



December 20, 2021

Katie Rose Levin, BCMA
Urban Forestry Manager
Town of Cary
316 North Academy Street
Cary, NC 27513

Subject: Fall 2021 Walnut Creek Watershed Learning Network – Final Reporting

Dear Katie Rose:

Partners for Environmental Justice (PEJ) is pleased to submit a final report to the Town of Cary for completion of the Fall 2021 Walnut Creek Watershed Learning Network (WCWLN). The WCWLN is a six-week community education and empowerment initiative that PEJ first implemented in Spring 2021 based on the innovative [Atlanta Watershed Learning Network](#) model with the primary objectives of: 1.) educating participants about various topics such as stormwater management, green infrastructure and environmental justice; 2.) making connections about why these topics are important to them and their communities, and 3.) providing participants with the tools to become more engaged stakeholders and be empowered to take action in protecting the integrity of their communities.

The WCWLN could not have been successfully implemented without the support of PEJ's community partners. PEJ gratefully appreciates the generous funding the Town of Cary provided our organization as part of your Southeast Sustainable Communities Fund grant. Through this grant funding, PEJ was able to provide compensation for contractual services, participant stipends, course printing materials, compensation of WCWLN coordinators and compensation for the salaries of two new PEJ staff members. Additionally this funding has enabled the current development of seven community green infrastructure projects within the Walnut Creek watershed, including three within the Town. PEJ also supported the development of the Trash Task Force, created by the Park Manager of the Walnut Creek Wetland Park, and plans to use this work as a base for in depth community-based capacity building to address the issue.

PEJ is very pleased with the outcome of our Fall 2021 WCWLN and hopes to host another version of the WCWLN in 2022.

Sincerely,

Anne S. Franklin, Interim Chair
Partners for Environmental Justice
annesfranklin@mindspring.com

CC: Marie Cefalo, Town of Cary
Kris Bass, Kris Bass Engineering
Amin Davis, PEJ Board of Directors
Renai Nez, PEJ Program Director
Don Singletary, PEJ Director of Community Outreach



Partners For Environmental Justice

Fall 2021

**WALNUT CREEK
WATERSHED
LEARNING
NETWORK**



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PEJ STAFF MEMBERS EXECUTIVE SUMMARY

Introduction

Through the Town of Cary's Southeast Sustainable Communities Fund, Partners For Environmental Justice (PEJ) was able to hire a Program Director and a Director of Community Outreach & Board Support (DCOBS). PEJ's goal with these hires was to expand engagement opportunities with residents and community stakeholders in and around the Walnut Creek Wetland Center. These two individuals will focus on the programs and activities that build community knowledge and empower residents to advocate for sustainable and equitable development solutions that benefit both the neighborhoods and the wetland habitat. The Program Director focuses on management of activities at the program level, while the DCOBS has been focusing on activities on a missional, organizational level.

Highlights of Program Director

Renai Nez is PEJ's Program Director. Since joining us, Renai has been learning the unique ways that PEJ operates with its board members, local stakeholders, local partnerships, and the neighborhood. She had the opportunity to assist and learn from the coordinator of the Walnut Creek Watershed Learning Network (WCWLN), a six-week capacity-building intensive about community watershed management in wetlands and flood-prone areas around South Raleigh designed to connect with and teach participants about watershed management.

She will be developing a third WCWLN in 2022 that will continue to educate the public on the importance of implementing green stormwater infrastructure and developing community-driven approaches to watershed management.



Renai Nez, PEJ Program Director

PEJ STAFF MEMBERS EXECUTIVE SUMMARY

In addition to helping administer the WCWLN this fall, Renai has been managing PEJ's website and social media platforms and fostering PEJ's public online presence. Renai developed a bi-weekly newsletter of the WCWLN's activities to inform the Town of Cary and PEJ's partners of the work that was taking place at the Wetland Center.

She has also been working with North Carolina's Department of Transportation Intern in developing marketing documents for the WCWLN and other partners of PEJ, such as North Carolina's Division of Water Resources, City of Raleigh, Town of Cary, and United States Geological Survey. Finally, Renai also works with the PEJ Finance Committee to assist in grant tracking and reporting, a crucial function for the success of project budgets and expenses.



Amin Davis, Renai Nez, and Don Singletary (left to right) at St. Ambrose Episcopal Church.



Renai Nez, Anne S. Franklin, and Keshi Satterwhite (left to right) at the WCWLN Module 6.

PEJ STAFF MEMBERS EXECUTIVE SUMMARY

Highlights of Director of Community Outreach & Board Support

Don Singletary is PEJ's Director of Community Outreach & Board Support. Don has been a wonderful asset to PEJ's team, principally through his communication with the community first-hand along Raleigh's greenways. Don's goal is to connect those that live adjacent to the greenway and flood-prone areas to the resources available through the City of Raleigh. During this process, Don has been working with an intern from Shaw University to develop a spreadsheet with the Walnut Creek Community Neighborhood Data that provides information needed to contact these groups, which include neighbors, schools, organization, and religious institutions.

Don has also made connections with Habitat for Humanity. Several PEJ board members have signed up for volunteering events that are to take place between December 11, 2021, and June 22, 2022. Finally, Don has provided introductions to We Plant It Forward, an environmental community service program in Raleigh that promotes the benefits of trees and tree planting.



Anne S. Franklin, Don Singletary, and Habitat of Humanity volunteer at the Maybrook Crossing Townhome project.



WALNUT CREEK WATERSHED LEARNING NETWORK EXECUTIVE SUMMARY



WCWLN participants and Big Sweep Volunteers at the Walnut Creek Wetland Center.

Introduction

November 20, 2021 marked the completion of PEJ's second Watershed Learning Network at the Walnut Creek Wetland Center. The Walnut Creek Watershed Learning Network (WCWLN) is a six-week community education and empowerment initiative that PEJ first implemented in Spring 2021 based on the innovative [Atlanta Watershed Learning Network](#) with the primary objectives of: 1.) educating participants about various topics such as stormwater management, green infrastructure and environmental justice; 2.) making connections about why these topics are important to them and their communities, and 3.) providing participants with the resources to become more engaged stakeholders and be empowered to take action in protecting the integrity of their communities.

As was done previously, community outreach was focused in the flood-sensitive communities within the Walnut Creek Watershed.

Walnut Creek Watershed Learning Network Executive Summary



Lauren Daniel mentoring participants on the capabilities of the community-based water quality monitoring application.

Collaborative Funding & Partners

The WCWLN could not have been successfully implemented without the support of PEJ's community partners. The Town of Cary provided PEJ with a significant amount of funding through a Southeast Sustainable Communities Grant they received. The City of Raleigh provided PEJ with funding through a National League of Cities grant they received. Through these grants, PEJ was able to provide compensation for contractual services, participant stipends, course printing materials, compensation of WCWLN coordinators, and compensation for the salaries of two new PEJ staff members.

PEJ contracted with the Ellerbe Creek Watershed Association's former Community Engagement Specialist, and creator of the [Durham Watershed Academy](#), to coordinate and implement the WCWLN. PEJ contracted with Bourne To Film to videotape each module, create an educational video and to produce a multimedia marketing video. Environmental professionals from nonprofit organizations, state and local government, and NC State University generously donated their time and resources. Staff from the Warren County Environmental Action Team, City of Raleigh, Triangle J Council of Governments, NC Division of Water Resources and NC Cooperative Extension shared their expertise with the WCWLN participants about session topics found in the outline below.

Walnut Creek Watershed Learning Network Executive Summary

WCWLN Outline

The WCWLN curriculum was divided into six modules, all of which were held in person at the Walnut Creek Wetland Center in Raleigh, North Carolina. Sessions were principally facilitated by the Ellerbe Creek Watershed Association’s former Community Relations Director and assisted by PEJ’s Program Director. Mentors for the WCWLN participants included staff from the NC Division of Water Resources, NC State University’s Water Resources Research Institute and a Spring 2021 Raleigh Watershed Learning Network graduate. The outline of the Fall 2021 WCWLN is below.

Session	Dates	Session Topic
Module 1	9/11/2021	Program Overview - Purpose, Goals, Expectations
		Communication and Negotiation: Leadership Skills for Community and Home
		Community Watershed Stewardship
Module 2	9/25/2021	Community Science Mobile Tool Prep
		Wake County Big Sweep
Module 3	10/9/2021	Watershed Basics & Urbanization
		Floodplain Management Strategies
		Green Infrastructure Overview & Tour
Module 4	10/23/2021	Policies and Regulations Governing Watersheds
		Raleigh Climate Plan and Current Projects
		Warren County Environmental Justice Movement
		Equity and Environmental Justice (Remote)
Module 5	11/6/2021	Overview of Planning, Design, and Implementation of Various Scales of GSI
		NC Cooperative Extension Workshops
		City of Raleigh Stormwater Innovation & Financing (Remote)
Module 6	11/20/2021	Individual Project Presentations and Testimonials
		Program Trivia
		Individual and Group Action
		Participants Receive Graduation Certificates

“There are lots of great programs/people in place to help better the environment. Many groups are very passionate about keeping the environment clean and have been super successful about implementing sustainable systems just like the WCWLN”.

