

Summary of Survey Results

Local Needs / Interest Survey



Key Findings

- Of the 23 municipalities and institutions that provided information, almost three-quarters no longer have an active committee to oversee the Stormwater Management Program Plan, indicating that there might be some coordination difficulties as the Stormwater Education and Outreach Program commences.
- There is a wide range of progress in adopting stormwater ordinances, although more than 70% of those surveyed have identified priority water resources for stormwater management.
- Drainage and flooding is the most common stormwater management priority, with almost 80% of municipalities indicating that as a focus.
- Protecting surface water supply watersheds is the second most common priority, with 60% of those surveyed indicating that was a priority.
- Public awareness of runoff impacts to local waters and maintenance of septic systems are the two most important public education priorities reported.
- Most Stormwater Education and Outreach Program participants would like to communicate via e-mail or regional meetings.

Overview

All Rhode Island municipalities, and six institutions responsible for storm sewer systems, received a survey in January 2007, asking about their needs and interests related to stormwater education and outreach.

Returning this survey was the first required element of participating in the Stormwater Education and Outreach Program. The Stormwater Education and Outreach Program is led by the Rhode Island Department of Transportation (DOT), the Rhode Island Department of Environmental Management (DEM), and the University of Rhode Island NEMO Program, and designed to assist municipalities meet requirements for education, outreach and public involvement and participation under the EPA Phase II Storm Water Program.

The survey was mailed to stormwater managers responsible for compliance under the Phase II program. In municipalities without a designated stormwater manager, the survey was sent to the public works director. Recipients were invited to complete the survey with input from other local officials and copies were also sent to municipal managers, mayors and planners.

Who is regulated under Phase II

Thirty-four of Rhode Island's 39 municipalities fall into the category of Phase II regulated communities. The remaining five, including Foster, Hopkinton, Little Compton, New Shoreham and Richmond, are not currently regulated due to their small populations and lack of densely populated areas. Six academic and government institutions (university campus /government properties) are also regulated as "non-traditional" municipal separate small sewer systems (MS4s).

Regulated municipalities and institutions were required to obtain a RIPDES General Permit for Storm Water Discharge from Small Municipal Separate Storm Sewer Systems (MS4s) and are currently working on the requirements of the Phase II program. The five non-urban communities must demonstrate effective protection of special resource protection waters and impaired waters by March 10th, 2008 or they will require a RIPDES Storm Water permit.

Survey Returns

As of August, 2007, 28 municipalities and four institutions had joined the Stormwater Education and Outreach Program (either by returning the RIDEM Commitment form, the URI Needs Survey, or both). This represents a total of 32 participants, 72% of the 45 groups invited to join.

Of these 32 participating municipalities and institutions, 23 (72%) returned a survey. Nine did not return the needs survey: East Greenwich, Exeter, Foster, Little Compton, Middletown, Narragansett, Pawtucket, URI, and Woonsocket. This document summarizes the major findings of these 23 completed surveys. The tables below summarize survey returns by community type.

Participating municipalities and institutions – The following have joined the Stormwater Education and Outreach Program

4 Institutions	25 Regulated Municipalities			3 Non-urban* Municipalities
<ul style="list-style-type: none"> • CCRI-Lincoln • CCRI- Warwick • EDC/Quonset • University of RI 	Barrington	Jamestown	Smithfield	<ul style="list-style-type: none"> • Foster • Little Compton • Richmond
	Bristol	Lincoln	Tiverton	
	Burrillville	Middletown	Warwick	
	Charlestown	Narragansett	W. Greenwich	
	Cranston	Newport	W. Warwick	
	E. Providence	N. Smithfield	Westerly	
	E. Greenwich	Pawtucket	Woonsocket	
	Exeter	Portsmouth		
	Glocester	Providence		

Non-Participating municipalities and institutions – The following have not joined the Stormwater Education and Outreach Program

2 Institutions	9 Regulated Municipalities			2 Non-urban* Municipalities
<ul style="list-style-type: none"> • Naval Station Newport • RI Department of MHRH 	Central Falls	N. Kingstown	Warren	<ul style="list-style-type: none"> • Hopkinton • New Shoreham
	Coventry	N. Providence		
	Cumberland	Scituate		
	Johnston	S. Kingstown		

