

know where
it goes

take simple
steps to reduce
STORMWATER POLLUTION

RI Stormwater Solutions—It's Scary How Much We Accomplished!

Spring 2012

What Is RI Stormwater Solutions?

RI Stormwater Solutions is a statewide effort to get Rhode Islanders thinking about stormwater—what it is, why it's the most significant pollutant to our local water resources, and what simple steps every individual can take to reduce stormwater impacts.

The project began in 2006 and officially ended in 2011. During that time, a team of professionals from multiple organizations developed materials that towns, cities, and institutions across the state could use to meet their federal stormwater requirements, known as the Storm Water Phase II program.

Project Partners

- RI Department of Transportation
- RI Department of Environmental Management
- University of RI, Cooperative Extension NEMO Program
- Southern RI Conservation District
- Diverse Advisory Committee

How Were We Funded?

Funded by RIDOT with a grant from the U.S. Federal Highway Administration as part of their stormwater management program.

It's Scary How Much We Accomplished!

Spreading the Word With Statewide Stormwater Education

- We conducted a public awareness campaign using humorous ads on buses, at bus shelters, on the radio, and at popular recreation spots. (See our bus king below!)
- We created a website with stormwater resources and access to educational materials.
- We published a myriad of articles and cartoons through mass media outlets.
- We produced a series of educational resources for schools and incorporated stormwater topics into existing youth education programs.

Helping MS4s Reach Their Residents

- We created a comprehensive manual of public outreach and involvement strategies and materials for MS4s to use.
- We offered customized stormwater education and outreach strategies to any interested MS4, targeting pollutants of concern.
- We assisted with storm drain markings, rain garden installation and maintenance trainings, and Low Impact Development implementation projects.



Building Stormwater Programs Through Ordinances, Policies, and Changes in Local Practices

- We developed a model ordinance for erosion and sediment control.
- We created a Low Impact Development (LID) database, showcasing stormwater-friendly best management practices around the state.
- We produced a rain garden training module to train professionals.
- We assisted in planning and implementing a stormwater utility district workshop series to support creation of municipal utility districts in RI.

Conducting State, Municipal, and Private Sector Workshops

- We conducted more than 40 workshops and trainings.
- We compiled all workshop information and made it available online.
- We conducted evaluations of most workshops and summarized all data, which is also available online.



Bioswales at the Moran Shipping Building in Providence are featured in the online LID inventory.

Spreading The Word With Statewide Stormwater Education

Imagine seeing a bus drive by with a picture of a skimpy man's bathing suit and the message, "The scariest thing to hit the water since Uncle Jack showed up wearing one of these." Do you know the answer? Stormwater, of course!

A significant part of the RI Stormwater Solutions project involved taking our stormwater message directly to the public, and we used a variety of methods to accomplish that. From bus kings, such as the one mentioned above, to bus shelter posters, radio spots, cartoons, and articles published in papers, newsletters, and online sources throughout the state, we spread the message that stormwater is scary and urged Rhode Islanders to visit our website for more information.

In order to conduct the best campaign possible, we conducted a baseline awareness survey around the state to determine what RI residents already knew about stormwater. We learned that sampled Rhode Islanders

believed that industrial and wastewater treatment discharge were the biggest threats to water quality.

Using the results of that survey, and with the help of a marketing firm, we conducted a public awareness campaign that promoted our *Know Where It Goes* slogan and website (www.RIStormwaterSolutions.org).

The public campaign included humorous ads on local bus shelters, bus kings, radio spots and life-sized "Scary Dad" displays throughout July and August 2008. We estimate 72% of the RI population saw the bus kings during that time period, and the bus shelters were viewed by approximately 100,000.

We worked with Don Bousquet to produce a series of more than 30 cartoons with relevant stormwater messages. Some of these cartoons have been used in newspapers around the state.

We contributed stormwater-

related articles to newspapers as well as print and online sources, resulting in more than 30 publications.

Produced stormwater educational resources for schools, including:

- An inventory of stormwater programs available to municipalities
- EnviroScape® model training and loan program
- Indoor and outdoor lesson plans aligned to RI Grade Span Expectation Standards;
- Rain Garden Service Project Manual for high school students

Incorporated a stormwater component into the annual URI Learning Landscape programs and URI SMILE Program, reaching more than 3000 children during the life of the project.

Delivered presentations about stormwater at a multitude of public venues around the state, including nearly 30 fairs, farmer's markets, and rotary

club meetings, with an estimated audience of nearly 2000 residents.



EnviroScape® model attracts attention at a local farmer's market.

Helping MS4s Reach Their Residents

"We don't have the time, staff, or money." We heard that a lot when working with the stormwater coordinators of Rhode Island's 39 municipalities. The life of this project fell during a grave economic downturn, both nationwide and especially here in the Ocean state, so we were sympathetic to the difficulties MS4s have faced when tasked with spreading the message about stormwater.

To assist them in the most useful way possible, we switched our strategy over the course of the project. While we began by offering materials and strategies to the stormwater coordinators, we concluded by often acting on their behalf to publish cartoons and articles.

We created a comprehensive manual, *Reaching Out To Residents*, of public outreach and involvement strategies and materials for MS4s to use, including factsheets, articles, cartoons, step-by-step plans for the topics of pet waste, storm drain marking, yard care, and business good housekeeping, educator resources, and mass media resources.

