwaterUtilityPresentation.pdf. Accessed 8/17/12.
5. "Berkeley sinks stormwater fee", (Posted September 27, 2011; updated March 18, 2012). *The Post & Courier* (Charleston). Accessed 10/29/12.

Huntsville, Alabama

Size of Community: Population 180,000 / 120 square miles

Key Milestones and Dates

Milestone	Date
City Council established Flood Mitigation Planning Committee to develop a Flood Mitigation Plan	August 2000
Flood Mitigation Plan issued (contained a recommendation to form a stormwater utility)	June 2001
City Council unanimously adopted Flood Mitigation Plan	September 2001
Citizen opposition to a stormwater utility emerged, and there was legal uncertainty due to a lack of state enabling legislation. City Council deferred approval of a stormwater utility. City officials began work with state legislative representatives to pass state enabling legislation.	2002–2003
Major flooding in Huntsville region led the City Council to pass a resolution in support of state authorizing legislation for a stormwater utility	May 2003
Action on state authorizing legislation is pending. No stormwater utility has been developed in Huntsville.	2003–present

Key Drivers for Stormwater Management

Damaging floods in 1988, 1990, and 1999 motivated Huntsville to explore stormwater management improvements. Regulatory issues were not a primary driver for stormwater funding.

Stormwater Funding Mechanism Development

The City Council created a Flood Mitigation Planning Committee in August 2000. Its charge was to study flooding problems and develop a mitigation plan. The Committee worked with the Huntsville Engineering Department (the agency responsible for flood control) for ten months to develop a plan. At the conclusion of the process, Committee members unanimously recommended a stormwater utility as their preferred strategy to raise flood mitigation funds.

The City Council unanimously adopted the Flood Mitigation Plan in September 2001.[49] A stormwater utility proposal was not explicitly presented for a vote, but the Flood Mitigation Plan recommended creation of a utility. The plan noted that "there are many policy and financial issues that need to be reviewed and settled before a utility recommendation can be submitted to the Mayor and City Council."

The Mayor supported a stormwater utility, but wanted the *Huntsville Times* to endorse it before pursuing it further. The Times published a supportive editorial describing the cost of the utility as akin to a glass of wine per month. However, the editorial brought the utility concept to the attention of a small,

[49] Minutes from May 23, 2003 Huntsville City Council meeting (testimony of Ed Starnes).

active citizens group that opposed new taxes. The group deluged City Council members and the Mayor's office with negative messages concerning the proposed fee. Public meetings about the utility were contentious. In the midst of these public debates, the City Attorney declared that the city did not have the legal authority to create a stormwater utility and needed the state legislature to authorize it to do so. The City Council deferred the decision on establishing a stormwater utility.

The Mayor began work on getting enabling state legislation passed by holding discussions with state legislators.[50] The state legislative representatives said they wanted a City Council resolution requesting them to introduce the needed legislation. Given adverse public reaction, several City Council members didn't support such a resolution. The case contact said that, at that time, the Council would likely have passed the resolution by a 3–2 vote. This result would have been sufficient to adopt the resolution. However, the contact believed that it would not have been compelling enough for the state legislative delegation to take action.

As the discussions with the state legislature were going on, the Flood Mitigation Committee encouraged the city to begin a public education program to "explain the needs and benefits" of a stormwater utility. The Committee noted that many of the activities described in the Flood Mitigation Plan had now missed deadlines and were not on schedule because of a lack of a revenue source.

In May 2003, a large flood affected every district in Huntsville and catalyzed the community's attention to the need for flood control. This motivated the City Council to reconsider passing a resolution requesting state enabling legislation. Such a resolution passed unanimously in May 2003.[51]

However, there was no action at the state level, in part because one local state legislator opposed the utility concept. Local political support eroded when a Council member that supported the stormwater utility left the Council and was replaced by one who did not support it. There has been no concrete action on a stormwater utility in Huntsville since that time. (Huntsville's annual Flood Mitigation Evaluation Reports for 2004–2009 label the issue as "awaiting enabling legislation.")

Stakeholder Engagement and Public Outreach

The Flood Mitigation Committee, which originally proposed the concept of a stormwater utility, was comprised of nineteen members, twelve of whom represented Huntsville residents or other stakeholder groups (the rest were city staff). The Flood Mitigation Committee's annual report described public members of the committee as a "cross-section of Huntsville." Five Committee members were selected by the five City Council members to represent the Council Districts, and seven represented other

[50] Existing state enabling legislation for Birmingham, Alabama's stormwater utility applied only to Class 1 municipalities and Huntsville did not fit into that category. (2002 Flood Mitigation Evaluation Report).

[51] Resolution No. 03-442. Council meeting minutes described the resolution as requesting "the legislative delegation to pass a bill giving the City Council the opportunity to use a stormwater utility fee as a fund-raising mechanism if it chose to do so…this did not require the Council to do anything at all… it would simply give them another tool for raising the money to mitigate flood damage to the entire city." City Council minutes, May 22, 2003.

stakeholder groups. The stakeholder group representatives were invited for balanced representation from the agricultural sector, developers and other impacted groups such as the U.S. Army and the Tennessee Valley Authority. Committee work was supported by a Technical Advisory Committee of flood mitigation planners, floodplain managers, climatologists, engineers and representatives of federal agencies with flood management responsibilities.

The Flood Mitigation Committee held 10 meetings, all of which were open to the public. The flow and content of the meetings was guided by the Federal Emergency Management Agency's 10-step planning process (see call-out box). During the first and last meetings, approximately 60 people attended. The intervening meetings were attended almost entirely by Committee members. For the first meeting, the Committee invited several agencies, including USGS and the Army Corps of Engineers, to participate in a public presentation of the Committee's plan. The final meeting was in City Council Chambers to explain the results of the Committee's work. Prior to this final meeting, an article and editorial on the Committee's work were published in the *Huntsville Times*, and the citizens attending the meeting were mostly present to voice their complaints.