Returned surveys by community type**

3 Institutions 19 Regulated Municipalities 1 Non-Urban* Municipalities 23 Total

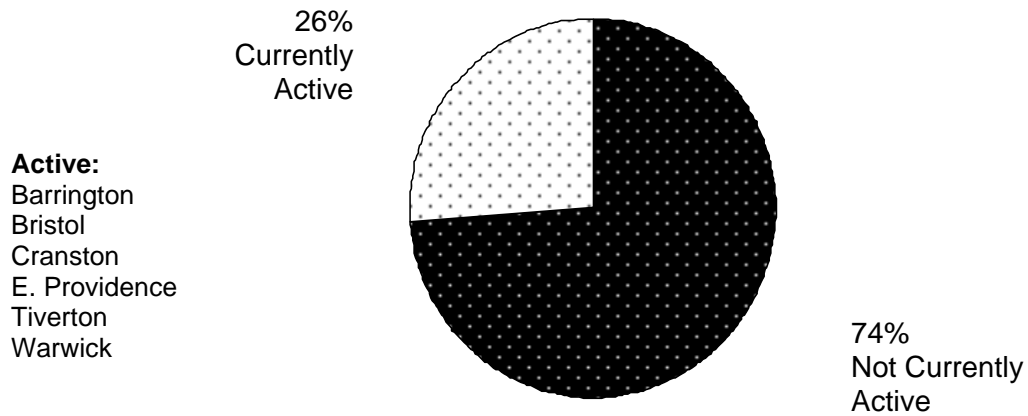
* “Non-urban” municipalities are subject to regulation in 2008 unless demonstrating effective protection of

** Non-participating communities did not return surveys

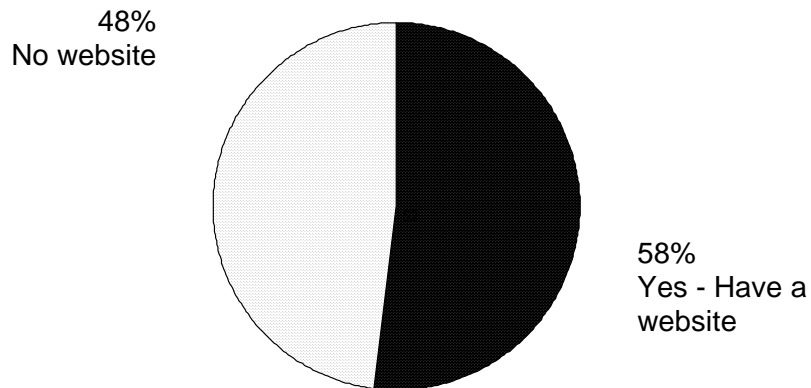
Main summary points

The following sections are numbered to match the question numbers within the survey, and each section begins with the verbatim question text or an explanation of the question.

1.4 Is the local stormwater advisory committee that was formed to oversee development and implementation of the Stormwater Management Program Plan still active or available to reconvene to provide input for this project?



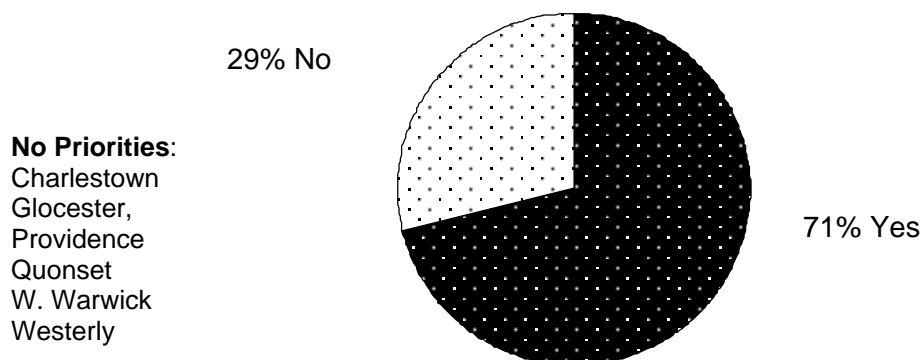
1.7 Is there a municipal website with stormwater management information?



1.8 Status of Ordinance Amendments – Using the table on the following page, please identify the status of stormwater ordinance amendments by checking one column (numbered 1-6) for each topic in following table, and also checking all ordinance/regulation types that apply.

