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# URBAN WATERSHEDS



## Upcoming Events

### **Stormwater Volunteer Stream Monitoring Workshop**

Pre-Registration is required, space is limited  
Contact the Stormwater Division at 919-996-3940 or via [email](#)  
Saturday, March 19, 2016  
10 a.m. to 12:30 p.m.  
[Walnut Creek Wetland Center](#)  
950 Peterson Street, Raleigh

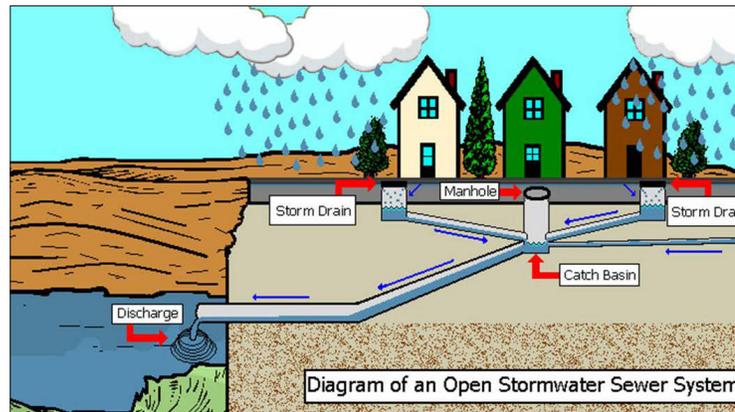
### **Foster-a-Stream Cleanup & Other Volunteer Opportunities**

Come join staff from the Stormwater Division and help clean up a local stream Spring Date/location TBD For more information:  
Carmela Teichman at 919-996-3940 or via [email](#)

### **City of Raleigh Environmental Awards**

April 21, 2016, 7:00 pm  
The Glenwood Club, Raleigh  
Open to the public

## Stormwater 101: Prerequisite for All Living Downstream!



**Just what is stormwater?** While the answer may seem obvious, or not, what often is not clear is who is responsible for managing stormwater. This article will shed light on how we all can help manage stormwater in Raleigh. Doing so will help our Capital City continue to be a great place to live, work, and play. We also want to highlight how your

nominal monthly stormwater utility fee, near the median rate for North Carolina municipalities, is put to good use to manage public stormwater runoff.

First, **stormwater runoff** is rain water that runs off from land surfaces during and following rainfall. Some of the rainfall will naturally soak into the ground, particularly if the land cover is vegetated or has a tree canopy. Before land is developed, a significant portion of rainfall soaks (infiltrates) into the ground, resulting in much less surface runoff. In developed conditions, less of the rainfall can soak into the ground and surface runoff generally increases, sometimes significantly. Increased runoff contributes to higher peak flows in drainage systems and receiving streams, as well as higher runoff volumes. Higher peak flows and volumes contribute to urban stormwater management challenges, including flooding safety hazards, property damage, soil and stream erosion, and impacts to surface water quality and stream health.

**Who manages stormwater runoff?** This question is both easy and challenging. In general, stormwater infrastructure (in regulatory language, Municipal Separate Storm Sewer System, MS4), located within City street rights-of-way and on City properties, is the responsibility of the City of Raleigh to manage and maintain. On the other hand, stormwater, drainage, and stream systems beyond the MS4, and beyond City streets and City-owned properties, are generally the responsibility of individual private property owners. **Public stormwater runoff** is defined as any and all runoff that originates from within a City street right-of-way and/or City-owned properties. Managing public runoff is a shared responsibility between the City and private property owners citywide.

The City has several **beneficial programs to help manage public stormwater runoff** as it moves from streets to downstream private properties and receiving streams. The City identifies, prioritizes, plans, designs, and constructs **stormwater capital improvement projects** to manage public stormwater associated with public streets as well as systems on private property that are connected and integral to the performance of the public system. Beyond street rights-of-way, the City also provides the **drainage assistance program** for qualifying situations, such as structural flooding, severe erosion, and failing drainage infrastructure, for areas on private property that receive and convey public runoff.

Stormwater concerns certainly are not unique to Raleigh, Wake County or the Triangle. Indeed, stormwater management is a national and international concern. At the same time, stormwater represents a genuine opportunity to further manage and sustain our valued natural resources. Your Raleigh Stormwater team is seeking ways and means to manage stormwater sustainably such that it becomes a greater asset for the community, while remaining focused on solving problems associated with excess runoff and stream degradation. Stable and restored natural stream corridors, drainage infrastructure that safely conveys runoff and is well-maintained, and innovative practices that protect and improve surface water quality are among key outcomes that your Stormwater team is working toward. All these help protect and improve quality of life in Raleigh.

We encourage you to visit the Stormwater webpage for more information on our programs and projects and how you and your neighbors can get involved. \_\_\_\_\_



## City of Raleigh Environmental Awards

Registration for all award categories closed on February 12, 2016.