The Federal Emergency Management Agency's 10-step Planning Process

1. Organize to prepare the plan
2. Involve the public
3. Coordinate with other agencies
4. Assess the hazard
5. Assess the problem
6. Set goals
7. Review possible activities
8. Draft an action plan
9. Adopt the plan
10. Implement, evaluate and revise

Program Adoption

As outlined above, several key factors contributed to the City Council not adopting a stormwater utility, including:

- Community opposition in the form of a small vocal group of opponents. A project contact noted that there were people that would have clearly benefitted from flood control efforts funded by the proposed utility, but they did not attend meetings or speak up against vociferous opponents.
- Legal uncertainty. In the midst of public opposition, the City Attorney determined that state legislation was needed. There was also little precedent for a utility—Alabama had only one other stormwater utility at the time.
- Political uncertainty and risk: The election cycles for the City Council and the Mayor meant that the city was in a near-constant election cycle.[52] According to a project contact, the City Council and Mayor do not take on controversial issues within one year of an election, leaving a small window for significant action.

[52] There are two election cycles in Huntsville. During the first cycle, three city council members are up for election. During the second cycle, two city council members and the mayor are up for election.

Stormwater Funding Mechanism

The city never developed a detailed stormwater fee proposal. The Huntsville Stormwater Mitigation Plan noted that a user fee structure would be determined after completion of a feasibility study.[53]

Program Implementation

As noted previously, adoption and implementation of a dedicated funding source for flood management is indefinitely on hold. However, Huntsville continues to implement other goals set forth in the 2001 Flood Mitigation Plan, such as new watershed modeling and flood studies.

Legal Challenges

There were no legal challenges.

Reference Documents

1. Huntsville Flood Mitigation Plan (2001): http://www.huntsvilleal.gov/engineering/Original_Flood_Mitigation_Plan.pdf
2. Flood Mitigation Evaluation Report 2002–2009: 2002 report link: http://www.huntsvilleal.gov/engineering/AnnualReport8-30-02.pdf
3. Huntsville Flood Mitigation Website (with plan, annual report, etc.): http://www.huntsvilleal.gov/engineering/floodmitigation.php#blank
4. Huntsville City Council: http://www.huntsvilleal.gov/citycouncil/ (online minutes go back to 2003)
5. Narrative Discussion of the City of Huntsville Storm Water Management Program. http://www.hsvcity.com/NatRes/swnarrative.pdf. Accessed 8/10/12.

[53] The Huntsville Engineering Department estimated the residential user fees could be in the range of $2 and $5 per month. Huntsville Stormwater FAQ: http://www.huntsvilleal.gov/engineering/FrequentlyAsked.htm.

Dover, New Hampshire

Size of Community: Population 30,000 / 29 square miles

Key Milestones and Dates

Milestone	Date
NPDES Phase II regulations adopted	2003
City of Dover convened Ad Hoc Stormwater Utility Study Committee to assist with stormwater funding feasibility study	August 2010
Stormwater Utility Study Committee meetings	Fall 2010
Stormwater Utility Committee issued report and recommendations	December 2010
Dover City Council voted against adoption of recommendation to create a stormwater utility	February 2011
Final report on feasibility study published	November 2011

Key Drivers for Stormwater Management

Dover's stormwater infrastructure is over 100 years old. (When EPA required separation of stormwater and sewer systems in the 1970s, Dover constructed a new sewer system, and the original sewer system became the stormwater system.) According to the city, prior to the events described below, "the age and condition of the stormwater infrastructure in the urbanized area of the city [demanded] attention following many years of neglect." The city's interest in a sustainable source of stormwater funding was driven by its anticipation of more stringent MS4 permit requirements that would require increased maintenance, rehabilitation and replacement of infrastructure, and might require installation of new controls as well. At the time, three separate municipal departments managed aspects of the stormwater program using general funds:

- The Highway Division, which focused on storm drainage system maintenance.
- The Sewer Department, which focused on emergency catch-basin cleaning, illicit discharge detection and elimination program.
- The Engineering/Utilities Department, which focused on capital projects.

Stormwater Funding Mechanism Development

The City of Dover's Community Services Department recognized the need for increased revenue to fund stormwater management activities. The Department applied for and received a grant from the New Hampshire DES to conduct a stormwater utility feasibility study. The City Council subsequently passed a resolution in March 2010 to create an Ad Hoc Stormwater Utility Study Committee to participate in the study. According to the City Council's resolution, the purpose of the committee was to "participate in

the Stormwater Utility Feasibility Study and report to the City Council upon completion of the study with its findings and recommendations for future funding of stormwater operations and improvements."

The Ad Hoc Stormwater Utility Study Committee was chaired and co-chaired by City Council members. (The Chair was the primary proponent championing a utility on the Council.) The Committee included both government representatives and representatives of stakeholder groups. (The Committee's members are further described below). The Committee met monthly for six months and issued its final report in late 2010. The report unanimously recommended formation of a stormwater utility to the City Council.

The Committee estimated that the typical Dover home would pay around seven to eight dollars per month in stormwater fees. The committee recommended that fees be phased in over a six-year period to ease the impact on fee payers and allow for further public education and outreach. The proposed fee was considerably higher than those proposed by other New Hampshire municipalities, in part because the committee recommended moving all stormwater related costs into a stand-alone utility. One case study contact noted that, in comparison, Nashua's proposed fee was approximately $25 per year, and its proposed stormwater program would create a visible public park along its riverfront incorporating stormwater control in the park space.

After the Committee's report was forwarded to the City Council, a public workshop and two public question and answer sessions were held in January and February 2001. Among other things, the announcement for these meetings described the rationale for the utility and that a utility was an alternative to increases in property taxes. It stated "If a stormwater utility is created, the operation and maintenance of the stormwater system will no longer be derived from the general fund, which will result in fewer tax dollars needed for stormwater activity…The City Council also has the option to forgo the creation of a stormwater utility and raise the additional $300,000 [to pay for new stormwater management activities] from property taxes. "

During the public workshop, question and answer sessions, and later during open meetings of the City Council, a vocal group of stakeholders declared their opposition. The Dover Stormwater Feasibility Study noted that these meetings were "dominated by a small group of citizens strongly opposed to establishing the utility."