- Participant, Module 2

WALNUT CREEK WATERSHED LEARNING NETWORK EXECUTIVE SUMMARY



Fall 2021 WCWLN Graduates (1 participant not included).

Community Projects

The WCWLN participants were able to apply what they learned from each session to their community projects, which included the following:

- Creation of a mobile application, Gaia Raleigh, to execute community involvement in environmental awareness and local resources in Raleigh.
- Initiation of a one-year stream monitoring of Little Rock Creek, which has been known to be polluted due to the city's runoff.
- Provided a “do it yourself” disconnection of a downspout, while finding multiple uses for the collected runoff.
- Management and organization of a Wake County Big Sweep in the Hedingham community of Raleigh, involving 12 volunteers who collected 16 bags of trash.
- Hosting of a litter clean-up and a watershed educational exchange along the Rocky Branch Creek beside North Carolina State University’s Campus, a project two participants designed and implemented together

“I noticed that all of the presenters were very involved in the information they presented, showing that they truly care about the topics”. - Participants, Module 4

WALNUT CREEK WATERSHED LEARNING NETWORK EXECUTIVE SUMMARY



Amin Davis (right) explaining the green infrastructure practices outside of the Walnut Creek Wetland Center.

Conclusion

The WCWLN, along with the Durham Watershed Academy, are truly unique outreach programs to the Triangle area. Six participants successfully completed the Fall 2021 WCWLN and were eligible to receive a \$400 stipend or their participation. Participants developed community projects to address issues in their neighborhoods and conducted a presentation about their project during the final 'graduation' session of the WCWLN.

PEJ is pleased with the outcome of this Fall 2021 WCWLN and hopes to host another version of the WCWLN in 2022. For more information about the WCWLN, visit PEJ's website:
<https://www.pejraleighnc.org/wcwnl>.

"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". - Participant, Module 5

Community Projects Executive Summary

Introduction



Completed rain garden at 808 Elkhart Dr.

Partners of Environmental Justice (PEJ) is collaborating with Kris Bass Engineering (KBE) to design and implement seven green infrastructure (GI) projects funded through the Town of Cary's Southeast Sustainable Communities Fund. A total of five rain gardens and two cistern/irrigation projects are currently being developed. Four of these projects are located in the City of Raleigh (808 Elkhart Dr., Cross Link Rd., 2107 Dandridge Dr., and 507 Glenbrook Dr.) and three projects are in the Town of Cary (415 Webster St., 116 Clay St., and 1132 Ivy Lane).

These projects required similar steps. First, KBE representatives conducted site visits with homeowners which included consultations with the homeowners and documentation of stormwater issues. KBE then developed and drew up design plans for each site, according to the homeowner's specifications, and shared them with the homeowner. Each project has also involved an application to the Raleigh Rainwater Rewards (RRR) cost-share program, which required contractor estimates for the work. Once the project was accepted under the RRR, KBE was able to proceed with construction. The status of each project is as follows:

Community Projects Executive Summary



Rain garden at 2107 Dandridge

Rain Garden Projects: 808 Elkhart Drive, 507 Glenbrook Drive, and 2107 Dandridge Drive

Construction started on December 14th, 2021 for these three projects. Construction is anticipated to run through the week of December 25th, 2021. The 808 Elkhart Dr. project was completed on December 17th, 2021 and the 2107 Dandridge Dr should be completed on December 20th, 2021. These projects will be reflected in the Raleigh Rainwater Rewards program reimbursement. The estimated total cost of these projects are \$24,372; the RRR program will reimburse \$5,000 for each project.

Cistern Project: 1205 Cross Link Road

Consultation for this site was completed on December 2nd, 2021. We are preparing an RRR application, which we expect to submit in January 2022. Construction of this cistern is anticipated to begin in March or April, pending approval of the RRR application. The estimated date of completion is late May at an estimated total cost of \$12,000 - \$15,000. If this project is approved by RRR, there will be a reimbursement of 75% of the total project cost.

Community Projects

Executive Summary

Rain Garden Project: 415 Webster Street

The rain garden project has been completed and was paid for under the Town of Cary's Southeast Sustainable Communities Fund grant. The cost of this project is \$5,000, with no reimbursement from RRR.

Rain Garden/Cistern Projects: 116 Clay Street & 1132 Ivy Lane

These projects have been placed on hold due to budget constraints within the Town of Cary's Southeast Sustainable Communities Fund. PEJ and KBE will continue with this project if funding is available after the 1205 Cross Link Road project is complete. There is no current project cost estimate at this time.

Community Projects

List of the 7 Community Projects under the Town of Cary's Southeast Sustainable Communities Fund.

Site Address	City	Project Type
Clay Street	Cary	Raingarden, Swale
Ivy Lane	Cary	Cistern
Webster Street	Cary	Rain Garden
Cross Link Road	Raleigh	Cistern
Dandridge Drive	Raleigh	Rain Garden
Elkhart Drive	Raleigh	Rain Garden
Glenbrook Drive	Raleigh	Rain Gardens

TRASH TASK FORCE EXECUTIVE SUMMARY

Introduction

The Walnut Creek Wetland area has been a hotspot of trash accumulation and dumping for over 100 years. Addressing excessive trash dumping in the Rochester Heights community was one of the primary reasons Partners For Environmental Justice (PEJ) was formed in the 1990s. PEJ hosted cleanups around the Walnut Creek wetlands and its surrounding communities which are now hosted by [Wake County Big Sweep](#). Since 1995, more than 60 tons of trash has been removed from the Walnut Creek wetlands adjacent to the Walnut Creek Wetland Park.

The Trash Task Force (TTF) is a dedicated group committed to strategizing and developing solutions for Walnut Creek's lingering dumping problems. Aside from wetland stewardship, the TTF's goal is to raise awareness of the problem around the City Manager's Office and other local government offices by way of Trash Task Force Summary Report (spring 2021). Our hope is that the TTF becomes a trusted community partner and liaison with the City of Raleigh and Wake County as we work to combat the wetland's lingering dumping problems.

The TTF consists of 42 members, which include 18 members from nearby neighborhoods (Rochester Heights, Biltmore Hills, State Street Village, etc.), 15 City of Raleigh staff members, and 9 community based members from local businesses, entities and partners.



Homeless campsite on the Walnut Creek Greenway.



Construction debris dumped down a ravine in Rochester Heights (11/2020).

TRASH TASK FORCE EXECUTIVE SUMMARY

Highlights

The TTF met in a hybrid format (virtually and in-person) a total of four times during March 29 - May 10, 2021. In the first meeting, the participants addressed the history of trash that accumulated in and around the Walnut Creek Wetland area. At the second meeting, TTF identified some barriers that prevent visitors to the wetland from disposing of trash the correct way. At the third meeting, the participants brainstormed some solutions to the barriers presented in the second meeting. At the final meeting, the TTF were able to rank solutions based on the most feasible outcome (costs, implementation, and successful completion).

The TTF was able to successfully bring the community together and identify the multiple problems and barriers that lead to disposing litter. Some of the solutions discussed were distribution of educational materials about litter disposal, allowing any quantity of tires to be disposed at the Wake County Multi-Material Recycling Centers, increasing convenience center access for lower-income and disadvantaged neighborhoods, and adding additional trash cans to heavy use areas such as greenways and bus stops.

The TTF was selected as the winner of the 2021 Community Action Award on behalf of the Raleigh Environmental Advisory Board. This award recognizes a volunteer, individual, or organization working in Raleigh on the stewardship of natural resources, environmental justice or conservation.

PEJ plans to connect with Wake County's Solid Waste Manager in January 2022 to discuss issues such as disposal of tires and mattresses and to brainstorm ideas for how the City of Raleigh and the TTF can partner together.

APPENDICES

- 01 WCWLN Biweekly Newsletters
- 02 Trash Task Force Spring 2021 Report

Fall 2021 Walnut Creek Watershed Learning Network – Module 1

*Partners for
Environmental
Justice*

The mission of Partners for Environmental Justice (PEJ) is to advocate for the equitable treatment of both the human and natural communities in Southeast Raleigh.

Introduction

Walnut Creek Watershed Learning Network (WCWLN) kicked off on Saturday, September 11th at the Walnut Creek Wetland Center with our program coordinator, Keshi Satterwhite. She is the creator of the Durham Watershed Academy and will be assisting PEJ in our WCWLN journey. Nine participants arrived on Saturday as well as three WCWLN mentors, and four members of PEJ. The purpose of the WCWLN is to educate residents about community issues including stormwater management, environmental justice, and green infrastructure related to the Walnut Creek Watershed.



Keshi Satterwhite pictured on far right with WCWLN participants. Photo Courtesy of Aniya Bourne.

