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# URBAN WATERSHEDS



## UPCOMING EVENTS

### **Raleigh's Neighborhood Exchange**

Saturday, September 19, 2015  
McKimmon Center  
1101 Gorman Street, Raleigh

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

The fall workshop is tentatively scheduled for September 26, 2015 and pre-registration is required. Look for registration, time and location information on our website at [raleighnc.gov](http://raleighnc.gov) and search stream monitoring workshop. Still need more information? Contact the Stormwater Division at 919-996-3940

### **Foster a Stream with the Stormwater Team**

Come and join staff from the Stormwater Division in early October as we "Clean Up" one of our local streams. No special requirements and no long-term commitment. If you just want to see what it is all about, need some additional service hours or just want to help out this one time, check the City website for more information on stream location, date and time or email [carmela.teichman@raleighnc.gov](mailto:carmela.teichman@raleighnc.gov).

## Help with Making Runoff from Your Property Cleaner

The City of Raleigh now can contribute up to 90 percent of the cost of installing a stormwater treatment device on your property to help make stormwater runoff cleaner and our streams healthier. These devices treat runoff by soaking it into the ground, irrigating landscaping, using it for toilet flushing or for washing, instead of using potable water. They include rain gardens, rainwater cisterns, green roofs, permeable pavers and pavements, removing conventional pavements, and stream buffer planting. Through the City's Stormwater Quality Cost Share Program, which is funded by your stormwater fees, the City will contribute 75 percent or 90 percent of the cost of designing and installing a device on your property, depending on its location.

In addition to benefitting the City's system of stormwater pipes and culverts as well as streams the City strives to protect and improve, these projects can enhance properties and benefit property owners. For example, rainwater captured in cisterns can be used to irrigate landscapes and gardens and for toilet flushing and washing, saving on water bills. Also, removing conventional pavements (impervious surfaces) and restoring the ground to a natural condition may allow the owner to reduce the property's stormwater utility fee, which is based on square feet of impervious surface.

Since the City initiated the Stormwater Quality Cost Share Program in 2009, it has contributed up to 75 percent of the cost of installing stormwater quality devices anywhere in Raleigh. This changed in March 2015 when the Raleigh City Council designated five areas for providing additional incentive to property owners for installing these devices. These areas, which total approximately one-sixth of Raleigh, are called Water Quality Priority Target Areas. The City now will contribute up to 90 percent of the cost of stormwater quality projects in these areas:

- Northern Raleigh - Area that drains to Perry Creek and the drinking water supply watershed of Falls Lake;
- Central Raleigh - Downtown business district and area that drains to Pigeon House Branch; and,
- Southern Raleigh - Watershed of Swift Creek.

If you are interested in exploring whether a stormwater treatment device might be appropriate for your property, visit [www.raleighnc.gov](http://www.raleighnc.gov), or contact us via email or call the Stormwater Management Division at 919-996-3940. We can meet with you on your property to explore ideas.

## Stormwater's Sediment & Erosion Program Wins Local Award



For the second time in four years, the North Carolina Department of Environment and Natural Resources recognized the City of Raleigh Stormwater Management Division's Sedimentation and Erosion Control Program as the Large Program Award winner. The Raleigh City Council also honored the program for its outstanding efforts.

The award recognizes the Sedimentation and Erosion Control Program for excellence and effectiveness.

Currently, there are 50 delegated programs in the state and Raleigh has been a delegated program since 1974. Each year two municipalities are chosen as leaders in the field of program implementation and enforcement in erosion and sedimentation control, a large program and a small program. To be characterized as a large program, the municipality must have more than three full time employees dedicated to the program. The City of Raleigh also received the award in 2012.

## The 2015 Stormwater Public Service Announcement Winners!

On April 22 at the North Carolina Museum of Natural Sciences, the City of Raleigh celebrated Earth Day with its Eighth Annual Raleigh Environmental Awards. This year the standing room only crowd saluted individuals and organizations committed to preserving and improving the environment.

In its second year, the Stormwater High School Public Service Announcement (PSA) Competition, sponsored by the City's Stormwater Management Division asked local high schools to submit a 60-second video focusing on the theme: "What we do on the land affects the quality of the water in our streams and lakes". The panel of jurors had some hard decisions to make this year as a total of 13 videos were received making it difficult to choose only three, so an Honorable Mention Award was added.