"Resident after resident, some waiting in the hall for their turn to speak as every seat in council chambers was filled prior to the meeting's beginning, took the stand to speak against the creation of the utility … [A] former city councilor, set the tone for what most of the public's comments revolved around during the public hearing portion of the meeting. As the EPA has yet to formally mandate the city to take stormwater actions, … [he] said, the utility should not be proposed for the upcoming fiscal year budget"

– Excerpt from local newspaper article: "Dover Council rejects stormwater utility plan"

Those opposing the utility emphasized several themes, including:

- There was not enough public outreach or education, and citizens needed more time to understand the utility proposal.
- No new MS4 permit had been issued. Therefore, assessing a stormwater fee to comply with hypothetical future permit requirements was premature.
- The permit requirements were an unfunded federal mandate.
- The utility fees were a tax in disguise and would harm economic development.
- The existing stormwater program budget is already paid for through the general fund and no further revenues are presently needed.

Some stakeholders opposed the stormwater fee (proposed as a flat fee) because they felt it was not equitable. The city had determined that the cost of analyzing GIS data for each parcel to determine specific areas of impermeable surface would exceed the return in fees assessed. Thus, the committee recommended a flat fee. However, stakeholders pointed out that, for example, a single-family residence with a 100-foot driveway would pay the same rate as a single-family residence with a 25-foot driveway.

After the process was over, some members of the Dover Ad Hoc Stormwater Utility Study Committee provided additional perspectives on why citizens opposed the fee, including:

- People felt the infrastructure problems were not real.
- It was bad political timing with the poor economy and a high level of anti-tax sentiment.
- Influential stakeholders exaggerated the cost of the proposed fee, saying it would cost $3,600/year per house.
- People questioned why they hadn't heard about it before.
- Residents worried that they would not have any control over future rate hikes.

In the face of public opposition, in February 2011 the City Council voted seven to two against creating a utility. The two City Council members who chaired and co-chaired the Ad Hoc Stormwater Utility Advisory Committee voted for it, and the remaining City Council members (and the Mayor) voted against it. Several City Council members stated that they weren't necessarily against a utility, but thought that a vote should be postponed until the public had more time to understand it, particularly since new permit requirements were not yet in place.

The feasibility study noted that, in retrospect, it would have been helpful if supporters had attended Council and other public meetings. Only one public member of the Ad-Hoc Stormwater Utility Study Committee attended the Council meeting at which Council members voted down the utility. He spoke in favor of the utility.

Stakeholder Engagement and Public Outreach

The City Council's resolution creating the Ad Hoc Stormwater Utility Study Committee clearly defined its membership as including two City Councilors (as Chair and Vice Chair of the committee), city officials and the following public members:

- Planning Board representative.
- Dover Utilities Commission representative.
- Commercial real estate developer representative.
- Dover Chamber of Commerce representative.
- Non-profit organization representative.
- Two citizens at large.

Members were nominated by the Mayor and City Council and appointed by a vote of the City Council. According to project contacts, this approach was used to give Council members some assurance that Committee recommendations would reflect the views of their constituent communities. The feasibility report noted that the selection of participants for the committee provided "an opportunity to empower some of the most likely to oppose the utility to be part of the process." The Governing Procedures for Committee participation required "every member [to] check back with their respective organization or constituency and…keep them aware of the ongoing [Committee] process and actions."

Consensus was encouraged but not required for Committee decisions. According to the Committee's Governing Procedures: "Although consensus (when all members are in full or substantial agreement) would be desirable, a majority opinion on key recommendations is adequate. The decision-making goal is to have the majority of members agree on the item at hand, with no member objecting to a decision or an agreement."

"Many good things came out of the feasibility process. A citizen committee representing various stakeholder groups that would be affected by the outcome of the committee's recommendation were able to work cooperatively and despite concerns and misgivings unanimously voted to support the formation of a storm water utility."

–Dover Stormwater Funding Feasibility Study

The flow and highlights of the Committee's five meetings was as follows:

- ***Meeting 1:*** Goals and Objectives
    - Focused on understanding the committee process, stormwater impacts, current approaches, future needs, and program goals and objectives
- ***Meeting 2:*** Program Plan and Compelling Case
    - Focused on the current program, potential funding alternatives, and the advantages and disadvantages of different funding approaches

    - Generated a list of stormwater management priorities and agreed that water quality and flooding are the highest priorities.
- ***Meeting 3:*** Levels of Service, Funding Options, and Rate Structures
    - Agreed that the desired level of service should be the current level of stormwater management plus new actions necessary to comply with the upcoming MS4 permit, ongoing spoils management, a stormwater needs assessment, increased infrastructure reinvestment, and watershed capital improvements, totaling approximately $2 million in costs per year—which would be an increase in funding of $1.1 million per year. ($2 million became the basis for estimating utility fees.)
    - Indicated a preference for establishing a stormwater utility (of the members attending, eight voted in favor of a utility and one member voted in favor of using general funds).
    - Decided to recommend that new costs be paid out of the general fund in the absence of a stormwater utility and that all stormwater costs be "backed out" of the general fund if a stormwater utility was established.
- ***Meeting 4:*** Draft Recommendations
    - Reviewed and discussed draft recommendations, including phase-in of fees, fee structure, and the approach to billing.
- ***Meeting 5:*** Recommendations and Final Report
    - Discussed proposed changes to the report.
    - Discussed recommendations for a Public Outreach Plan, with some members saying that it might be too expensive for a small town like Dover and suggesting more limited public outreach strategies.

One participant observed, the "committee grasped the [stormwater utility] concept right away, could speak intelligently about it, and supported the utility unanimously."

The Committee provided some passive opportunities for public participation and education during the Committee process. Committee meetings were open to the public but no Dover residents attended. The meetings were also broadcast on a public access cable channel.