The participants each received a free binder that contains information for the remaining sessions and swag bag items donated for some of PEJ's partners. In addition, the participants will receive a \$400 stipend and skills to act in their communities.

Fall 2021 Walnut Creek Watershed Learning Network – Module 1

*Walnut Creek
Watershed
Learning
Network*

WCWLN is six-week watershed education program where participants gain knowledge and skills to develop sustainable solutions and act in their communities.

Goals

- Expand community knowledge and skills to address water quality and stormwater challenges from an equitable, sustainable, holistic, and resilient perspective
- Encourage and support participants to be change agents and advocates for the restoration and protection of their watershed
- Increase participants' learning and engagement



Swag Bag items include bookmarks, Rainscape packet, Clean Water Brochure, recyclable pet waste bags, and lids for disposing of fats, oils, and grease properly. Photo Courtesy of Aniya Bourne.



WCWLN Participants and mentors pictured during activity. Photo Courtesy of Aniya Bourne.

Fall 2021 Walnut Creek Watershed Learning Network – Module 1

Effective Communication Strategies

Christy Perrin is the Sustainable Waters and Communities Coordinator with the Water Resources Research Institute at NC State University; she spoke on Communication and negotiation: Leadership skills for community and home. The objective of her session was 1) Reflect on your communication styles, 2) Learn and practice core communication skills, 3) Consider an appreciative approach, and 4) Gain an understanding of principled negotiation. This presentation was very informative to our participants, they were to engage in ways to practice appreciative inquiry and share energizing themes.



Christy Perrin pictured on the far right. Photo Courtesy of Aniya Bourne.



Perrin and a WCWLN participant discussing communication skills and experiences. Photo Courtesy of Aniya Bourne.

Fall 2021 Walnut Creek Watershed Learning Network – Module 1

Community-Based Water Quality Monitoring

Lauren Daniel from the North Carolina Department of Environmental Quality, Division of Water Resources, was the second guest speaker; she spoke on Community Watershed Stewardship. She introduced the participants to tools that can be used to share observations and discuss ways to incorporate these tools into potential projects or community events. These tools include: SCITS Tool, Community Watershed Improvement Projects, Trash Surveyor, Trash Tracker, Habitat Assessment, and Macroinvertebrate Assessment. The goal was to encourage community engagement to make personal connections with rivers and streams, with the help of using applications/technology to engage the community. The participants had the opportunity to use these various types of Watershed Monitoring.



Lauren Daniels pictured in front of the Walnut Creek Wetland Center. Photo Courtesy of Aniya Bourne.

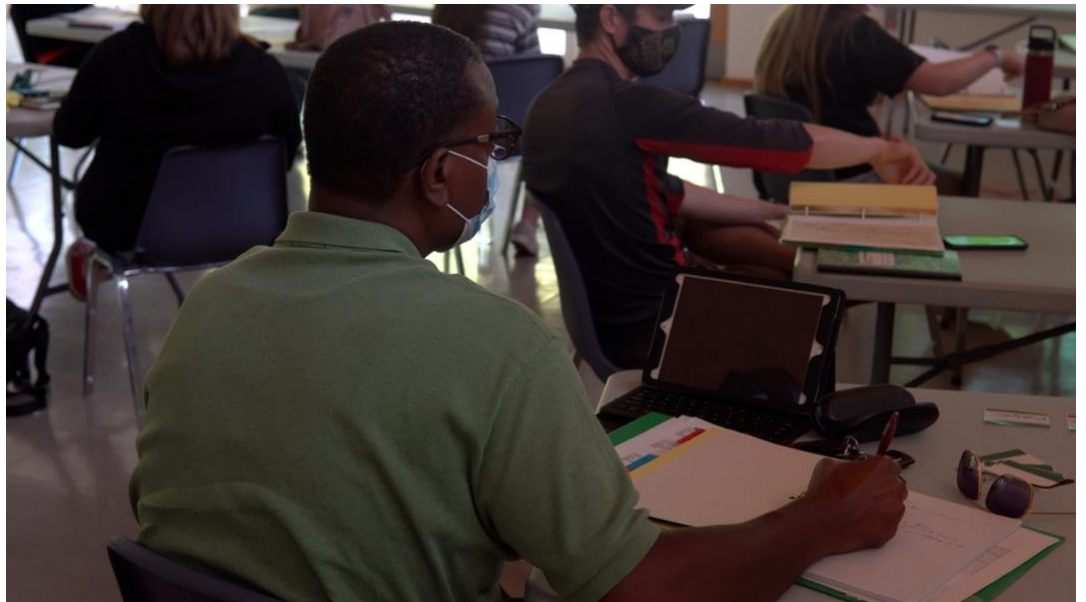


Lauren Daniels mentoring participants on the capabilities of the application. Photo Courtesy of Aniya Bourne.

Fall 2021 Walnut Creek Watershed Learning Network – Module 1



Lauren Daniel pictured with participants inside the Wetland Park. Photo Courtesy of Aniya Bourne.



PEJ's Director of Community Outreach and Board Support taking notes at the WCWLN. Photo Courtesy of Aniya Bourne.

Next Module 2:

Wake County Big Sweep

September 25, 2021 @ Walnut Creek Wetland Center

950 Peterson St, Raleigh, NC 27610

8:30 am – 1:00 pm

Fall 2021 Walnut Creek Watershed Learning Network – Module 2

Wake County Big Sweep

Citizen volunteer effort to make our environment litter-free. Wake County focuses on watersheds, coordinating cleanups of streams, lakes, and wetlands.

Introduction

Walnut Creek Watershed Learning Network (WCWLN) participated in the Wake County Big Sweep on Saturday, September 24th, at the Walnut Creek Wetland Park in Raleigh. Walnut Creek Wetland Park staff coordinated this event, inviting other volunteer members of the park and other agencies. Each group had a park employee to help them navigate and assist participants during this clean-up mission. All the participants received gloves, grabbers, trash bags, and orange vests. Other groups that were picking up litter along the creeks and streams had the option to use waders, buckets, and insect spray. Stacie Hagwood, park manager, welcomed everyone to the event and expressed gratitude for everyone's time and help. The park offered snacks, water, tea, hot chocolate, t-shirts, and koozies.



Image 1. WCWLN participants, park employees (lime green shirts), mentors, and members of PEJ pictured. All Photos Courtesy of Aniya Bourne.

Fall 2021 Walnut Creek Watershed Learning Network – Module 2

*Partners for
Environmental
Justice*

The mission of Partners for Environmental Justice (PEJ) is to advocate for the equitable treatment of both the human and natural communities in Southeast Raleigh.

Keep calm & keep the earth clean

We had a great turn out with our six participants, four PEJ members, and two WCWLN mentors. WCWLN participants were assigned to pick up litter along Garner Road south to Bailey Drive/Waller Place/Darby Street. As a group we collected nine bags of litter, while we entered a few locations into the Walnut Creek Watershed Action Plan using the Trash Surveyor application. This application was used to scout potential streams or land-based cleanup areas. Our team leader and mentors were very informative of the surrounding flora and fauna, pointing out interesting vegetation. As a result, we collected pounds of litter near the Trimart Gas station on Garner Road near the entrance to the Rochester Heights community (Image 4).



Image 2. WCWLN Participants picking up litter along Waller Place.



Image 3. Participants collecting kitchen litter near the vegetation.

Fall 2021 Walnut Creek Watershed Learning Network – Module 2



Image 4. WCWLN group picking up litter near the Trimart Gas station.



Image 5. WCWLN participant collecting litter along Waller Place.



Image 6. WCWLN group at the junction of Peterson Street and Garner Road.

Fall 2021 Walnut Creek Watershed Learning Network – Module 2

NKM Reflections from Module 1

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?

- “There are lots of great programs/people in place to help better the environment. Many groups are very passionate about keeping the environment clean and have been super successful about implementing sustainable systems just like the WCWLN”.
- “It was nice seeing a practical demonstration of the program goals/methods and motivational/inclusive communication. The citizen/community experience was a good introduction to summarize all of that”.

What are you KEEPING?

- “All of the information I have learned today will be what I am keeping. I enjoyed walking on the tour and learning about the creek. Since I’m not the most educated on watersheds and watershed management, I found it intriguing and useful!”.
- “I need to keep better tabs on local programs and engagement opportunities”.

What will MOTIVATE you?

- “Having a clean environment to live in and trying to preserve that environment is what motivates me. I want to live in a clean environment that will be around for years to come”.
- “It was nice seeing government programs being directed bottom-up by documented local input”.

Next Module:

Topics: Watershed Basics & Urbanization, Floodplain Management Strategies, and Green Infrastructure Overview & Tour

October 9, 2021 at the Walnut Creek Wetland Center 950 Peterson St, Raleigh, NC 27610

10:00 am – 1:00 pm

Fall 2021 Walnut Creek Watershed Learning Network – Module 3

Watershed Vocabulary

A **watershed** is an area of land where water drains into a larger body of water. A **floodplain** is an area next to a creek or river that floods. Pollution originating from a single and identifiable source is called **point-source pollution**. Pollution that is not originating from a single source is called **nonpoint-source pollution**. The **One Water approach** envisions managing all water in an integrated, inclusive, and sustainable manner to secure a bright and prosperous future.