Ordinances and Regulations	Not Planned	Under review or to be completed	Partially adopted to fully implemented	If adopted, what type is it?
SW utility districts to maintain/fund SW program	90%	5%	5%	50% Zoning 50% Subdivision
Construction Site Erosion and Sediment Control	0%	14%	86%	43% Separate 36% Subdivision 21% Zoning
Post Construction SW Controls for new construction and redevelopment	0%	32%	68%	54% Subdivision 46% Separate
Illicit Discharge Detection and Elimination Ordinance	0%	55%	45%	86% Separate 7% Zoning 7% Subdivision
Special SW controls for drinking water supplies, other sensitive resources, or problem areas	50%	27%	23%	43% Zoning 29% Separate 29% Subdivision
Pet Waste	37%	16%	47%	83% Separate 17% Zoning
SW system maintenance requirements	24%	43%	33%	100% Subdivision

2.2a Has the municipality identified priority water resource areas for stormwater management?



2.2b The following areas are priorities for our stormwater management efforts:

- 79% Areas subject to drainage / flooding problems
- 61% Surface water supply watersheds
- 54% High water tables sites
- 46% Wetland/shoreline buffers
- 43% Groundwater drinking water supply
- 39% Impaired waters
- 36% Shellfishing waters
- 36% Salt water swimming beaches
- 25% Freshwater swimming beaches
- 21% Special Resource Protection Waters
- 18% Cold water fisheries / Unique aquatic habitat

2.4 Public Education Priorities. Participants were asked to rank thirty public education priorities along a scale from 1 to 5 from “Not important” to “Very important” in their community.

a) Public education priorities ranked in the highest “Very Important” category.

At least 40% of respondents ranked the following four topics as Very Important.

- 56% Public awareness of stormwater runoff impacts to local water resources
- 50% Maintenance of onsite wastewater treatment systems.
- 46% Illegal dumping to stormdrains from residences
- 41% Illegal dumping to stormdrains from businesses

b) Public education priorities ranked in the 2 highest “Important” and “Very Important” categories. At least 40% ranked the following topics as either Important or Very important.

- 78% Public Awareness of stormwater runoff impacts to local water resources.
- 77% Outdoor water use and conservation
- 70% Education to Support Compliance
- 67% Illegal dumping to storm drains from businesses
- 67% Methods to manage SW on site
- 65% Methods to avoid runoff through site design
- 63% Steps individuals and businesses can take
- 62% Used oil recycling
- 62% Methods to control runoff through vegetated practices
- 62% Illegal dumping to storm drains from residential
- 58% Maintenance of ISDS
- 58% SW System maintenance for large scale developers
- 54% Wetland buffer protection
- 54% Proper use of fertilizer and pesticides
- 54% Education to Support Funding
- 52% Household hazardous waste
- 52% Post Construction controls
- 52% Good housekeeping for businesses
- 52% Litter

- 48% Methods to reduce impervious cover
- 42% Procedures to maintain bioretention on individual lots
- 40% Construction Site Erosion & Sediment Control
- 40% Animal waste management from farms

c) Low priority public education topics. At least 40% of respondents ranked the following topics as either “Not important” or “Somewhat important”. *Highest scores indicate lowest priorities.*

- 59% Discouraging waterfowl
- 54% Pavement washing
- 48% Animal waste management from farms

2.5 Capacity to accomplish specific tasks. Participants were asked to rank 18 different tasks by their capacity to accomplish them.

a) Highest capacity. Items at least 40% of respondents are “Definitely able to accomplish” (response of 5 in rating scale from 1 to 5) are ranked below.

- 52% Review erosion and sediment control plans for development applications disturbing ≥ 1 acre.
- 42% List DEM-designated Impaired Waters in your municipality /MS4.
- 41% Evaluate water quality impacts of proposed stormwater plans and recommend changes to avoid or minimize impact.
- 40% Identify location of a proposed development within the watershed of Impaired waters.

b) High capacity. Items at least 40% of respondents can accomplish (response of 4 or 5 in rating scale from 1 to 5) are ranked below.