"In general the public stakeholder process was a very successful approach gaining the buy-in of key people that would be most affected by a stormwater utility. However, the success with gaining this sector's support may have created a bit of a false sense of security that didn't take into consideration the opponents that were not part of the process and would strongly voice their concerns during the public process."

–Excerpt from final report of Dover Stormwater Feasibility Study

Although the consultants managing the process presented a comprehensive public outreach strategy to the committee, members felt that public outreach was a long-term process that fell outside the scope of the Committee's assignment. They decided not to pursue it. One participant said that additional City Council support would have been required for the Ad Hoc Committee to receive a mandate for public

outreach. However, in the City Council meeting during which the stormwater utility proposal was taken up for a vote, the Council simply rejected it rather than tabling the decision and pursuing public outreach.

Stormwater Funding Mechanism

As described in Ad Hoc Stormwater Utility Study Committee recommendations, the proposed stormwater utility would have:

- Generated $2 million in annual revenue.
- Applied a uniform fee for single family residences (approximately $7–8 dollars per month based on average impermeable surface.
- Combined stormwater bills with water and sewer bills as a separate line item.
- Phased in stormwater fees over a six-year period.

The Committee also recommended development of a credit system offering up to a 50% reduction in fees for onsite BMP implementation.

Program Adoption

The primary factors contributing to the City Council not adopting a stormwater utility were the public opposition (as described above) and Council members' concern that more time was needed for the public to understand the proposal, particularly in light of the fact that new MS4 permit requirements were not yet in place.

The final feasibility study report included a section describing lessons learned and how the process could be improved in the future to help support stormwater utility adoption. Taken verbatim from the study, they were:

- Have the Ad Hoc Committee members attend the City Council meetings and public hearings and talk in support of the committee's recommendation.
- Wait until the NPDES permit is finalized before going to the City Council again. With the permit in draft form, the justification for the utility (i.e., increased permit requirements) was not a firm mandate, which provided a reason to postpone the utility.
- Notify and secure attendance from representatives in favor of the utility at meetings, i.e., local environmental organizations, local residents, etc.
- Consider specific barriers and adjust messages and timing (i.e., present difficult economic times, little trust in government, opposition to taxes, no existing federal mandate to make changes).
- Consider including a tiered structure for the residential rate in order to be more equitable and to address the feeling of subsidizing one's neighbor with a large house and driveway.

- Provide more time between the presentation to the Council and the public hearing and use the time to get more buy-in. (However, this may provide an opportunity for the opposition to garner more support).
- Approach and meet with the newspaper ahead of time to get them to participate in the process (however, the newspaper appeared to be against the utility from the start so it may not have helped).

Program Implementation

Prospects for future implementation are uncertain. Committee participants noted that implementation of the Phase II NPDES MS4 permit will force property taxes to increase; some of these tax increases have already been assessed due to increased stormwater maintenance needs. One of the contacts familiar with Dover's stormwater situation noted that further tax increases might make it clear that a stormwater utility would have been less costly to implement. (During the committee process, it was estimated that a residential household would pay approximately 40% more through property taxes than through a utility fee). Another contact, however, predicted that the property tax base would absorb increased utility maintenance costs without public opposition while leaving some stormwater maintenance needs unfunded.

Legal Challenges

There were no legal challenges.

Reference Documents

1. Ad Hoc Stormwater Feasibility Study Committee website: http://www.dover.nh.gov/subcomm_out.htm?id=Ad-Hoc%20Stormwater%20Study%20Committee. Accessed 7/31/2012.
2. "Dover Council Rejects Stormwater Utility Plan," Fosters, February 2011. http://www.fosters.com/apps/pbcs.dll/article?AID=/20110210/GJNEWS_01/702109681&template=DoverRegion. Accessed 7/31/2012.
3. "Dover New Hampshire, Stormwater Utility Feasibility Study: Final Report," November 2011. http://des.nh.gov/organization/divisions/water/stormwater/documents/dover-final-report.pdf. Accessed 7/31/2012.
4. MINUTES: New Hampshire Stormwater "Funding" Feasibility Study Grant Participant Meeting (March 14, 2011).
5. Records of public meetings: https://online.ci.dover.nh.us/energie/doverSearch2.php?cab=Public_Meetings&index=subcommittee&autosearch=Ad-Hoc%20Stormwater%20Study%20Committee. Accessed 7/31/2012.

Lewiston, Maine

Size of Community: Population 41,500 / 35 square miles

Key Milestones and Dates

Milestone	Date
15-year agreement among Lewiston, the State of Maine, and EPA on CSO discharges.	2000
Initial City Council briefings on CSOs and stormwater utility	2001–2002
Stormwater utility discussed during budget deliberation process	March–June 2006
City Council approved amendments to Utility Ordinance to include stormwater utility	September 2006
City Council gave final approval to stormwater amendments to Utility Ordinance	October 2006
Citizen's Petition to require the "Rain Tax" be delayed and sent to the voters for approval	October 2006
Citizen's Petition failed to get support	January 2007
First utility bills sent out	January 2007
Maine Supreme Court ruled that Lewiston fee is not a tax	2012

Key Drivers for Stormwater Management

The principal driver for developing a funding source for stormwater was Lewiston's need for $40 million to upgrade and operate its combined sewer overflow (CSO) system. These efforts were driven by a 15-year agreement among Lewiston, the state of Maine, and U.S. EPA (signed in 2000) on how to address Lewiston's CSO discharges to the Androscoggin River.[54]

Stormwater Funding Mechanism Development

With the CSO agreement in place in 2000 and the need for $40 million in upgrades, Lewiston's DPW (the agency responsible for stormwater) brought a stormwater utility proposal to the City Council in 2001. (Lewiston does not use a Town Meeting process.) The Council was not interested enough to pursue it. At the time, the city split stormwater costs equally between property taxes and a sewer utility fund.