Completed 7 customized outreach strategies for MS4s.

Created a customizable, self-inspection checklist for businesses to assist with IDDE compliance.

Worked with North Kingstown to begin a neighborhood LID retrofit project.

Assisted 5 MS4s with storm drain marking events, involving more than 170 participants and marking a total of 834 drains.

Installed demonstration rain gardens at Roger Williams Park and the Louttit Library in West Greenwich as part of our Residential Rain Garden Training, and assisted with the completion of a rain garden in the Manton Heights Housing Development in Providence.

Created a Rain Garden Design Guide for homeowners to encourage voluntary use of this LID technique, as well as LID factsheets for developers and businesses.

Assisted with the research and editing of brochures for MS4s upon request.



Governor Donald Carcieri and RIDEM Director Michael Sullivan take a break with a life-sized "Scary Dad" at the 2008 Governor's Bay Day.



Volunteers add plants to a newly installed rain garden at Manton Heights Housing Development, Providence.

Building Stormwater Programs Through Ordinances, Policies, and Changes in Local Practices

In any project that aims to change behavior, it is important to recognize the benefits of both voluntary and mandatory action. Our statewide message sought to inform Rhode Islanders about the scary nature of stormwater, in an irreverent and humorous way, and provide them with a collection of simple steps that could prevent or mitigate nonpoint source pollution.

However, we recognize that knowledge is just one step toward behavior change. Some communication theorists have argued that sometimes one has to change behavior first and the corresponding knowledge and beliefs will change with it.

We took a step in that direction by drafting an updated model erosion and sediment ordinance, which was adopted in some form by most municipalities.

We created a Low Impact Development database, showcasing stormwater-friendly best management practices around the state.

We provided training to landscape professionals in the design and installation of rain gardens to support the development of this LID practice.

We helped plan a workshop series to support the creation of municipal stormwater districts in RI.

We Couldn't Be Prouder!

All MS4s met their minimum measures during the life of the project.

At least 70% of the MS4s adopted updated ordinances and enforceable policies for construction site erosion control and for post-construction stormwater management.

Conducting State, Municipal, and Private Sector Workshops

Give a man a fish, or teach him how to fish himself? We conducted more than 40 workshops and trainings with the goal of sharing useful knowledge about the problems with and solutions to stormwater runoff.

Topics were wide-ranging and our audiences were diverse, including participants from all 39 municipalities, 6 institutions and other “non-traditional” MS4s, state and federal employees, private sector, non-profit organizations, and academic institutions.

Over the life of the project, we compiled all workshop presentations, attendance lists, and summaries of evaluations on our website.

Workshops and trainings covered topics such as:

- Technical trainings on new RI Stormwater Standards Manual. Nine statewide workshops were held in cooperation with RIDEM and CRMC, with support by Horsley Witten Group.

- Stormwater facility maintenance
- Construction site stormwater management
- Public education and involvement
- Implementing stormwater programs
- Low Impact Development
- Rain garden design and installation

We developed two, comprehensive train-the-trainer manuals:

- *Preventing Stormwater Pollution At Your Public Works Facility, A Trainer's Guide*
- *Stormwater System Maintenance— A Trainer's Guide*



Participants attend RI Stormwater Design and Installation Standards Manual training.



RI Residential Rain Garden Training participants receive instruction on rain garden design and installation at Roger William Park.

The Stormwater Message Keeps Flowing— Spinoffs From Our Project

One of the accomplishments of the Rhode Island Stormwater Solutions Project has been to see the stormwater message become part of other sustainable programs, reaching an even wider audience for many years to come.

The successful Residential Rain Garden Training has been incorporated into the URI Outreach Center Landscape Restoration Program and is currently scheduled annually. In addition, Stormwater Solutions contributed to the development of RI residential rain garden guidelines under the RIDEM and RI CRMC, regularly advises local communities in planning and implementing rain gardens, and produced a sign template any community or organization may adapt for their garden.

Other successful “spin-offs” include:

- RI T2 uses the manual, *Preventing Stormwater At Your Public Works Facility*, during trainings for MS4s.
- The URI Learning Landscape Program includes a stormwater education component in its programs for elementary students.
- URI SMILE Program, an after school enrichment program for students in fourth through twelfth grades, has incorporated stormwater education, including the *Rain Garden Student Service Guide*, into its curriculum.
- The URI Master Gardeners are participating in a public rain garden maintenance program.
- THE USEPA selected Providence, RI as its site for a Small Scale Bioretention Installation Training in Spring 2012.



Signage is available through RI NEMO for community rain gardens

What's Next For RI Stormwater Solutions?

RIDOT, RIDEM, and URI NEMO are currently developing a second multi-agency agreement to continue the success of stormwater education in RI. We anticipate continued support for the RI Storm Water Standards Manual with multiple technical training opportunities, revision of the RI Erosion and Sediment Control Handbook, coordination and outreach to MS4s in implementing a Stormwater Program, new training topics, including using the RI SWPPP and Self Inspection for Erosion Control, continued support for rain garden installation and design training, with the

added component of a Master Gardener stewardship program, continued public outreach through media outlets and RIstormwatersolutions.org, and a small grants program for MS4s to support youth education and involvement.

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