- 74% Review erosion and sediment control plans for development disturbing ≥ 1 acre.
- 71% List DEM-designated Impaired waters in your municipality /MS4.
- 67% Review development plans and recommend site design changes to reduce or avoid increased runoff volume.
- 60% Identify location of a proposed development within the watershed of Impaired waters.
- 58% Identify location of a proposed development within the watershed of Special resource protection waters.
- 57% List DEM-designated Special resource protection waters in your municipality/ MS4.
- 56% Conduct field inspections to ensure proper erosion and sediment control.
- 56% Evaluate water quality impacts of proposed stormwater plans and recommend changes to avoid or minimize impact.
- 56% Ensure maintenance of stormwater systems located on roads /other public properties.
- 56% Review design of small-scale stormwater controls such as bioretention and veg.swales.
- 54% Hire consultants to assist in reviewing erosion and sediment control plans.
- 46% Hire consultants to assist with field inspections to ensure proper installation and maintenance of post-construction stormwater treatment systems.
- 44% Conduct field inspections to ensure proper design and installation of LID SW controls.
- 42% Hire consultants to assist in field inspections of erosion and sediment controls.

b) Low capacity. Items at least 40% of respondents **can not** accomplish easily (response of 1 or 2 in rating scale from 1 to 5) are ranked below. *Highest ranking indicates lowest capacity.*

- 56% Ensure proper maintenance of SW systems on private property
- 50% Hire consultants to assist in field inspections of erosion and sediment controls.
- 46% Apply TR55 to maintain or restore pre-development hydrology.
- 38% Hire consultants to review plans for erosion/sediment and post-construction SW controls.
- 38% Hire consultants to conduct field inspections during installation of SW systems.
- 38% Design SW management systems using LID

2.6 Rank municipality/MS4's need for resources and training on specific topics.

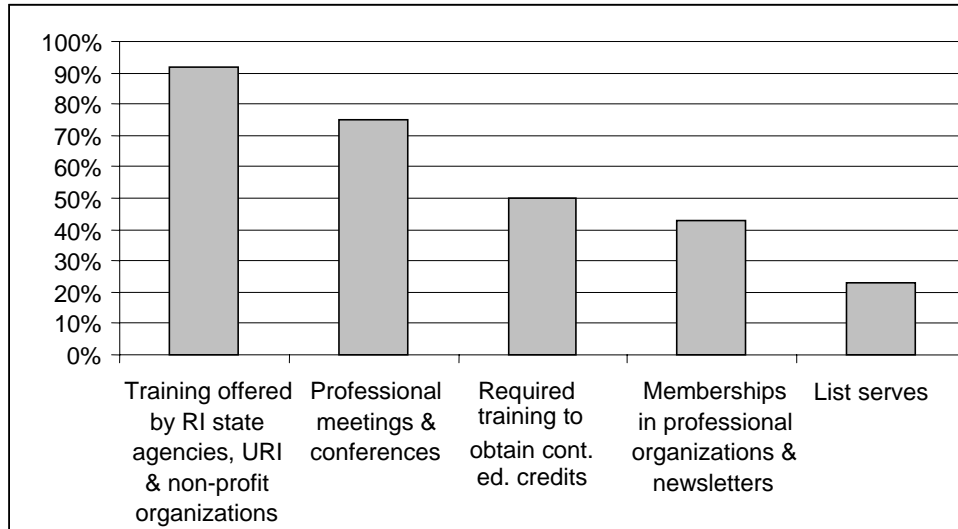
Participants were asked to rank 18 different tasks by their ability to accomplish them.

Topics at least 52% of respondents selected as mostly or very important are ranked below.

- 74% Ensure roadway SW drainage systems are properly operated
- 62% Provide general information on Phase II requirements for council, board and commission members who make budget/land use decisions” as mostly or very important.
- 59% Apply best management practices for roadway de-icing to protect local waters
- 59% Ensure proper care of public properties to minimize runoff
- 57% Provide information on stormwater impacts to local water resources to council, board and commission members.
- 57% Provide information to home buyers on wetland/shoreline buffers
- 56% Provide information to developers /construction site supervisors to ensure proper design and installation of LID SW controls
- 55% Manage sand and sediment from roads
- 54% Provide information to home buyers about on-lot SW controls
- 54% Establish procedures to ensure proper maintenance of on-lot SW controls and wetland buffer
- 54% Provide general information on Phase II requirements for council, board and commission members.
- 52% Provide guidance to developers /construction site supervisors in maintaining soil infiltration
- 52% Provide information to applicants for permits about erosion/sediment controls
- 50% Provide information to applicants for building permits /land development projects about LID SW controls
- 45% Coordinate local permit review and approval with State standards
- 44% Retrofit public properties using LID methods to reduce volume
- 44% Ensure public works facilities are properly operated to manage SW runoff
- 41% Manage public grounds to limit water and fertilizer use
- 19% Provide information to construction site supervisors about erosion/sediment control