Around 2003–2004 a state-wide "tax revolt" increased pressure on the tax system in Lewiston, and the City Council became interested in paying for stormwater through revenues other than taxes. The Director of Public Works and the City Administrator suggested that a stormwater utility would provide tax relief for city residents and create more equity in the tax system by capturing tax exempt properties. According to the Director of Public Works, the Council's attitude toward a stormwater utility went from "we don't want to do this" to "we really need to do this now."

[54] City of Lewiston Stormwater Utility Brochure: http://www.ci.lewiston.me.us/DocumentCenter/Home/View/89.

At the time, residential properties paid approximately 53% of the tax burden for stormwater despite having less than 40% of total impervious surfaces. It was estimated that a typical single-family home appraised at $80,000 paid $102 per year in property taxes to support stormwater services but would pay only $30 per year under a utility. The stormwater fee would also include currently untaxed entities, specifically non-profits such as churches and universities, which accounted for 12% of all impervious surfaces.

The City Council sought a fast timeline for stormwater utility development (around six months). Lewiston hired a consulting firm to assist with GIS analysis of impervious surfaces and to connect their GIS analysis with the municipal billing system. The Director of Public Works drafted the city's stormwater ordinance based on a model ordinance developed for Maine communities.[55]

During the spring of 2006, the City Council conducted a series of budget and public hearings on the stormwater utility proposal. During the September 2006 City Council meeting, some local stakeholders expressed concern that the requirements outlined under the proposed credit system were too stringent. Another citizen noted that the stormwater fee was just an alternative means of taxing the people and the combination of taxes and fees would make the city too expensive to live in. In October 2006, two Lewiston citizens filed a petition to force a public referendum on a stormwater utility. The petition required at least 1,000 signatures, but not enough signatures were obtained.

The City Council approved the utility in the fall of 2006. The first utility bills were sent out in January 2007. The City estimated that the utility fee avoided the need for a $1.9 million tax increase.

Stakeholder Engagement and Public Outreach

The Director of Public Works said the rapid program development timeline of six months didn't allow time for public outreach. (In retrospect, he said that an 18–24 month timeline would have been much more desirable and would have allowed for greater outreach.)

Open City Council meetings provided a means for public participation as the stormwater utility proposal was being considered. In addition, the City Administrator reached out to specific businesses that would pay higher fees under the new system in order for the businesses to know and understand how the fee structure was proposed, and also to solicit feedback and any alternatives they might suggest. According to the case contact, these businesses did not provide any feedback on program design. Although most did not like the idea of the stormwater fee, they did not become involved in the Council's decision-making process and took a "wait and see" attitude.

[55] *A Model Stormwater Utility for the State of Maine*, See: www.maine.gov/doc/nrimc/mcp/downloads/nonpoint/modelstormwaterutility_jun05.pdf.

Program Adoption

In September 2006, the City Council preliminarily approved the proposed amendments to the city's utility ordinance to include a stormwater utility by a five to one roll call vote. In October 2006, the City Council passed final approval of the Utility Ordinance by a five to two roll call vote.

Stormwater Funding Mechanism

Under the stormwater utility, each parcel in the City was charged a base rate of $50 (2012 figures) for the first 2,900 square feet of impervious surface. Duplex residential properties were charged a flat rate of $74 per year. Mixed-use residential properties were charged a 60/40 blend (i.e., 40% of the total impervious surface was charged as a primary residence and assessed the residential fee; 60% of the total impervious surface was assessed as business property). All other properties were charged a $50 flat rate for the first 2,900 square feet of impervious surface, and $0.054 for each additional square foot of impervious surface.

Lewiston's credit policy provided varying levels of fee reductions based on several factors. These included the volume of stormwater runoff reaching the stormwater collection system and the presence of on-site collection discharge systems.

A stormwater utility bill, separate from the sewer and water bill, was sent to property owners.

Program Implementation

After the ordinance was adopted, the Director of Public Works met with individual property owners over the next year to explain the new fee and how their impervious surface areas affected the entire wastewater and stormwater sewer systems. The first stormwater utility bills were sent out in January 2007. As of 2011, 97% of stormwater utility accounts are paid on time.

The Director of Public Works said the City Council "took ownership" of the stormwater utility as it was implemented. Lewiston took property owners who had not paid their user fees to small claims court and pursued larger property owners through the legal system (see next section).

Legal Challenges

In 2011, Lewiston filed suit against the owner of a small strip mall to the Maine Superior Court seeking payment of overdue stormwater utility fees. The Court issued a decision in favor of the city. In its opinion, the Court backed the city's 2006 ordinance and fee structure, rejecting the property owner's claims that the city had no legal right to impose or collect fees and that these fees constituted a tax. Specifically, the Superior Court confirmed the legitimate purpose of the stormwater utility as funding expenses necessary to provide stormwater management services to comply with federal and state water quality requirements. (Unlike other New England states, Maine did not pass legislation specifically

authorizing stormwater utilities. Instead, state courts ruled that utilities were authorized under existing state law. The Court also upheld the city's use of impervious surface area as the basis for determining the fee applied to a property. As a result, the Court issued a judgment in favor of the city for unpaid fees, interest, penalties, and a portion of the city's attorney fees. The property owner appealed the decision to the Maine Supreme Judicial Court, which, in 2012, affirmed the lower court's decision.

After the program was implemented, the University of Southern Maine paid its first two bills but then took the position that the fee was a tax and stopped paying. After the Maine Supreme Court decision, the University agreed to pay its fees.

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Newton, Massachusetts

Size of Community: 85,000 / 18.1 square miles

Key Milestones and Dates

Milestone	Date
NPDES Phase II requirements issued	March 2003
Newton received EPA administrative consent order to identify and eliminate suspected illicit discharges impairing local water quality	2004
DPW proposed stormwater utility	February 2006
Stormwater utility adopted by Board of Aldermen by 18 to 4 vote	May 2006
Stormwater utility fee went into effect for fiscal year 2007	July 2006

Key Drivers for Stormwater Management

The City of Newton had an extensive stormwater drainage system that suffered from poor maintenance and failing infrastructure. The city experienced problems with poor water quality and flooding. Newton was also subject to a 2004 administrative consent order issued by EPA to address illicit connections of raw sewage to the stormwater drain system. The annual budget for stormwater projects and operations was insufficient to meet these challenges, and there was no dedicated stormwater staff.