A monetary award and a commemorative plaque were awarded to each student or group in recognition of their effort for promoting the importance of environmental awareness.

North Raleigh Christian Academy students took the top three honors:

- Ashley Hatton won first place with her video titled, "How Can You Affect Your Runoff?"
- Nathan Pike, Jeffrey Smitherman and Genie Mason won second place with "Earth Lovers"

- Gabe Dickens and Ryan Miller took third place with "The Journey of the Bottle" and,
- Grant Hall and Callie Kirchstein won the Honorable Mention award for "Leesville Carolina News."

The Stormwater Management Division is already looking ahead to the 2016 competition and encourages high school students to watch the City's website at [www.raleighnc.gov](http://www.raleighnc.gov) for announcements and information.

## Full House for the Spring Volunteer Stream Monitoring Workshop

By: Mac Smith



City of Raleigh Stormwater staff put on a workshop for 12 future water quality monitoring volunteers on March 14 from 10 a.m. until 12:30 p.m. at the Walnut Creek Wetland Center.

The City of Raleigh Stormwater Division started the Volunteer Stream Monitoring Program in October 2007. This program provides volunteers with equipment necessary to monitor certain water quality parameters at specific stream locations for a one year period. The program requires volunteers to attend a 2.5 hour workshop to learn how to use LaMotte Low Cost Water Quality

Monitoring kits and macroinvertebrate sampling equipment. The sampling kits enable the volunteers to measure pH, temperature, dissolved oxygen, biological oxygen demand, nitrate, phosphate, turbidity, and presence of bacteria in the stream.

The macro invertebrate sampling equipment, along with training from the workshop, enables the volunteers to sample various stream habitats for the larval forms of insects and other invertebrates that live in the stream. The number and diversity of these animals are used as an indicator of water quality. Due to a steady rain, the volunteers were not able to go to nearby Little Rock Creek for an in stream demonstration of the various techniques for macroinvertebrate sampling.

The next Volunteer Stream Monitoring Workshop is tentatively planned for September 26. If you are interested in attending a future workshop and joining the Volunteer Stream Monitoring Program, please contact the Stormwater Division at 919-996-3940.

# Hurricane Season and Flooding

By: Ben Brown

*In Raleigh, the main concern about hurricanes is flooding from streams, although wind is a serious concern as well.*



The beginning of June marks the start of many things, including vacations, warmer temperatures, and overall fun in the sun. Unfortunately, it also marks the beginning of hurricane season which runs until November 1 for our region.

If you live adjacent to a large creek or river, you probably have experienced flooding. Raleigh has two types of flood zones: Federally-regulated and City-regulated. The Federal Emergency Management Agency (FEMA) regulates larger floodplains around creeks and rivers, and Raleigh regulates smaller streams.

The first thing to know is whether you live in a designated flood zone. If you are in a FEMA flood zone, you probably know it because FEMA requires flood insurance for all structures within one of its flood zones. You can verify if you are in a flood zone by calling the City's Stormwater Management staff at (919) 996-3940, or you can look up your property at [www.ncfloodmaps.com](http://www.ncfloodmaps.com). Paper flood maps can be viewed at the Olivia Raney Local History Library. The flood maps also show flood risk for our overall community. Any land area susceptible to inundation from flooding is shown on these maps.

The National Flood Insurance Program (NFIP) was created by the federal government in 1968 to provide reasonably priced flood insurance since normal homeowner's insurance does not cover flooding. Separate policies can be obtained for single family homes, condominiums, mobile homes on foundation, and commercial buildings. You do not have to be in a flood zone to obtain flood insurance, but if you are in flood zone, it is required for any federally-backed mortgage. Your local insurance agent should be able to give you quotes for flood insurance. Be advised that there is a 30-day waiting period for flood insurance.

Once you know if your property is in a flood zone, it is time to get prepared for a storm. Prepare an emergency kit that can help you get through the after-effects of a storm. A kit should include; a three-to-five day supply of nonperishable food and water, can opener, three-to-five day supply of all medicines, flashlight or lanterns, battery-powered radio or television, first-aid kit, special items for infants or children and any items needed for pets. More detailed information for the emergency kits can be found at [www.ready.gov/build-a-kit](http://www.ready.gov/build-a-kit). These kits are invaluable for getting you and your family through a large storm event.