Introduction

The WCWLN Participants met on October 9th, at the Walnut Creek Wetland Park in Raleigh. Despite the heavy rains and flash flood warnings for Wake County, we were still able to proceed with class. It was a coincidence that we were discussing the following topics: Watershed Basics & Urbanization, Floodplain Management Strategies, and Green Infrastructure Overview & Tour. We had a very informative session with all of our presenters. We also had the pleasure of touring the green infrastructure (GI) in front of the Wetland Park led by Amin Davis, PEJ Board Member, and Sarah Waickowski, Stormwater Engineer with NC State University. During this brief tour participants were able to see how permeable pavement, bioretention areas and cisterns function to capture and treat stormwater.



Image 1. Amin Davis (center) explaining the green infrastructure practices outside of the Walnut Creek Wetland Center. All photos courtesy of Aniya Bourne.

Fall 2021 Walnut Creek Watershed Learning Network – Module 3



Image 2. Amin Davis showing the stormwater at the outlet pipe collected from the treatment train of green infrastructure practices in the front of the Wetland Center.

Green Stormwater Infrastructure

Sarah Waichowski, P.E., Extension Associate with NC State University’s Stormwater Engineering Group, presented about the importance of Green Stormwater Infrastructure (GSI) for using the natural and built systems to manage local water cycles. The goal of GSI is to reduce and treat stormwater runoff and improve the community livability. Examples of GSI practices are: bioretention cells/rain gardens, rainwater harvesting/cisterns, downspout disconnection, planted trees, permeable pavement, green roofs, constructed stormwater wetlands, and streambank repair.



Image 3 & 4. Sarah Waichowski (striped shirt) talking about GSI with WCWLN participants.

Floodplain Management

Wayne Miles, P.E., is the Stormwater Program Manager for the City of Raleigh. His team manages the stormwater system in Raleigh, which consists of stormwater inlets, pipes, streams, lakes, and dams. Wayne presented the importance of floodplain management, to work smarter with the use of technology, policy, and personally track flooding to protect people and the natural environment. The City of Raleigh is actively helping residents who live along the flood prone areas, a new floodplain regulation has been approved; these

Fall 2021 Walnut Creek Watershed Learning Network – Module 3

changes limit development in the floodplain and will go into effect April 2022 after federal floodplain maps are updated.

Wayne introduced us to three flood tracking applications that can be tracked through your phone or desktop these include; [iMAPS](#), North Carolina Flood Risk Information System ([FRIS](#)), and North Carolina Flood Inundation Mapping Network ([FIMAN](#)). iMAPS is an online interactive mapping application developed by the Wake County GIS and Raleigh GIS used to provide easy access to reliable property information. By turning on the flood prone soils and flood hazard areas, we can access the areas that are at risk. FRIS offers flood hazard data, models, maps, and risk assessment and reports that are all based on data collected. FIMAN website provides real-time data on stream elevation, rainfall, and weather parameters over 550 gages, these gages are based on the NC Division of Emergency Management and U.S. Geological Survey. To check to see where the flood prone area are used, access these websites below:

iMAPS: <https://maps.raleighnc.gov/iMaps/index.html>

FRIS: <https://fris.nc.gov/fris/Home.aspx?ST=NC>

FIMAN: <https://fiman.nc.gov/#>



Image 5 & 6. Wayne Miles from the City of Raleigh explaining floodplain management.

Fall 2021 Walnut Creek Watershed Learning Network – Module 3

NKM Reflections from Module 3

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 didn’t even know permeable pavement existed! I also noticed that there’s a lot of resources to further educate myself and others on flooding!”.
- “These infrastructure and policy approaches have direct relevance to what’s happening right now and what’s happening recently in the community”.
- “The City of Raleigh has many initiatives in place to hold property owners accountable for renting out areas that are in the floodplain”.

What are you KEEPING?

- “Knowledge about green infrastructure, what I can do in my own backyard, and mitigating stormwater runoff.
- “Flood Risk Information System (FRIS)- maps to check flood zones are helpful. I checked my house and my boyfriend’s. I will share about this ”.
- “It’ll prevent me from buying property in a flood prone area, which will save me a headache in the future”.

What will MOTIVATE you?

- “Helping people learn like I am. There’s so many things in the program I didn’t know about, and I want to be able to share with many”.
- “Lots of information I look forward to getting more familiar with, I hadn’t realized how relevant this was to the area I live ”.
- “The law in Raleigh about not being able to build on floodplain areas is a great step in the right direction and good motivation to further current laws. All of this information from today’s session is so interesting and new to me and it motivates me to come to class”.

Fall 2021 Walnut Creek Watershed Learning Network – Module 3

Next Module:

Topics: Policies & Regulations Governing Watersheds, Raleigh Climate Plan & Current Projects, Warren County Environmental Justice Movement, Equity & Environmental Justice Movement

October 23, 2021 @ 10:00 am – 1:00 pm



Image 7 & 8. Permeable pavement (top) and bioretention area (bottom) in front of the Walnut Creek Wetland Center. Photo Courtesy of Amin Davis.

Fall 2021 Walnut Creek Watershed Learning Network – Module 4

Vocabulary for Module 4

The **Clean Water Act** establishes the basic structures for regulating discharges of pollutants into waters of the United States (40 CFR 230.3(s)).

Climate change is the irreversible process of increasing global temperatures caused by heat trapped in the atmosphere by greenhouse gases (GHGs).

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies (EPA).

Introduction

The fourth module of the WCWLN took place on October 23rd, a beautiful fall day at the Walnut Creek Wetland Park in Raleigh. This module is the fourth of six modules for the WCWLN program, which means that we are getting closer to seeing the various projects from our participants. The topics discussed in module four are: Policies & Regulations Governing Watersheds, Raleigh’s Climate Plan, and the Warren County Environmental Justice Movement.



Image 1. Keshi Satterwhite explains the purpose of the WCWLN to participants. She encourages them to continue to learn from each session and bring this knowledge to their communities. All photos courtesy of Aniya Bourne.

Fall 2021 Walnut Creek Watershed Learning Network – Module 4



Image 2 & 3. Dresden Hasala presenting on legal and regulatory mechanics of water management.

Policies & Regulations Governing Watersheds

Dresden Hasala, J.D. Candidate of Campbell University, started off our Saturday morning with the evolution of water governance in the 1850s. It wasn't until the 1880s water management became a concern. The tremendous floods on the Mississippi River (1910's - 1920's) and the Dust Bowl (1930s-1940s) initiated the regulation of water in the United States. Due to these extreme incidents, the Flood Control Act of 1944, is the first comprehensive watershed legislation. Since this time, there has been a heightened

Fall 2021 Walnut Creek Watershed Learning Network – Module 4

awareness of watershed management by various acts, publications, and environmental concerns. The Clean Water Act (CWA) of 1972 established the basic structures for regulating discharges of pollutants into waters of the U.S. (40 CFR 230.3(S)). Dresden also described the importance of the “waters of the United States”. This term has 7 different meanings, each of which needs to be addressed in order for the CWA to permit control of what people can and can’t do within “waters of the U.S.”.



Image 4. Megan Anderson introducing Raleigh’s Community Climate Action Plan.

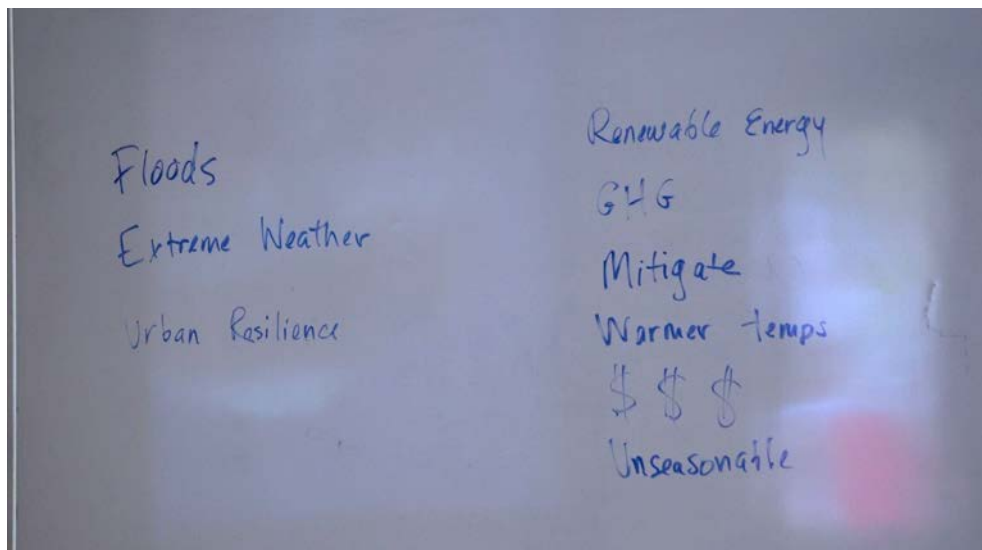


Image 5. WCWLN participants brainstorming the topics that are related and affected by Climate Change.