2.7 What information sources do you use to stay current in professional work?

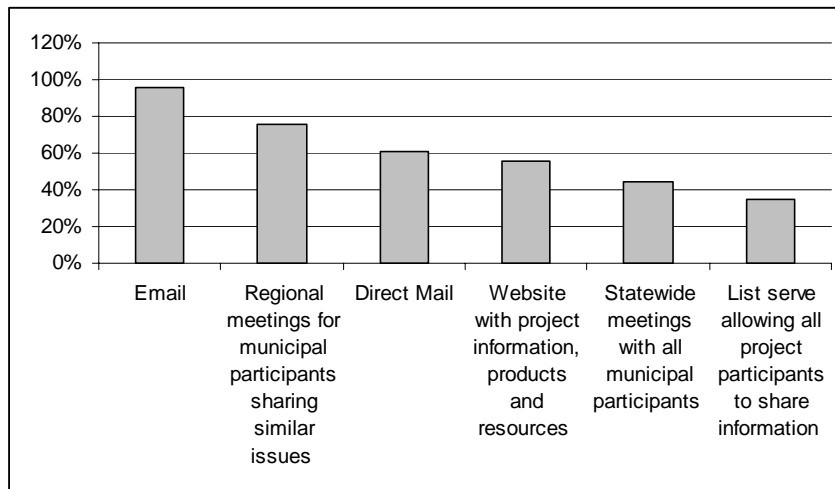
Percentages indicate that respondents ranked the source as mostly to very important.



- 92% Training offered by RI state agencies, URI and non-profit organizations
- 75% Professional meetings and conferences
- 50% Required training to obtain continuing education credits
- 43% Memberships in professional organizations and newsletters
- 23% List serves

2.8 What is the best way to communicate with you on this project?

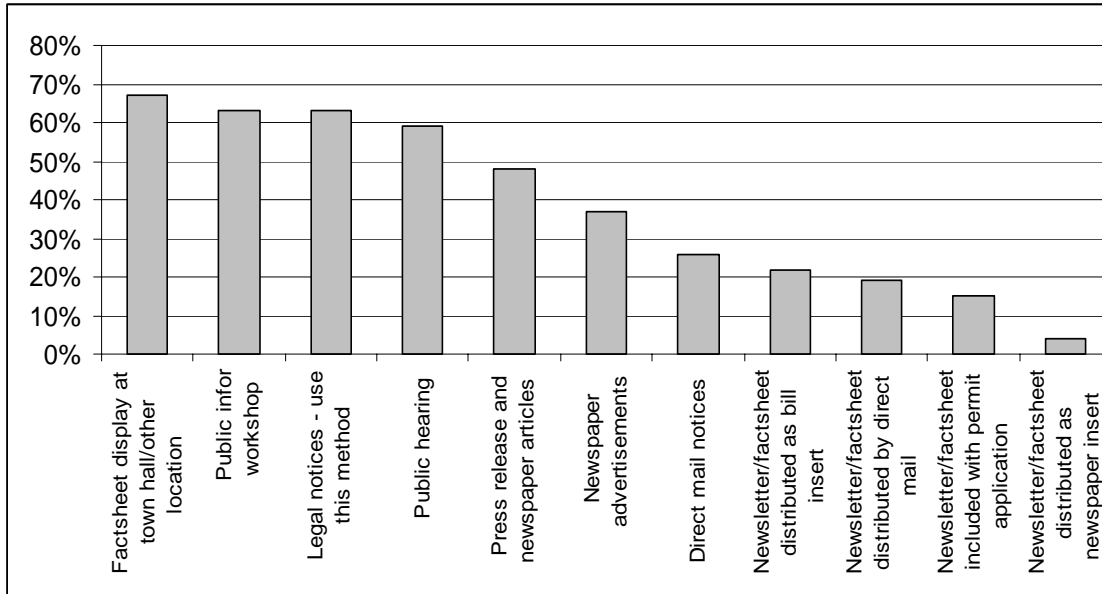
Percentages indicate that respondents ranked the item from Very good to Best.



- 96% Email
- 76% Regional meetings for municipal participants sharing similar issues
- 61% Direct Mail
- 56% Website with project information, products and resources
- 44% Statewide meetings with all municipal participants
- 35% List serve allowing all project participants to share information

2.9 What methods do you use to provide information to various audiences about pollution prevention methods, town policies, regulations?

Percentages are for respondents indicating if they are using a method.