Staying informed about weather events in our area is another way to prepare. The City provides updates on local radio and television stations if a hurricane is approaching. You also can track weather on the National Weather Service site for Raleigh at [www.weather.gov](http://www.weather.gov) and search for Raleigh. You can sign up for email alerts from the City through our website, follow the City on twitter [@RaleighGov](https://twitter.com/RaleighGov), or follow the National Weather Service [@NWSRaleigh](https://twitter.com/NWSRaleigh).

Getting informed about your property, being prepared for emergency events, and staying informed with these events will help you and your family enjoy the fun parts of this summer and safely navigate through hurricane season. \_\_\_\_\_

## You Will Be Missed!

By: Mark Senior

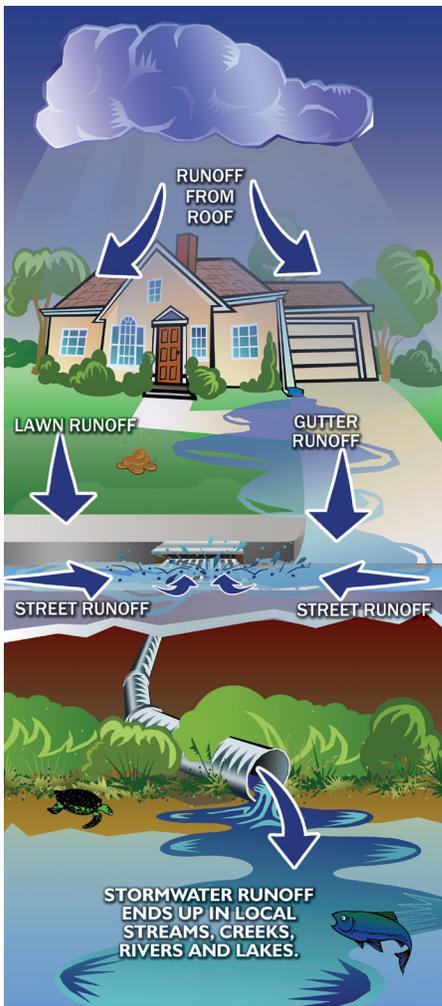


All the fish, insects, and other aquatic creatures in Raleigh's lakes and streams are a little sadder this month as they are losing one of their greatest allies. After 32 years of service to the City of Raleigh, Mac Smith will be retiring from his position as a Storm Water Quality Monitoring Technician with the Stormwater Division. Mac has been an advocate for water quality from his early days inspecting construction sites as a Sedimentation and Erosion control inspector to his current role in water quality monitoring and public education. Mac's contributions to managing water quality include sampling to determine the health of streams, monitoring the performance of stormwater management practices such as our rain gardens, and tracking down illicit discharges along with educating students and increasing public awareness of water quality issues through managing the City's Adopt-a-Stream; Storm Drain Marking; and Volunteer Stream Monitoring programs.

Mac has always been an outdoor enthusiast and is most at home in the field wearing a pair of hip waders and turning over rocks in a stream to see how well the benthic macroinvertebrates (stream bugs) are doing.

Mac won't be abandoning his outdoor connections entirely though as he will be taking on a new role advising other outdoor enthusiasts at the new Cabela's sporting goods store in Garner. His skills, knowledge, and passion will be sorely missed by all, especially all the creatures that rely on clean water to survive.

Thanks Mac!



## Stormwater Division Staff Contacts

Stormwater Staff & Fee Inquiries

Volunteer Coordinator  
 Illicit Discharge Response  
 Sedimentation and Erosion Control  
 Floodplain Inquiries  
 Drainage Complaints on Private Property  
 Drainage Complaints in the Street

919-996-3940

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

Kevin Boyer  
 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  
 Neuse Riverkeeper Foundation  
 River Guardian Foundation

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

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

## THE STORMWATER MANAGEMENT MISSION

The Stormwater Division's focus is to partner with the citizens of Raleigh to effectively manage flood control and environmental protection in our water bodies, ultimately the Neuse River by using proactive management techniques to plan, identify, maintain, monitor, design, inspect and construct drainage systems to alleviate structural flooding and preserve water quality. Protecting our waterways provides for the future well-being of our environment.

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### MORE INFO

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

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