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Raleigh Climate Plan

Megan Anderson, Sustainability Manager and Nicole Goddard, Sustainability Analyst with the City of Raleigh's (COR) Office of Sustainability, presented the City's Community Climate Action Plan (CCAP), which aims to address the following: Buildings and Energy Strategies, Transportation and Land Use Strategies, and Resilience and Cross Cutting Strategies. Climate change is caused by human activity, like burning fossil fuels for transportation, light, and heat. Agriculture, construction, and aviation are one of the primary industries that emit greenhouse gases (GHGs). The main objectives for CCAP are; 1) Reduce GHG emissions, 2) Build Community Resilience, and 3) Support Climate equity. Some of the ways to reduce emissions are to motivate the construction of energy efficiency in new buildings. Switching to green energy, Duke Energy is transiting to cleaner supply methods. One of those methods is installing renewable energy on buildings and community projects. To reduce emissions from transportation, COR is encouraging more walkability, bikeability, and easy transit use in areas that are located in densely populated areas. The key is to reduce the vehicle miles traveled (VTM) and increase mobility in other forms of transportation. Alternative fuels such as electric cars are cleaner burning rather than diesel or gasoline.



Image 6. Megan Anderson providing an interview for the WCWLN.

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Image 7. Nicole Goddard in front of the Norman and Betty Camp Education Center.



Image 8. Nicole Goddard speaking with Denise about Climate Change related projects.

Fall 2021 Walnut Creek Watershed Learning Network – Module 4



Image 9 & 10. Reverend William Kearney (right in photo) speaking with Reverend Don Singletary, PEJ Director of Community Outreach & Board Support.

Warren County Environmental Justice Movement

Reverend William County, a Warren County Environmental Action Team (WCEAT) representative, led the Warren County Environmental Justice Movement discussion. WCEAT is dedicated to promoting health and wellness in their community, embracing environmental justice challenges they have faced in the past and adopting environmentally friendly practices. The WCEAT was established in February 2012. In 1978 Warren County, a poor, rural and mostly minority area had been taken advantage of

Fall 2021 Walnut Creek Watershed Learning Network – Module 4

by federal and state agencies allowing the dumping of a dangerous chemical called Polychlorinated biphenyl (PCB) along county roads. Since this time, the community has fought for justice by taking legal action and protecting the landfill's construction. Today, the community continues to educate people about their history through storytelling, presentations, community walks/gatherings, and hosting September as Natural Resource Appreciation Month: A Celebration of Water (H₂O). To learn more about or get involved with WCEAT and the Warren County African American History Collective please follow this link: [Facebook.com/WarrenCountyEnvironmentalActionTeam](https://www.facebook.com/WarrenCountyEnvironmentalActionTeam) and www.wcaahc.com.

NKM Reflections from Module 4

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?

- “How terrible environmental racism is and how not many people know about it (Warren County PCB Dumping)”.
- “These goals and efforts need lots of coordination, long-term focus, and a wide variety of stakeholders”.
- “I noticed that all of the presenters were very involved in the information they presented, showing that they truly care about the topics”.
- **What are you KEEPING?**
- “It’s important to be aware of the wider context- what’s going on, who to reach out to, and who to work with along the way”.
- “Future project ideas about contacting government officials regarding protecting the environment (land, water, & air)”.
- “My newfound knowledge of cases like Warren County. The information I’ve gained. More people need to hear it”.

What will MOTIVATE you?

- “The progress and achievement that have already taken place are what motivates me. Seeing success and advancement is very encouraging”.

Fall 2021 Walnut Creek Watershed Learning Network – Module 4

- “It’s good to see effort being taken in many different Contexts and there are many opportunities to contribute”.
- “The ability to improve environmental quality. I want to help and I feel like I can”.

Next Modules:

Topics: Overview of Planning, Design, & Implementation of Various Scales of GSI, NC Cooperative Extension Workshops, City of Raleigh Stormwater Innovation & Financing, & GSI Site Visits

November 6, 2021 @ 10:00 am – 1:00 pm

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

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



Image 11. Reverend William Kearney describes the community engagement taking place in Warren County, NC.

Fall 2021 Walnut Creek Watershed Learning Network – Module 5

Vocabulary for Module 5

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.

Fall 2021 Walnut Creek Watershed Learning Network – Module 5



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.

Fall 2021 Walnut Creek Watershed Learning Network – Module 5

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.

Fall 2021 Walnut Creek Watershed Learning Network – Module 5



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/>.

Fall 2021 Walnut Creek Watershed Learning Network – Module 5



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.

Fall 2021 Walnut Creek Watershed Learning Network – Module 5



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 and StormDrainage@raleighnc.gov (919-996-3779) and Rainwater Rewards RainwaterRewards@raleighnc.gov (919-996-4008).

Fall 2021 Walnut Creek Watershed Learning Network – Module 5

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

Fall 2021 Walnut Creek Watershed Learning Network – Module 6

*“The Big 6”
Stormwater
Pollutants*

Yard waste, pet waste, litter, household waste, auto waste, and pesticides/herbicides. Some of the ways we can prevent these common pollutants from entering stormwater systems and then entering our streams is to avoid littering, picking up after pets, not fertilizing before it rains, making sure your car isn’t leaking fluids, and not dumping any items in storm drains.

Introduction

The WCWLN completed its last module on November 20th at the Walnut Creek Wetland Park in Raleigh. There were a total of six graduates, each of which presented their community projects to fellow participants and everyone in attendance. Three Spring 2021 graduates of the Raleigh Watershed Learning Network (RWLN) attended this ‘graduation ceremony’ and spoke individually to these new grads about their experiences with the RWLN. The RWLN was the first program that PEJ implemented, which was based on the [Atlanta Watershed Learning Network’s](#) innovative model program. The schedule for the last module included; final community project presentations by participants, Clean Water Education Partnership (CWEP) presentation, lunch, trivia game, and a graduation ceremony.



Image 1. Fall 2021 WCWLN Graduates! (From left to right: John, Caroline, Amy, Ashley, and Denise. One participant not included in the photo). All photos courtesy of Aniya Bourne.

Fall 2021 Walnut Creek Watershed Learning Network – Module 6



Image 2. WCWLN participants (Caroline and Daphne) presented their final project on Rocky Branch Creek Greenway Clean up.



Image 3. Spring 2021 Raleigh Watershed Learning Network graduates (From left to right: Rachel, Sarah, and Parnell).

Fall 2021 Walnut Creek Watershed Learning Network – Module 6

Community Project Presentation

The purpose of the Community Project presentations was for the participants to incorporate what they learned from the past five modules and apply this to their community of choice. Each of these participants were assigned a mentor to help them develop their project. Some of the topics that we covered in this program were: green infrastructure, stormwater and flooding, watershed management, equitable development, community advocacy and environmental justice. The six project summaries from this year's graduates are below:

1. **Amy- “Downspout Disconnection DIY in Southeast Raleigh”.** A downspout is a vertical pipe used to drain rainwater off a roof. Disconnecting these downspouts and redirecting the rainwater onto grass or into a garden, reduces stormwater runoff into yards, driveways and entering into stormwater pipes. Amy was able to show this process in her project, she decreased her water usage (bill) and used the runoff to water her garden.
2. **Ashley- “Gaia Raleigh”.** Created a mobile application called Gaia Raleigh, which is used for the residents that live in or near Raleigh. The purpose of this application is to engage the community in taking care of the environment and learn more about its resources. This application was created by MIT APP Inventor and required block coding skills by Ashley. The application has four tabs to choose from: learn, engage, lead, and benefit. The learn tab provides various resources about watershed basics and management. The engage tab, helps users engage with the environment and resources related to nearby cleanups. The lead tab encourages the user to lead a group based on various programs. As well as ways to apply for an award with the City of Raleigh. The benefit tab, explores the programs that are readily available to the community. This application is not yet published, but will be ready by the end of this year. **For more information on this application you can visit the link below:**
<https://www.youtube.com/watch?v=VZ52vHGMcE4>
3. **Caroline and Daphne- “NCSU Creek Clean Up”.** Two of our participants teamed up to host a litter clean up along the Rocky Branch Greenway beside Rocky Branch Creek on NC State University’s campus. During this clean up, Caroline and Daphne took this opportunity to teach the volunteers about watershed management and topics related to the past five modules of the WCWLN. Participants were able to document the number of litter collected (thirty plus masks, two pairs of gloves, twelve bottles), mostly notably finding twenty tennis balls due to the creek being adjacent to tennis courts.