- 67% Factsheet display at town hall/other location
- 63% Public informational workshop
- 63% Legal notices - use this method
- 59% Public hearing
- 48% Press release and newspaper articles
- 37% Newspaper advertisements
- 26% Direct mail notices
- 22% Newsletter / factsheet distributed as bill insert
- 19% Newsletter/ factsheet distributed by direct mail
- 15% Newsletter/ factsheet included with permit application
- 4% Newsletter/ factsheet distributed as newspaper insert

1.5 Identify local groups the municipality has joined with or could form partnerships with to carry out watershed stewardship/education activities:

Audubon Society of RI	New England Institute of Technology
Blackstone River Coalition	NRICD
Burrillville Lions Club	Pawtuxet River Authority
Conservation Commission	Recreation Dept.
Cranston Youth Center	Rivers Council
Edgewood Neighbors Assoc.	Runnins River Steering Committee
Friends of the Blackstone River	Save Bristol Harbor
Friends of the Pawtuxet	Save the Bay
Girl and Boy Scout Troops	Schools
Kickemuit River Council	SRICD
Lake Mishnock Preservation Assoc.	Valley Alliance
Lincoln Land Trust	Westerly land trust
Local neighborhood assoc.	Wood Pawcatuck River Watershed Assoc
Mosaico Comm. Development Corp.	Woonasquatucket R. Watershed Council
Nature Conservancy	Youth Group
Neighborhood Groups	

1.6 Identify local professional or civic organizations who may assist in delivering information to target audiences most likely to be responsible for pollution sources:

Blackstone Valley Rivers Project	Narr. Bay Comm
Brown U	Neighborhood Assoc.
Chamber of commerce	Preserve Bristol
Charlestown chamber of commerce	Portsmouth Economic Development Committee
Chepachet Village Planning Comm	Providence College
Conservation Commission	Quonset Development Corporation
Cranston Community and Economic Development Depts.	Richmond Economic Develop. Commission
Downtown business merchants assoc	Save the Bay
Glocester Business Assoc	South County Tourism Council
Glocester Heritage Society	Taunton Ave Business Assoc.
Greater Prov. Chamber of Commerce	The Prov. Foundation
Industrial development commission	Washington County Regional Planning Council
Lake Mishnock Pres. Assoc.	Waterfront Development Comm
League of cities and towns	Westerly chamber of commerce
Misaquamicut Business Assoc.	Westerly downtown business assoc
Mosaice Comm. Develop Corp.	Wood River Press

Written Comments

2.3 Has your municipality identified priority stormwater pollution problems and sources? If so, please list top 5 priorities.

- Clean up Mowry Pond
- Construction site runoff, IDDE, urban runoff (2)
- Devin drive detention pond, DPW garage, Robert Gray, Colonial, Kearns, Brackett Aves, foundation drains, Colonial Ave. storm drain system
- Drainage discharge onto Easton's Beach
- Elimination of NPS pollution to Scott Pond
- Failing ISDS (2) – Contaminated groundwater
- Illegal dumping
- Illicit discharges
- No pollution problems, catch basins and pipes cleaned regularly with new vac. truck. Flooding in some areas is our issue
- Outdated cisterns
- Remove illegal septic system discharges from drainage systems
- Revitalization of Spaulding Pond
- Runoff from impervious surfaces
- Silt/sediment from construction sites, roadside ditches and active gravel pits
- Soil erosion in new developments
- Tributaries and 2 RIDOT storm drains discharging into Stafford Pond
- We do not have any problems at this time. Only priority would be accidental release within business park along roadway or private property

2.4 Comments on public education priorities

- Public awareness of impacts and what they can do themselves is most important. I don't think general public needs to concern themselves with impervious coverage or construction and post construction controls or other BMPs, that is town responsibility
- Training of DPW employees in IDDE detection
- Training of Town Employees in observing illegal discharges

2.5 Comments on municipalities' ability to accomplish tasks:

- Although I have a basic knowledge of drainage and SW issues I have no training.
- Enforcement and inspection staff, we can review and comment and approve plans, but need more inspections/enforcement.
- Hiring a consultant to complete any of the tasks outline in SWMP is highly unlikely as current staff on DPW and planning/building depts. Have on board can complete many of objectives outlined.
- Limitations are due to lack of manpower or funding.
- The town needs to look at current zoning/subdivision regs that create excess impervious surfaces, more work is needed in exploring LID.
- Town is currently requiring LID/SW controls on residential sites. Could use advice on how to ensure systems are working/being maintained. We would use data collected to take into consideration with renewing applications

- We already hire consultants to review plans and inspect all the sites, financial restrictions limit the use of consultants and a full time inspector.
- We need to come up with a cost for these so that we levy an adequate amount for inspection fees at the time of PB approvals. Would have to hire someone to do inspections. Maintenance may have to be hired out. The ongoing costs are unknown.
- Whilst I can review TR55 applications in drainage reports, the Town does not have the software itself to use.