Will you or someone you know be one of this year's winners? Mark your calendar and plan to join in the festivities as we celebrate all participants and find out who the winners are for 2016!

This year's celebration will be held on April 21st at the Glenwood Club in Raleigh. The evening's food will be provided by Irregardless Café & Catering.

This year also brings a new competition category to the program, sponsored by the City's Solid Waste Services Department. Environmentally conscientious participants, with an eye for reuse and recycling, were offered an opportunity to showcase their forward-thinking design and talent as part of the "Trashion Design Competition".

Save the date, April 21, and join us for the festivities. \_\_\_\_\_

## Stormwater 102: Free Water for Your Yard – Save it in a Cistern.

Spring is right around the corner, and warmer weather brings more outdoor activities, yard work, planting gardens, and car washing, and all use water. But do they really need water that's clean enough to drink? Probably not. So how can we do these things and still be a good steward of our water resources and the environment? One way is to "harvest" rainwater by installing a cistern. Cisterns are similar to rain barrels in that both collect and store a portion of the rainwater that runs off your roof. Rain barrels come in a variety of sizes, typically 50 gallons, and are widely used on residential and commercial properties. Cisterns are larger containers that can store 200 to over 10,000 gallons. These come in many shapes, sizes, and materials and can be installed above ground or underground to save space. They can be installed on residential and commercial properties.



There are many benefits to harvesting rain water:

- Reducing the amount of stormwater runoff from your property,
- Helping reduce harmful effects to nearby streams and creeks from large and rapid stormwater runoff flows (see Stormwater 101),
- Reducing demand for potable water drawn from reservoirs, treated to be safe to drink, and piped many miles to your tap, and
- Lowering your water bill by using less potable water.
- Harvested rainwater can be used outdoors in a variety of ways, such as landscape irrigation, car washing, window washing, and garden irrigation, and indoors for toilet flushing and laundry, with special permitting.

Harvesting rain water doesn't need to be costly or time-consuming, but it does need to comply with applicable state and local regulations and codes. For eligible rain water harvesting projects and other projects that reduce pollution in stormwater runoff, the City's Stormwater Quality Cost Share program will contribute the majority of the cost of design and installation (90% for certain targeted areas, and 75% for other areas within City limits). Our Stormwater staff is here to help you evaluate options and work through our application process.

If you are interested in installing a stormwater device, conserving potable water, protecting streams and creeks, and lowering your water bill, visit our website, [www.raleighnc.gov](http://www.raleighnc.gov) – keyword: Stormwater Quality Cost Share for more information.

You can also call us directly at 919-996-3940 or via email: [RaleighStormwater@raleighnc.gov](mailto:RaleighStormwater@raleighnc.gov)

## Sign up – Volunteer with the Stormwater Division

Are you concerned about the health of our water and the environment? Worried about having enough clean water in the future? If you answer yes and want to get involved, but only have a limited amount of time, then join staff from the Stormwater Division at an upcoming Foster-a-Stream cleanup.

Cleaning our streams and lakes of litter and other pollutants helps keep the water healthy for the 'critters' - macroinvertebrates, who live there. The cleaner the water the greater the diversity of the critters that will inhabit the water and make it their home. Clean water in our creeks, streams and lakes is directly related to our drinking water supply too. If you want to volunteer one time or commit on a longer term basis, contact the Stormwater Division. The next Foster-a-Stream stream cleanup event is coming soon. Check our website, [www.raleighnc.gov](http://www.raleighnc.gov), for the most up to date information and our other opportunities, [Adopt-a-Stream](#), [Stream Monitoring](#) and [Storm Drain Marking](#). Everyone wants clean water, so join in today. New volunteers are always welcome.



Call the Stormwater Division at 919-996-3940 or [email](#) for more information.

## Prioritizing Stormwater Projects

Through a collaborative effort between Raleigh's Stormwater Management Advisory Commission and Stormwater staff in alignment with the City's Strategic Plan adopted by City Council in 2015, Raleigh recently developed a unique Integrated Stormwater Capital Improvement Projects Prioritization Model and Adaptive Implementation Plan. This new model and plan will become the primary means by which potential stormwater system improvement needs and projects across the city are identified, evaluated, prioritized, and recommended for implementation.

Public safety and flooding hazards, undersized and aging infrastructure, eroding streambanks, and surface water quality protection are among the key needs related to stormwater and drainage system improvements. The new projects prioritization model provides numerical ratings and scores that help the City team identify and evaluate options for stormwater improvements as well as objectively prioritize amongst many projects competing for available funds and resources. The model tangibly connects the mission of the Stormwater Management Program to capital improvement projects that meet citizen and community needs along with regulatory requirements.