Fall 2021 Walnut Creek Watershed Learning Network – Module 6

4. **Denise- “Wake County Big Sweep Hedingham Subdivision”**. Denise hosted her own private clean up in her neighborhood with the help from Alexandara Heinemann, Wake County Big Sweep Coordinator. She had a check in station and distributed supplies to the twelve volunteers. The group collected sixteen bags of trash, ten recyclable bags, sofa pillows, box springs, lawn chair, TV, four tires, scrap metal, car fender, and various car parts.
5. **John- “Stream Monitoring Little Rock Creek”**. This project will consist of stream monitoring of the Little Rock Creek. This will be a year long commitment with the City of Raleigh's [Stream Monitoring Program](#), he will be starting the week of November 22nd. His goal is to educate those on the creek's health, support municipality science goals, and to encourage community engagement. This is important because the Little Rock Creek has historically been known to be polluted. He will be using a water monitoring kit and will continue to work with his WCWLN mentor on this project.



Image 4. Ashley introduced us to her application called “*Gaia Raleigh*”.

Fall 2021 Walnut Creek Watershed Learning Network – Module 6



Image 5. Caroline Wofford presented the CWEP program and Carmela Teichman (far right) spoke on the importance of public outreach.

Clean Water Education Partnership

Caroline Wofford is the Stormwater Education Coordinator of the Clean Water Education Partnership (CWEP). CWEP is a community education program within the Water Resources Program of the Triangle J Council of Governments, which is a regional planning agency that addresses the following focus areas; affordable housing, energy, transportation, aging and human services. The goal of the CWEP is to educate the public on promoting clean water, healthy ecosystems, and improving people's quality of life. Caroline provides outreach within the following river basins; Neuse, Tar-Pamlilco, and Cape Fear. Her team continues to provide clean water education virtually and in outdoor spaces; pre-COVID all of these opportunities were done in person. Carmela Teichman is the Stormwater Educational and Outreach Specialist for the City of Raleigh. In this role she provides outreach in classrooms, professional lunch & learns, and events in the Raleigh area. She addressed the importance of the stormwater fee, which is used to fund all stormwater programs such as projects to address flooding, erosion, water quality, and replace aging infrastructure.

To get involved with CWEP please visit their website: nc-cleanwater.com

Upcoming events: CWEP Regional Creek Week - March 12-19, 2022

Fall 2021 Walnut Creek Watershed Learning Network – Module 6



Image 6. Partners for Environmental Justice members and WCWLN participants engaged in the CWEP presentation.



Image 7. Maggie Bailey is the president of We Plant it Forward, an environmental community service program located in Raleigh. This program promotes the benefit of trees and tree planting specifically working with corporations, community organizations and schools. **To learn more about this program, please visit this website:** <https://weplantitforward.org/>

Fall 2021 Walnut Creek Watershed Learning Network – Module 6



Image 8. Renai Nez, PEJ's Program Director presented the program trivia. The winners of the trivia received a \$10 Starbucks gift card.

Conclusion

This is the second completion of PEJ's Watershed Learning Network. We are very proud and congratulate the Fall 2021 graduates in gaining knowledge and skills to take action in improving conditions in their communities and to promote sustainable solutions. We would like to thank the Town of Cary and the City of Raleigh for funding the WCWLN and Keshi Satterwhite for coordinating the Fall 2021 program. PEJ would also like to thank the guest speakers from the following organizations: the City of Raleigh, Warren County Environmental Action Team, North Carolina Department of Environmental and Natural Resources, Water Resources Research Institute, Clean Water Education Partnership, North Carolina Cooperative Extension, North Carolina State University department of Biological and Agricultural Engineering. PEJ would also like to recognize our board and staff members who were able to help coordinate the refreshments, printing materials and providing assistance throughout this program.

A final component of this Watershed Learning Network will be the design and construction of seven residential green infrastructure projects within the Walnut Creek watershed. The projects that are currently proposed are four rain gardens and one cistern in Raleigh, along with two rain gardens and one cistern in Cary.

PEJ hopes to host another WCWLN in 2022; **please visit our website for updates on the WLN and community projects at:** <https://www.pejraleighnc.org/>

Fall 2021 Walnut Creek Watershed Learning Network – Module 6



Image 9. Amin Davis (PEJ Board Member) provided Keshi Satterwhite with a gift and flowers from PEJ.



Image 10. Carolyn Winters, PEJ Treasurer (left) and Amy (right) at the WCWLN Module 6 celebration.

Trash Task Force Summary Report

Spring, 2021

Submitted by Stacie Hagwood, Park Manager
Walnut Creek Wetland Park



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Preface

The Raleigh City Council, with assistance from City of Raleigh employees, and after receiving input from citizens, periodically re-evaluates the direction the city is going, and creates a Strategic Plan. The Strategic Plan is a guiding document that puts into writing and holds us, as City Employees and Councilpersons, as elected officials, accountable for how the City's resources and efforts are expended. The most recent Strategic Plan was approved earlier this year and covers the 2021 fiscal year through the 2025 fiscal year (July 1, 2020 through June 30, 2025). You can review the FY21-FY25 Strategic Plan here: <https://raleighnc.gov/services/government/strategic-plan>

Additionally, the Office of Sustainability has recently released the Community Climate Action Plan which aims to reduce greenhouse gas emissions, build community resilience to the impacts of climate change, and support climate equity. You can review the plan here: <https://raleighnc.gov/services/sustainability/community-climate-action-plan>

The Trash Task Force aligns with several goals of the Strategic Plan, as well as the Community Climate Action Plan. As such, the task force recommendations should be considered as it relates to those plans:

FY21-FY25 Strategic Plan

Organizational Excellence, Initiative 5.2: Obtain regular feedback from community members about City programs, projects, and services and use the information to make improvements.

This document was prepared following a two-month engagement among City staff from multiple departments and members of the Rochester Heights and Biltmore Hills communities. Participants jointly defined problems, identified options to address them and evaluated those options. The solutions presented here represent a commitment to participatory engagement. Through this engagement, staff learned that residents of these neighborhoods were unaware many of the services the City provides to manage waste, such as free bulky load pickups. Many of the options developed through this process will inform better outreach on such services.

Growth and Natural Resources Initiative 4.3: Implement strategies for city-wide waste reduction.

This process, and the options presented in this report support education and engagement strategies that will reduce waste; divert waste from the landfill by promoting recycling and proper disposal of tires and other hazardous materials; and reinforce community coalitions to address dumping and littering.

Community Climate Action Plan

Waste reduction is one of several strategies included in the Community Climate Action Plan. The options included in this document will help to properly manage waste and debris. Additionally, much of the dumping that occurs in the Rochester Heights and Biltmore Hills neighborhoods is near or in Walnut Creek. This puts pressure on the stream ecosystem and affects water quality. To support ecosystem resilience and biodiversity and the ability of the watershed to properly absorb and divert floodwater downstream, stream blockages caused by debris from illegal dumping must be addressed.

Trash Task Force at Walnut Creek Wetland Park
Summary Report
Spring, 2021

Introduction

As a wetland dominated by trees, Walnut Creek Wetland Park is a swamp. Swamps throughout history have long been thought of as nuisance land, at best, and dangerous places full of snakes, at worst. It has only been in the last four to five decades that wetlands are understood to be critical areas for flood mitigation, water detoxification, and wildlife habitat. Being misunderstood, it has been common for wetlands, including Walnut Creek Wetland Park, to act as dumping grounds for household garbage, tires, construction debris, furniture, appliances and much more.

Trash has been an issue for Walnut Creek Wetland Park since before there was a park. In the mid-1990's, Partners for Environmental Justice (then known as Episcopalians for Environmental Justice) began regular cleanups around the wetland and Rochester Heights, enlisting community members and people from beyond, to tackle the tons and tons of trash that had been dumped over at least a century (bottles have been found in Walnut Creek that date back more than one hundred years). To date, it is estimated that more than 60 tons of trash have been removed from the wetland since 1995.



Dr. Norman Camp and his son collect discarded tires at State and Darby Street, 2011

Despite hosting two Big Sweeps each year, drawing 50-150 volunteers for each event, and multiple small group and staff efforts to battle the trash problem within the park, there continues to be a trash problem within and around the park. It has become apparent that volunteers and staff removing trash from the creeks, greenways and streets around the park will not solve or even mitigate the root causes of the trash presence.

A task force was assembled to look at the problem, identify barriers to appropriate trash disposal, and provide possible solutions.