Stormwater Funding Mechanism Development

Faced with significant stormwater challenges and the need to fund system upgrades (including complying with the 2004 consent order), the city's DPW identified a stormwater utility as the best funding solution. (To fund the program through increased general revenues would have required a politically untenable property tax over-ride).

DPW led program development. There was no public outreach or stakeholder engagement during program development. DPW prepared a minimum needs assessment for a proposed stormwater program and calculated the minimum budget necessary to carry it out. (Program funding at the time was around half of what DPW estimated was needed for even a minimal program).

Initially, DPW proposed collecting all needed stormwater revenue through utility fees, but the administration felt that it was important to keep fees low to increase the chances of getting the utility enacted. The low fees were characterized as "seed money" to get a stormwater utility program in place.

In the winter and spring of 2006 the DPW made presentations to the Board of Aldermen and Public Utilities Commission describing the city's current stormwater functions, local stormwater and drainage issues, regulatory requirements, and the utility concept.

Over the course of two meetings in May 2006, the Board of Aldermen voted to adopt the stormwater utility. DPW developed the program in only five months following its initial proposal in early 2006.

Stakeholder Engagement and Public Outreach

Newton conducted limited public outreach and education on its utility proposal. This included an insert in property owners' water bills explaining the new utility and that more information was available on the city's website. At the time, there was also a story on local cable TV produced by a college student, a media alert by a local non-profit, and a few newspaper articles (the cable news story and media alert are further described below).

Program Adoption

According to the city's stormwater staff, the Board of Aldermen required some convincing that a stormwater utility was the best path forward due to sensitivities about new fees. The city had just received national attention for spending $197 million to replace the Newton North High School. Cost over-runs associated with the school sensitized the Board of Aldermen to new expenditures, it also distracted the local Newton taxpayer association and deflected attention from the stormwater utility effort. Moreover, the alternatives to raising revenue through a stormwater utility were unattractive: If a utility wasn't established, the Board of Aldermen could either propose a property tax over-ride to pay for its stormwater program or risk facing fines for noncompliance with its administrative consent order.

During the adoption process, the Charles River Watershed Association issued a media alert emphasizing the need for a stormwater utility and encouraging citizens to call their Alderman. A Boston College student developed a video about stormwater issues in Newton, which was aired on a local cable station and highlighted the issue for residents. DPW staff credit both of these events with influencing the decision by the Aldermen to adopt the utility.

Stormwater Funding Mechanism

DPW staff analyzed a representative sample of residential and non-residential homes and determined that the range of impervious area varied little within residential property types. They thus decided to charge flat rates. Residential properties were charged a fee of $25 per year and commercial properties were charged a fee of $150 per year.

Newton adopted a credit program to encourage the use of Best Management Practices, but only a small percentage of property owners have applied for credits because stormwater fees were relatively low compared to the cost of practices that would qualify properties for the credit. Elderly residents are eligible for a fee discount.

The stormwater fee is billed quarterly in water bills, and everyone with a water meter is charged.

Program Implementation

DPW staff said that the stormwater utility fee was so small that many people barely noticed it on their water bills. The main complaints during early billing were from small commercial businesses that felt that it was not equitable to be charged the same amount as larger businesses.

The city's antiquated water billing system had to be updated to accommodate the new stormwater fee, which caused a two-month delay in the first billing.

The city intentionally chose to institute rates lower than needed to meet estimated stormwater costs. This was done to facilitate adoption of the utility. However, the revenue generated by the stormwater fee has been inadequate to meet Newton's ongoing stormwater management needs. Since the adoption of the stormwater utility, DPW salaries and maintenance costs have increased, leaving little funding for capital projects.

Major flooding in March 2010 strained available resources and staff; the flooding also spurred DPW to analyze its stormwater infrastructure further. The DPW's analysis revealed new maintenance needs for drainage and sanitary sewer systems. In addition, upcoming MS4 permits are expected to require additional revenue to comply with their more stringent stormwater control requirements.

The current fee structure also contains inequities. For example, residential properties comprise 65% of the city's impervious square footage but they pay 74% of all stormwater fees.

Newton DPW has been working with a consultant to revise the fee structure and move toward fees based on each property's square footage of impervious surface; the city now has data that allows it to make this calculation. Under a draft ordinance, single family homes would retain the flat $25 per year fee, but two-family residences would see a 50% increase. Three-family and larger homes (e.g., condominiums, apartments, etc.) and all commercial, institutional, and manufacturing properties would be charged $25 per 2,600 square feet of impervious surface. Under the new system, some property owners would see increased fees, others would be charged less. For example, one apartment complex currently paying $25 per year would have its fee increase to $1,653 per year. DPW has presented the new proposed fee schedule to the Public Facilities Committee of the Board of Alderman and is now developing an outreach and education plan to target property owners who will see the largest fee increases. The outreach plan will include a brochure, information on the city's website, a press release, and work with community groups. There will also likely be public meetings with invitations sent to commercial, industrial and institutional landowners.

Legal Challenges

There have been no legal challenges. According to DPW staff, consultation with city and state lawyers during program development prevented any legal difficulties in implementing the stormwater utility.

Reference Documents

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4. City of Newton Stormwater Fee Announcement. http://www.ci.newton.ma.us/civica/filebank/blobdload.asp?BlobID=27372 Accessed 8/10/12.
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Warren County, Kentucky

Size of Community: Warren County Population 55,792 / 512 square miles.