2.10 Has your municipality adopted any notable, successful, effective or innovative actions as part of your Stormwater Education and Outreach Program?

- Adopted the Jamestown high groundwater ordinance that promotes SW/LID and advanced onsite WW treatment systems on small lots with high water table and private wells
- Adopted the On-site WW management ordinance to ensure operation and management on onsite systems
- Completed digital mapping of entire town owned drainage infrastructure town-wide, utilizing GPS unit to save points and load into town's GIS
- Constructed salt storage facility at DPW
- Engineers office highly recommends and encourages LID
- Require most applications to design for zero net increases in volume in addition to peak flow rate. Depending on the site we require roof runoff to be infiltrated (also helps with well recharge). We want to incorporate LID controls into the Land Development and Subdivisions Regs. but don't know what we are doing.
- Just received RIDEM grant for development of SW management plan.
- Partnering with URI Coop. Ext. to review/improve existing/proposed ordinances and organize public workshops in conjunction with these new initiatives to improve public education and outreach
- Purchased Vactor catch basin/drain line cleaning truck
- Recently approved a major development that incorporated the use of porous pavement. The developer was 911 Jefferson LLC and the designer was DiPrete Engineering Assoc, Inc. Contacts for the project are Michael Integlia and Leonard Bradley, respectively
- Stenciling program where DICE volunteers have attached 200 disks within the 10 mile river, providence river and bullocks cove watershed areas
- Teamed with Env. class from Brown during 2006 fall semester, trips were made to locate outfalls and perform dry weather surveys. When dry weather flow was observed, students analyzed samples.
- Town implemented conservation design for all new residential projects.
- Vehicle/equipment wash bay has been constructed at DPW by DPW personnel
- Work in conjunction with cons. comm. to conduct well water and SW public workshops to educate public, once a year

April 24, 2007 Making an Impact with Low Impact Development Workshop

Survey responses received related to need for additional information

1. I would like to know what kind of discussions took place with the homeowners in the LID subdivisions. What was their experience of the instructions they were given? People are creatures of habit. When they bought fertilizer etc, what were the people at the garden shop telling them?
2. Follow up on what people ask about or say on these evaluations, would be interesting to understand what the barriers and questions are on the ground – ie: in the real world of designing and implementing, rather than from where I sit in my cube working for the state. For ex. I heard that one engineer wants to do this work but can't get approval to proceed from fire departments.
3. Continue to reach out to professionals to inform them about LID
Continue to keep professionals, developers, and municipal personnel (permit, zoning, planning) of future mandate for LID . . . to allow time to integrate LID into state and local ordinances
4. How can we have any affect on the “big box” etc, commercial dev, in terms of structural LID beyond parking lots? (incentives for green roofs, etc? or is this mainly LEED?)
5. Concerns regarding cold weather performance are related to ice damming as well as freezing. Ice damming needs to be researched / discussed more in detail.
6. I think it will be important to assist municipalities in updating ordinances to promote LID. For developers it may be best to provide LID education. Furthermore, it would be helpful to create incentives for municipalities, developers and homeowners to implement LID (ie: credit for Phase II Requirements, streamlined permitting . . .) Eventually, it may be useful to hold category specific workshops (is: municipal LID, developer LID, homeowner LID)
7. Rob Roseen's presentation was fascinating! Would love to hear more from him.
8. Would like more practical discussion of standards.
How overcome issues encountered.
Good info on effects of cold weather.
9. Future workshops: How to monitor projects that we implement LID on. Ie: How can we determine the amount of stormwater runoff pre and post implementation
10. Issue of still having to accommodate flows for large event storms. 25, 100 yr
What was design storm for each example for peak flow
Issue of soils suitability for the methods; most examples were in sandy soil
11. Need the “How To's” – Kinds of plants, construction spec's to replace regulation, maintenance schedules and issues, etc.