The Trash Task Force



700 Peterson Street

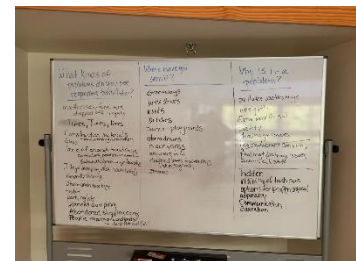
The original cast of the Trash Task Force consisted of Forty-two (42) members: Eighteen (18) members of the community (representing Rochester Heights, Biltmore Hills, State Street Village and a few communities beyond); Fifteen (15) City of Raleigh staff members which included people from Stormwater, Solid Waste, Sustainability, Police, Parks, Volunteer Services, Biltmore Hills Community Center, and the Neighborhood Ecology Corps; Nine (9) members represented partners (such as Partners for Environmental Justice and Walnut Creek Wetland Community Partners) and community businesses and entities (Garner Road Community Center, Walls Recycling, and NC Department of Transportation).

After an interest meeting via TEAMS on March 22, 2021, the Task Force met four times, every two weeks between March 29 and May 10. Once the Task Force began meeting, we had 29 regular members who came at least once, and regular attendance ranged from 15 to 21 participants.

Meeting Structure

All four meetings were hybrid: attendees had the choice to come in person to the Norman and Betty Camp Education Center or join the group via TEAMS. About a third would join in person, and the rest would meet online. The meetings had well-defined agendas that included an ice breaker, introductions, and a specific goal of each meeting. Attendees were given an assignment to complete between meetings.

Meeting #1 addressed the history of trash within and around the park. Participants, in small groups, were tasked with discussing and presenting their ideas to the following three questions: What kinds of problems are you seeing related to trash and dumping? Where are you seeing it? Why is it a problem? These responses were recorded, and participants were tasked with sending in photos of trash they see before the next meeting.



Meeting #1 March 29, 2021



You notice that someone has dumped 4 tires in your neighborhood. You want to get the unsightly mess away, but what do you do with it?

Meeting #2 recapped what was discussed at the first meeting by pairing their responses with a slide show showing all the photos of trash that related to their responses. In small groups, members were given a set of flash cards with trash issues and a question (see example left). As a group they were to discuss the questions and come up with what they thought were correct answers. The purpose was to illustrate that there were questions people didn't know the answers to, that answers could be inconsistent, and that many answers were dependent on additional information. Lastly, the small groups were tasked with looking at each of the problems and brainstorming what they thought might be the barriers to someone disposing of trash the right way.

Members were asked to bring at least one solution to at least one barrier to the next meeting.

Meeting #3 challenged the members to brainstorm possible solutions to the barriers presented from the previous meeting. Members were asked to think about these possible solutions over the coming two weeks, knowing that at our final meeting we would be prioritizing these solutions.

Meeting #4 was our final meeting. At this meeting, we discussed the challenges and opportunities presented in seeking solutions to each barrier. Members ranked solutions based on perceived cost, what is easiest and/or the quickest to implement, and what would be the most impactful.

Trash Task Force Findings

Meeting #1 focused on identifying the problem:

What kinds of problems are we seeing regarding trash/litter?

Illegally dumped furniture and mattresses
Tires, Tires, and many more Tires
Construction materials: roofing, wood, insulation
Glass
Illegally dumping whole households
General tossing from car windows and pedestrians
Storm drain blockages
Micro-plastics
Parking lots used as dumping grounds
Abandoned shopping carts
People Moving/Landlords?/ Junk Removal Companies?



Abandoned shopping carts- Garner Road



Homeless campsite on the Walnut Creek Greenway

Where are we seeing it?

Greenways
On the street
In the woods
In ditches
Parks and playgrounds
Storm drains
In our yards
Anywhere in the Triangle!
Downed trees in the waterways collecting trash
Streams

Why is it a problem?

Pollutes waterways
Unsightly
Extra work for our Solid Waste division
Unsafe
Drainage issues
Opposite of a Healthy/Vibrant community
Creates flooding
Burdens city staff and volunteers



Trash along Marsh Creek

Meeting #2 focused on identifying barriers

Mattresses: They are big and bulky; you need a truck or you have to pay someone to get rid of it; Not knowing what to do with it; Want to donate, but don't know who will take it; Difficult to navigate what options there are.

Tires: Not many recycling options; Only 3 places in Wake County will take them (and none close to the center of the City) and while it is free, if a person has more than 5 they must have a State of NC

form (North Carolina Scrap Tire Certification) filled out and signed by the originator of the tires (such as a dealer or body shop); https://files.nc.gov/ncdeq/documents/files/ScrapTire_Certification_Form.pdf

Construction Debris: Path of least resistance; Tipping fee has to be paid to contractor to accept the debris; commercial businesses can't take to Wake County Convenience Centers. Could language be a barrier? Can signs be posted in Spanish?

Clearing out Entire Households: Inability to vet junk removal companies; households generate many different types of waste (hard to recycle); there is no landlord registry within the city to disseminate education

General Littering: Apathy; insufficient quantity and visibility of trash cans; excessive packing of fast food; not understanding who is responsible for removing litter; insufficient Solid Waste infrastructure to keep trash removed and/or not knowing who to call for what. It is hidden/easy to get away with; Lack of environmental awareness; Many cleanups without the problem dissipating is disheartening; makes you feel helpless

Other: Breakdowns of Solid Waste trucks mean weeks of piles of collected and dumped trash on the roadway; disconnect between Parks and Housing and Neighborhoods

Meeting #3 focused on brainstorming solutions

Mattresses: A community member volunteered to find out which thrift/charity stores would take clean, used mattresses/box springs; Furniture and mattress dealers can distribute information with new mattresses, on how to dispose of the old ones.

Tires- Investigate who is actually doing it the right way, by contacting those that actually turn the forms in; perhaps they are aware of who isn't doing it the right way, and target education towards those that are not complying with the law. Can the law be changed so that one doesn't need a form to dispose of more than 5 tires?



Construction debris dumped down a ravine in Rochester Heights. Nov 2020

Construction Debris: Can non-English speaking workers be given education information, particularly in Spanish so they know their options

Emptying Entire Households- Do junk haulers need to be registered or otherwise identifiable to hold them accountable? Can they be? Can educational information be given to landlords through Housing and Neighborhoods?

General Littering- Increase the number and visibility of trash cans around Walnut Creek Wetland Park on the south side (Bailey Drive and Darby Street); put trash cans at popular bus stops;

sewer drain grates should be able to trap more trash before it goes into the storm drain; Marketing campaigns to include positive messages for encouraging putting trash in a trash can; marketing campaigns that use "eyes that are watching you"

Other: There should be "an app for that" that people can enter an item to find out how to dispose or recycle it (Waste Wizard is a similar app for recycling); Trashcan wayfinding; Additional foot patrols within parks; reward system for appropriate disposal; There is no convenience center in central/southeast Raleigh. Trash cans as art pieces (get Raleigh Arts involved); Use corporate partners; Trail Angels (greenway ambassadors, which we already have), composting program; better education

overall to citizens including quarterly free pickup for large bulky items; incorporate recycling for all entities including apartments and businesses. Could the Walnut Creek Wetland Park-Biltmore Hills-Rochester Heights act as a prototype/demo for other communities implementing solutions on a small scale? Reward system for volunteers (the “golden grabber”); Marketing tying trash to water quality

Meeting #4 focused on ranking the suggested solutions

Possible Solutions were ranked from what the group believed to be the least expensive to the most expensive to implement; from the easiest to the most challenging; and from the most impactful to the least impactful. There were 21 suggestions, and we selected the top and bottom 5 from the three work groups. Here are their rankings:

Least Expensive

- Developing marketing and educational materials including
 - Give info to mattress/furniture dealers for them to give to new customers
 - Give info to landlords to distribute to tenants
 - Better/more frequent information to citizens
 - Information should also be in Spanish
 - Provide educational information to formal and informal junk haulers
- Rewarding volunteers
- Using corporate partners to sponsor initiatives
- Partnering with Raleigh Arts to decorate waste cans
- Creating a prototype initiative in a small community such as Rochester Heights/Biltmore Hills/Walnut Creek Wetland Park that could be expanded to other parts of the city
- Changing the law regarding tire disposal



<https://www.mysecuritysign.com>

Most Expensive

- Lobbying for a Wake County Convenience Center in downtown/southeast Raleigh
- Free Composting Program
- Bringing free recycling to businesses and apartment complexes
- Replacing stormwater grates
- Changing the law regarding tire disposal
- Development of an education app to direct you to resources
- Creating a prototype initiative in a small community such as Rochester Heights/Biltmore Hills/Walnut Creek Wetland Park that could be expanded to other parts of the city

Easiest to Implement

- Educational and Marketing information
- Rewarding Volunteers
- Implementing increased foot patrols in Biltmore Hills Park and Walnut Creek Wetland Park
- Creating a prototype initiative in a small community such as Rochester Heights/Biltmore Hills/Walnut Creek Wetland Park that could be expanded to other parts of the city
- Adding additional trash cans to problem areas
- Using corporate partners to sponsor initiatives



