

# Fall 2021 Walnut Creek Watershed Learning Network – Module 5

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## *Vocabulary for Module 5*

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**Impervious surface** is a hard surface on a property that does not allow rain to soak into the ground. **Riparian buffer** is a vegetated area adjacent to a stream that protects water quality and the stream from adverse impacts from the surrounding area. **Rainscapes** are landscape enhancements that reduce stormwater runoff.

## **Introduction**

Greetings! The WCWLN completed its fifth module on November 6th, at the Walnut Creek Wetland Park in Raleigh. This was an exciting module for the participants to learn about the following topics: Planning, Design, and Implementation of Various Scales of Green Stormwater Infrastructure, North Carolina Cooperative Extension Workshops, and City of Raleigh Stormwater Innovation & Financing. The participants were also able to take a green stormwater infrastructure tour at the St. Ambrose Episcopal Church. In 2017, the church installed a 500-square-foot rain garden to assist with runoff from the heavy rains and it provides an educational opportunity for all visitors. This rain garden was a collaboration between North Carolina State's Water Resources Research Institute, St. Ambrose Episcopal Church, and American Rivers who provided grant funding that the church used to match Raleigh's Stormwater Quality Cost Share Program's funding. In 2019, St. Ambrose Church added two 850-gallon cisterns in their prayer garden to collect rainwater from their roof.



Image 1. WCWLN participants preparing for an interview. All photos courtesy of Aniya Bourne.

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Image 2. Christy Perrin provides Partners for Environmental Justice with an interview outside the Walnut Creek Wetland Center.



Image 3. Christy Perrin provided the GSI tour of the rain garden at the St. Ambrose Episcopal Church.

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### Planning, Design, & Implementation of Various Scales of Green Stormwater Infrastructure (GSI)

Christy Perrin presented the process of creating GSI and the various forms of rainscape techniques. Christy is the Sustainable Waters and Communities Coordinator with the Water Resources Research Institute at NC State University. She introduced four types of rainscape techniques: conservation plantings (naturalize), rain gardens, rain barrels, and disconnected downspouts. Naturalize or conservation planning, is the process of removing turf or bare soil and adding a diverse mix of plants, trees, shrubs, and groundcover. Naturalizing can aid in rainwater remediation and provide a habitat for wildlife. A rain garden is a depressed area in the landscape that is designed to collect rainwater, filter water, and slow down the flow of heavy rainfall. Rainwater harvesting can be done by a cisterns or rain barrels; the captured water can be used for watering plants and washing vehicles. Rain barrels are used to collect 40 to 70 gallons of water, while a cistern can collect 100 to 1,000 gallons. The downspout is the vertical pipe that is connected to the house to drain rainwater off of the roof. By disconnecting the downspout and changing the direction of the flow onto grass or a rain garden, it slows down the runoff so that it can soak into the ground.



Image 4. Christy Perrin discussing the importance of a rain garden at the St. Ambrose Episcopal Church.

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Image 5. Mitch Woodward provided an interview for the WCWLN.

## Extension Water Quality Workshop Training

Mitch Woodward is the Area Specialist Agent for the Watersheds and Water Quality North Carolina Cooperative Extension. The goal for NC Cooperative Extension is to protect, conserve, and enhance NC's natural resources and environmental quality. Mitch stressed the importance of educating the community and various professions about promoting effective water quality protection practices. North Carolina spends \$22 Billion annually on water-related tourism and continues to increase its population by 290 people per day. As more people move to the city, increased development (buildings, roads, parking lots) leads to the addition of impervious surface areas. Impervious surface areas can cause up to 18 times more stormwater runoff than pre-development conditions, which means the City will need to manage stormwater more effectively. For these reasons, Mitch encourages watershed and water quality education at all scales within communities such as landscape, development, city, and watershed. The NC Cooperative Extension provides various workshops and provides assistance to other partnerships around the state of North Carolina. Some of the workshops include:

- Stormwater Control Measures Certification
- Professional Stormwater Control Measure Inspection & Maintenance Certification
- Residential Rain Gardens and Rainwater Harvesting Workshop
- Streambank Repair Workshops

To learn more about Mitch's work with NC Cooperative Extension at <https://wake.ces.ncsu.edu/profile/mitch-woodward/>.

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Image 6. Mitch Woodward discussed Extension Water Quality Workshop Training at the WCWLN.



Image 7. Heather Dutra (left) and Amy Farinelli (right) with Raleigh's Stormwater Management Division, outside the Walnut Creek Wetland Center.

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Image 8. Resources provided by the City of Raleigh.

## City of Raleigh Stormwater Innovation & Financing

Heather Dutra, Senior Project Manager and Amy Farinelli, Stormwater Project Manager with Raleigh's Stormwater Management Division, presented information on Raleigh Rainwater Rewards (RRR) and Drainage Assistance Program. RRR provides funding for residents to install a stormwater project on their property, this program offers reimbursement up to 75% - 90% of costs for water quality projects. Some examples of these projects include; cisterns, rain gardens, permeable pavement, green roofs, wetlands, and rain barrels (not eligible for reimbursement). The requirements for the RRR program are: 1) Your Raleigh stormwater fee bill must be current without a delinquent balance, 2) the program is voluntary, 3) the City provide cost share assistance for projects until their funding is depleted, and 4) the projects must be assessed as "reasonable and practical". The Drainage Assistance Program (DAP) addresses residential flooding and severe erosion that affects a home or building caused by stormwater runoff from public streets. The requirements for a Raleigh resident to qualify for the DAP are: 1) owning a residential, commercial, or public property in Raleigh, 2) affected by stormwater runoff coming from public streets, and 3) willing to donate permanent drainage easements. For more information for the Drainage Assistance Program and stormwater maintenance to learn more at [www.raleighnc.gov](http://www.raleighnc.gov) and [StormDrainage@raleighnc.gov](mailto:StormDrainage@raleighnc.gov) (919-996-3779) and Rainwater Rewards [RainwaterRewards@raleighnc.gov](mailto:RainwaterRewards@raleighnc.gov) (919-996-4008).

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## NKM Reflections from Module 5

NKM Reflections address the following questions, 1) What did you NOTICE today? 2) What are you KEEPING? and 3) What will MOTIVATE you to continue the journey? Each WCWLN participant fills out these reflections after each module. Below are some of the reflections from our participants.

### What did you NOTICE today?

- “I travel down St. Mary’s Road and cross Glenwood almost every day and I didn’t even realize they were building a Bioretention area there! I thought it was just the average construction site, but now I know it's not”.
- “There are many opportunities to do small and large scale projects, and resources available to help”.
- “The different ways to capture water through green infrastructure projects”.
- **What are you KEEPING?**
- “I didn’t know about the Raleigh Rainwater Rewards program, which would be very helpful if I plan to create a project!”.
- “Thinking about making a rain garden at my mom’s house”.
- “Raleigh Rainwater Rewards → 70% - 90% of money back!!”.

### What will MOTIVATE you?

- “Seeing all of the completed projects motivates me. It makes me want to start a new project. It’s encouraging since it shows all of the success others have had and how easy it is to implement the plans once you have the work force and tools”.
- “I want to live in a healthy environment”.
- “How much Raleigh is doing to create more GSI in communities”.

### Next Modules:

**Topics:** WCWLN Graduation, Individual Project Presentations & Testimonials, Program Trivia, Individual & Group Action

November 20, 2021 @ 10:00 am - 1:00 pm