The prioritization model incorporates nine integrated criteria, each objectively scored to determine a total project score (from 0 to 100) along with other supplemental ratings and cost benefit information. The nine main criteria within the projects rating model are:

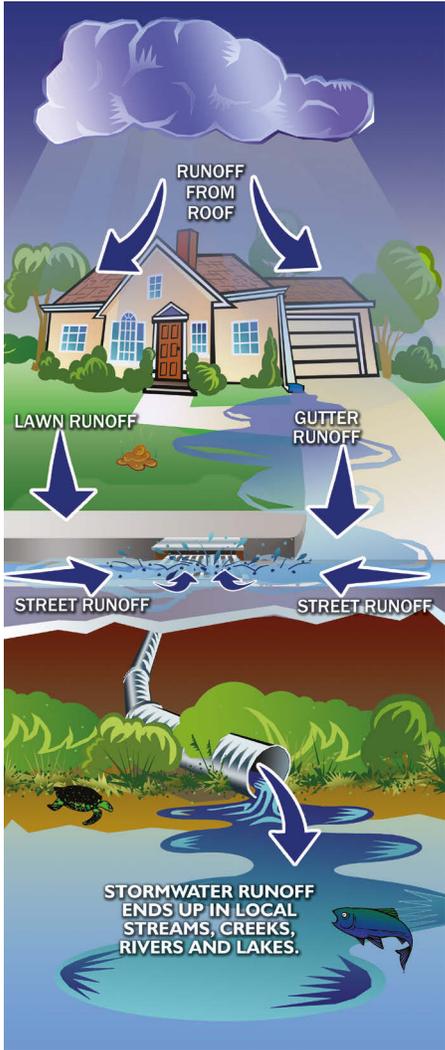
- Public Safety and Public Health
- Flood Hazard Reduction Benefits
- Regulatory Mandates and Compliance
- Water Quality Benefits
- Watershed Management Benefits
- Stormwater Infrastructure Asset Management Benefits
- Community Support and Implementation Complexity
- Resource Leveraging Opportunities, and
- Indirect Community Benefits



Optimizing and stewarding available resources, projects that score well in the rating model effectively bring together stormwater quantity and quality management to solve stormwater problems. In addition, preferred stormwater improvement projects will also help achieve multiple strategic goals for the Raleigh community such as protection of our valuable natural resources and safe, vibrant, and healthy neighborhoods.

Among the more comprehensive and advanced projects prioritization methodologies in use across the state and beyond, this new model will directly benefit the citizens of Raleigh and advance local stormwater and watershed management. Helping ensure that financial and other resources are focused on projects that provide the highest levels of public benefits is a key outcome from developing and implementing the model. Effectively and efficiently managing stormwater, and making Raleigh an even better place to live, work, and play.

For more information including model guidance and the implementation plan, please visit the City's Stormwater Program at [Raleighnc.gov](http://Raleighnc.gov)—Keyword: Stormwater Management.



## Stormwater Division Contacts

Stormwater Staff  
Stormwater Fee Inquiries  
Illicit Discharge Response  
Sedimentation and Erosion Control  
Floodplain Inquiries  
Drainage Concerns on Private Property  
Drainage Concerns in the Street

919-996-3940

[RaleighStormwater@raleighnc.gov](mailto:RaleighStormwater@raleighnc.gov)

Pete Duffy

Lauren Witherspoon

Ben Brown

Chris Stanley

919-996-6446

## Raleigh's Stormwater Website Resources

City of Raleigh  
Stormwater Management Division  
Adopt-A-Stream Volunteer Program  
Storm Drain Marking Volunteer Program  
Stream Monitoring Volunteer Program  
Water Pollution  
Flood Information

[www.raleighnc.gov](http://www.raleighnc.gov)

keyword search "stormwater division"

keyword search "adopt a stream"

keyword search "drain marking"

keyword search "volunteer stream monitoring"

keyword search "water pollution helpline"

keyword search "flooding"

## Additional Educational & Volunteer Resources

Clean Water Education Partnership  
North Carolina Stormwater and  
Runoff Pollution  
North Carolina Watershed  
Stewardship Network  
Sound Rivers (Neuse Riverkeepers)  
River Guardian Foundation

[www.nccleanwater.org](http://www.nccleanwater.org)

[www.ncstormwater.org](http://www.ncstormwater.org)

[www.ncwatershednetwork.org](http://www.ncwatershednetwork.org)

[soundrivers.org](http://soundrivers.org)

[www.riverguardfdn.org](http://www.riverguardfdn.org)

## THE STORMWATER MANAGEMENT MISSION

Manage stormwater to preserve and protect life, support healthy natural resources, and complement sustainable growth within a vibrant community.

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A STORMWATER MANAGEMENT  
DIVISION PUBLICATION

MORE INFO

[raleighnc.gov](http://raleighnc.gov)

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The City of Raleigh