Key Milestones and Dates

Milestone	Date
Stormwater Advisory Committee meets	2002
Stormwater management ordinance (the Erosion Prevention and Sediment Control ordinance) signed by Warren County Judge Executive	March 2006
Fee Setting and Agency Creation Ordinances signed by Warren County Judge Executive	May 2007

Key Drivers for Stormwater Management

Anticipated MS4 permit requirements were the key drivers for an improved stormwater management program and sustainable funding source in Warren County.

Stormwater Financing Mechanism Development

In 2002, Warren County, the City of Plum Springs, and the City of Bowling Green explored developing a joint strategy for stormwater management and a utility. As part of this effort, the governments formed a Stormwater Advisory Committee (SWAC) made up of stakeholder representatives to examine permit requirements and the costs associated with addressing them. These costs included maintenance and repair of existing infrastructure, water quality monitoring, and code enforcement. Bowling Green decided, late in the process, to pursue its own stormwater program.

After the departure of Bowling Green, the Warren County Judge-Executive—the highest public official in the county—sought to address the requirements of a stormwater program with the remaining partner, Plum Springs.[56]

Over the next four years, Warren County and Plum Springs developed a joint stormwater management program. Most of the work was conducted by the Warren County Stormwater Management Division. There was no public outreach or stakeholder engagement in program design. (According to the project contact, when Bowling Green split from Warren County and Plum Springs, the earlier work of the SWAC became largely irrelevant.)

The Judge-Executive signed the Warren County stormwater ordinance in March 2006, authorizing an improved stormwater program. Warren County and Plum Springs identified the need for a stormwater fee to raise required revenue to pay for it. In May 2007, the Judge-Executive approved a stormwater fee and the creation of an agency to administer it: the joint Plum Springs-Warren County Stormwater Sewer

[56] In Kentucky, counties may partner with a 6th class city, such as Plum Springs, to establish a stormwater utility.

Agency. The utility was unanimously approved as a joint and local agency by a decision of Warren County's six-member Board of Magistrates (of which the Judge-Executive is chairperson), the Mayor of Plum Springs, and the Plum Springs City Council.

Stakeholder Engagement and Public Outreach

The development of the stormwater utility was largely conducted by agency staff without input from stakeholders or the public. There was some limited public outreach at the time the stormwater utility was being put in place, but it was a low-profile effort. Notices of the stormwater ordinances were placed in the local paper. All customers received a postcard and fact sheet the same month that the first stormwater bills were sent out. One editorial about the stormwater utility appeared in the local newspaper but it was not the result of outreach to the editorial board.

Program Adoption

According to the Plum Springs-Warren County Joint Stormwater Sewer Agency Manager, a key factor in program adoption was the leadership of the county's Judge-Executive. He acted as a "champion" for the program because he understood the legal mandate to meet MS4 permit requirements. Timing was also extremely important. The utility was created during a budget "crunch" and provided a new means to collect revenue other than through property tax increases.

Stormwater Funding Mechanism

The Plum Springs-Warren County stormwater fee is based on the number of water meters per property rather than on a calculation of impervious square footage. Warren County opted for the water meter solution because the initial cost to the Agency to develop a system based on impervious surfaces was deemed too expensive. The stormwater utility fee for commercial customers is currently $10 per month. Residential properties pay $4 per month.

Commercial property owners can apply to reduce their fee to $4 per month based on site conditions that reduce stormwater runoff. (In some cases, the county proactively identified properties eligible for this lower rate, reduced their fee from $10 to $4, and refunded back payments.)

Stormwater bills are attached to monthly water bills.

Program Implementation

There were a few technical "glitches" when the first bills went out but relatively few complaints. Fees were so small that many people didn't notice them. Everyone got a postcard with a fact sheet about the fee the first month that a stormwater user fee was billed.

A small number of customers have refused to pay the fee, and the county has decided that it is not worth the expense to take legal action.

Legal Challenges

There were no legal challenges.

Reference Documents

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Appendix C: Project Contacts

- Danny Bowden, Stormwater Manager, City of Raleigh, North Carolina
- C. Warren Campbell, Western Kentucky University
- Joseph Delaney, former Town Engineer, City of Reading, Massachusetts
- Thomas DiPietro, Stormwater Superintendent, South Burlington Stormwater Utility
- Francine Durso, North Carolina Department of Environment and Natural Resources
- Bethany Eisenberg, Director of Stormwater Services, Vanasse Hangen Brustlin (VHB), Inc.
- Ann Gosline, Gosline and Reitman Dispute Resolution Services
- Juli Beth Hinds, Principal, Birchline Planning LLC
- Bill Holman, Director, State Policy Program, Duke University Nicholas Institute for Environmental Policy Solutions
- David Jones, Director of Public Works, City of Lewiston, Maine
- S. Wayne Miles, Consultant, CDM Smith
- Daniel F. Nason, former city employee, Ayer, Massachusetts
- Jan Nedelka, former City Councilor, City of Dover, New Hampshire
- Rich Niles, AMEC
- Dean Peschel, former Environmental Project Manager, City of Dover, New Hampshire
- Tamara Lee Pinard, Executive Director, Cumberland Soil and Water Conservation District
- J. David Rankin, Great Lakes Protection Fund
- Robert Robinson, City of Manchester, New Hampshire
- Maria Rose, Environmental Engineer, City of Newton, Massachusetts
- Robert M. Roseen, Director, UNH Stormwater Center Environmental Research Group, Department of Civil Engineering, University of New Hampshire
- Sonia Shahnaj, Engineering Department, Berkeley County, South Carolina
- Wendy Warren, former Environmental Manager, City of Bangor, Maine
- Paul Wiebke, Assistant Stormwater Engineer, Engineering and Stormwater Division, Public Works Department, Durham, North Carolina
- Jack Wright, Stormwater Management, Warren County, Kentucky

Appendix D: New England Regional Stormwater Program Funding Symposium

Overview

On October 18, 2012, US EPA sponsored a New England Regional Stormwater Program Funding Symposium in Greenland, New Hampshire. The workshop was attended by stormwater professionals from the public and private sectors, staff from MS4 communities working on stormwater issues, and officials from EPA Region 1 and EPA Headquarters. Among other things, participants heard the initial findings of this report and provided their observations about the role of stakeholder engagement in utility adoption and implementation and unique factors for stormwater utilities in New England. A selection of their observations is set out below:

Key Themes and Discussion Points

Public Outreach & Education

Symposium participants discussed a variety of practices that municipalities should consider for effective public outreach and education, as well as pitfalls to avoid. The discussion ranged from specific suggestions to lay the groundwork for public acceptance of a stormwater utility to general observations on the role of public outreach and education.

Some participants said it is important to highlight stormwater-related public works projects. Visible stormwater control projects generate public support. This includes high visibility projects such as street sweeping, rain gardens, drain cleaning, and capital construction projects. Participants noted that messaging is critical and municipalities should emphasize that stormwater control is not a new responsibility. At the same time, stormwater managers should avoid using technical/engineering jargon when communicating with the public, whenever possible.

Targeted outreach should occur, participants said, but different stakeholders may require different approaches that address their particular interests and concerns. For example, tax-exempt organizations and/or non-profit organizations may need specific outreach; likewise for large commercial property owners and farmers.

Other suggestions for municipalities seeking to build public support for a stormwater utility included:

- Taking advantage of existing rivalries between municipalities (i.e., “The neighboring town is cleaning up its creeks. Why aren’t we doing the same?”).

- Training stakeholders to talk to other stakeholders, thereby expanding public outreach.
- Understanding that natural disasters are focusing events that could move public opinion on stormwater infrastructure.

In general, public education on stormwater should illuminate the connection between stormwater and water quality, participants said. For example, connecting recreation opportunities dependent on water quality (such as fishing and swimming) to the need for stormwater control helps people understand the value of stormwater management. As some participants noted, the general public is aware what the "right thing to do" involves, and the role of public education and outreach is to remind them. Similarly, some businesses want to do the right thing; they want to clean up the water because they understand it is important for local economic development. On a similar note, participants suggested that municipalities provide information on low impact development (LID) to engineers and developers as a means of building awareness about using LID technologies in addition to traditional stormwater control engineering applications among this group of professionals.

Participants noted that keeping local control of water resources is a powerful message in support of municipal stormwater control. If a municipality becomes subject to federal residual designation authority (RDA), for example, their only legal recourse is Federal Appeals Court. In other words, if the opportunity for local control is lost, it is extremely difficult to regain.

Participants also noted that any public outreach campaign should make use of all available media, including public service announcements, social media, and video clips. Messaging from neutral organizations such as soil conservation districts has also proven to be an effective strategy.

Best Practices for Developing a Stormwater Program with Dedicated Funding

Symposium participants emphasized that stakeholder selection should be a rigorous process to produce the appropriate mix of participants. Once selected, the municipality should avoid advocating a specific solution and instead provide stakeholders with an array of options from which to choose. These options should include specific rate forecasts for the various options, as stakeholders (and the public) are less inclined to support a proposal if it lacks detailed cost estimates. During public discussions, which could occur during or after the stakeholder engagement process, municipalities should make sure that stakeholders and other program supporters participate. Symposium participants noted that even if the public process does not result in a funding mechanism, it raises awareness of the issue among key stakeholders (including elected officials) and may help make such efforts successful in the future. Participants also advised utility proponents to get local officials' buy-in to the stormwater program concept immediately following election (i.e., when the officials are least vulnerable).

Certain administrative and legislative strategies can ease the burden of stormwater requirements. For example, the Massachusetts legislature passed a fertilizer phosphorus ban, which saved upper Charles River watershed communities about $6 million per year in compliance costs. Municipalities can also

think about how to change zoning ordinances to help businesses comply with stormwater requirements. This could include changing required parking ratios for new development/redevelopment. Participants noted one specific cost reduction strategy: pool resources for GIS flyovers with adjacent municipalities or all municipalities in a watershed.

Barriers to Establishing Stormwater Utilities in New England

Participants discussed several unique New England characteristics that may discourage establishment of stormwater utilities. One characteristic mentioned was home rule and small political units. Regional parochial character was also mentioned as a negative factor; one participant cited a case of two New England towns that could not even agree on an arrangement to share a librarian. A final factor mentioned was the lack of similar local experience with fee-based stormwater programs.

Other barriers not necessarily unique to the New England region include prevailing negative economic conditions, which are not conducive to enactment of a new fee, regardless of how well it is presented; and a lack of resources both to properly estimate programmatic needs and to effectively illustrate the cost differences between a tax and a dedicated fee. Another barrier is negativity toward spending local money for what is perceived to be a federal mandate. Finally, for municipalities with largely residential customer bases, the cost-savings to residents of paying for stormwater services through a fee rather than through property taxes is less than in communities with a broader mix of residential, commercial, and tax-exempt properties. For these mixed-use communities, stormwater fees tend to shift the cost burden more to commercial and tax-exempt properties (which often have larger areas of impermeable surface) when compared to paying for these services through property taxes. Because of this dynamic, it can be more difficult to gain public support for stormwater fees in communities that are primarily residential.

Opportunities for State, Federal, or Other Assistance

Given the various factors under consideration during the symposium, participants offered several suggestions related to the role of state and federal government in encouraging the development and adoption of stable financing for stormwater control programs. On the national level, participants noted that because “stormwater is the same everywhere” U.S. EPA could begin by implementing a national campaign to promote public awareness of the importance of stormwater control.

State and federal funding for technical assistance to municipalities is another area of exploration. Participants suggested development of a circuit-rider type program for the New England region where technical experts would travel to municipalities to provide assistance on stormwater program development. State or federal government could also develop a searchable database of stormwater utility case studies; municipalities could use the database to find cases similar to their own for guidance as they develop a stormwater funding mechanism.

The Natural Resource Conservation Service can offer limited funding (mainly through the EQUIP program) to help with agricultural issues related to stormwater, but such funding mostly goes to larger farms.

One participant suggested that a vehicle excise tax would be an equitable means to support a clean water trust fund.