Big Sweep, May 2010

Most Challenging to Implement

- Lobbying for a Wake County Convenience Center in downtown/southeast Raleigh
- Changing the law regarding tire disposal
- Bringing free recycling to businesses and apartment complexes
- Developing an education app to direct you to resources
- Creating a prototype initiative in a small community such as Rochester Heights/Biltmore Hills/Walnut Creek Wetland Park that could be expanded to other parts of the city
- Starting a free composting program
- Replacing all the stormwater grates

Most Impactful

- Lobbying for a Wake County Convenience Center in downtown/southeast Raleigh
- Education campaigns
- Changing the tire laws
- Developing a resource app
- Rewarding Volunteers
- Translating education materials into Spanish

Least Impactful

- Free composting program
- Partnering with Raleigh Arts for trash cans
- Translating education materials into Spanish
- Free Recycling for Businesses and Apartments
- Rewarding Volunteers
- Educational information for mattress sellers, landlords



State Street, April 2021

Potential Solutions in Context

Tires: Tires and mattresses are probably the worst items to deal with. Tires are often dumped in piles, appearing to just be shoved off the back of a pickup truck. An anecdotal story: When inquiring

of an acquaintance who owns a transmission shop, what he does with the old tires when he gets an order for tires from a customer, he said, "I got a Mexican guy who comes and gets them. He resells what he can and the rest he takes to the dump. I think he has to pay a buck-50 or something like that to get rid of them." An investigation into this revealed that, in fact, disposal is free at one of three Wake County Multi-Material Recycling Centers (Apex, Durant Road, and Wendell), however, if you have five or more tires, you must have a North Carolina Scrap Tire Certification Form, which shows where you got the tires from. The transmission dealer would have to give this form to the person he gives the tires to, and then that person would provide the form when he arrives to dispose of them.

Idea #1 was to see about changing the law to allow anyone to dispose of tires at the Multi-Material Recycling facility with any quantity of tires. This, of course, would not remove the inconvenience of having to travel so far to discard the tires.

Idea #2 was to find out from the Wake County Multi-Material Recycling Centers, exactly who was doing it correctly, and reward them. Further, it was believed that those who were doing it correctly, would likely have a good idea of who was doing it incorrectly, and could provide that information. Then those that were doing it incorrectly, could receive educational information about options for appropriate disposal.

Mattresses: As the second worst offender (probably due to their bulkiness), it was believed that if people knew where to take their old mattresses, it would be easier to dispose of them properly. It was suggested that educational materials could be distributed to those who sold mattresses and box springs, and that information could be given to a buyer. Additionally, some charities take clean, used mattresses/box springs. One task force member did a little research and found that The Salvation Army thrift stores would take them, and Goodwill would take them (but not during COVID-19). Mattresses would need to be without stains or tears, and less than 5 years old. There is also conflicting information on the Internet. One mattress distributor indicated that Habitat for Humanity will take them, but that non-profit's website says that it doesn't.

Dumping of Entire Households: Encountering what appears to be the dumping of an entire household is, unfortunately, not uncommon. A pile of trash may have a mattress, a few pieces of furniture, a box fan, clothing, and bags of household garbage that may include food, bits of toys, dirty diapers, and all kinds of items. Like the pile of tires, it appears that someone just backs a truck up and shovels everything out of the back. There are several theories as to why this occurs. One theory is there are many unknown companies that identify as "junk removal companies." Many signs can be seen at highway interchanges and they only have a phone number. One solution is to find out 'who are the junk haulers?' Commercial businesses cannot take items to Wake County Convenience Centers. They must take it to a place where they have to pay a "tipping fee." One suggestion is that educational material be developed that can be given to both junk haulers and to landlords. While there is no true directory of landlords for the Raleigh area, it is the task force's understanding that Raleigh Housing and Neighborhoods does keep a directory of housing that they can refer potential renters to.

Stormwater Grates and Water Quality: Much of the litter that is discarded by pedestrians and vehicles are items like plastic soda bottles, aluminum cans, glass bottles, and fast food items. There is concern that openings in stormwater grates are too large and allow too much trash to filter through and into waterways, which presents a problem for water quality, as well. It was suggested that stormwater grates be replaced with grates that have smaller openings, and that educational marketing be tied to water quality and how litter affects it.

Marketing Campaigns: Many of the ideas that were brought out, were based on educating people through marketing campaigns. All, also, seemed to agree that it was very important that education material be in Spanish. It was clear in Meeting #2 that there were many circumstances that the average person just didn't know the answer to and would need to research to come up with the correct answer. Some of the solutions that people suggested were 1. Using a positive campaign ("Be a Standup Guy") to encourage proper disposal. 2. Using "eyes" on signage has a psychosocial impact on behavior (<https://www.atlasobscura.com/articles/why-sticking-a-pair-of-eyeballs-on-a-sign-actually-changes-behavior>) and can deter some people from committing petty acts like littering; Would using "eyes" in anti-littering marketing campaigns have an impact? 3. Some of our younger, tech-savvy task force members suggested creating a phone app that you can plug in an item, and it will tell you whether it can be recycled, how to donate it, and where or how to dispose of it.

Multi-Material Recycling Center in Southeast or Downtown Raleigh: Noting that the three facilities where you can take tires, mattresses, and other difficult-to-dispose of materials are all in locations far-flung from southeast Raleigh (closest to Walnut Creek Wetland Park is 13 miles; furthest is 20 miles), a popular idea suggested was to have a central place close to downtown Raleigh, where people can legally dispose of bulky items. However, it was also brought up that with the historic environmental injustices borne by people of southeast Raleigh, would there be those who would be against it?

Bring in Support: Could City of Raleigh Arts partner to have contests or pay artists to decorate trash cans? One person thought it was important to get the school children who live or go to school in the area to be able to decorate the trash cans. Could corporate sponsors partner with the City for funding of initiatives?

Add more trash cans: Do people litter because they are simply tired of carrying a trash item? What if there was an app that told you where the nearest trash can was? City of Raleigh has added many new shelters at bus stops, but there are no trash cans. Adding trash cans means that they would need to be emptied, which might require additional staffing or changes to servicing the cans. The south side of Walnut Creek Wetland Park, Bailey Drive and Darby Street, are regularly littered by what appears to be people simply walking down the street and discarding the trash from their purchases at the store at Bailey Drive and Garner Road. As the south side of the park gets enhancements through the Master Plan from the 2014 Bond, there will be need for additional trash cans. Can they be installed before that?

Foot Patrols: If there were more people patrolling Walnut Creek Wetland Park and Biltmore Hills Park, people would be less likely to toss their trash or dump. It was pointed out there is an "Adopt-A-Greenway program, and all but a few of the 120 miles of greenway have been adopted. (Interestingly, no one on the task force suggested installing cameras to "catch" people dumping; nor was increased littering penalties or police enforcement brought up as possible solutions.)

Rewarding Volunteers: While there was some support for rewarding volunteers who participate in cleanups (such as giving out litter grabbers- "The Golden Grabber" award!), it was also agreed that this would not prevent the littering from occurring in the first place.

Free Recycling for Businesses and Apartment Complexes: Some believed that those who live in multi-family housing and commercial businesses do not have access to recycling by the City of Raleigh. Multi-family units can apply with the City to have recycling at their site, and fees for recycling are part of their taxes.

Create a prototype or experimental zone to try some of these ideas: If Biltmore Hills, Rochester Heights and Walnut Creek Wetland Park could be used as a zone to try out new ideas, those that worked could be implemented on a larger scale in other parts of the city.

If I had \$2000, I would address litter and dumping by....

After the final meeting on May 10, an email request was sent to task force members inquiring how they would spend \$2000 if given the opportunity to apply it to solving the littering and dumping problems. Here is how they responded:

Marketing and Education:

“I think it should be spent on advertising. Anything to get the word out.”

“I would put it towards the marketing/ educational opportunities we discussed. I feel like a lot could be changed if people knew their options.”

Create a Demonstration Project for Rochester Heights/Biltmore Hills/WCWP:

“I do think we can make a dent. I’m always energized when there’s fresh energy at the table. For \$2000, I’d hire someone to create, with the community reps already involved, a proposal for making the State Street/ Bailey Drive area a model for how we really can address dumping and trash, very locally. It would include a synopsis of the issue with photos, specific actions to be taken by neighborhood, public, non-profit, and corporate entities, a schedule for action and a promotional plan with graphics, prizes, etc. Our goal: Become the “Go To” Neighborhood for how to eliminate the problem. “Trash, It’s Outa Here!” or the like.

“If I had \$2000, I’d put it toward a kickoff of a broad neighborhood engagement strategy toward a pilot project. I’d work in partnership with local orgs like PEJ and others, develop printed materials and spend time knocking on doors to talk to people about waste management.”

Install More Trash Cans

“I would implement more trash cans (neon colored) in more areas. We simply don't have enough.”

Summary

Littering and Dumping is a huge problem in Raleigh, and certainly in southeast Raleigh, an area plagued by environmental injustices since at least the late 1800’s when raw sewage was pumped into Little Rock Creek, and later flooding as development sent stormwater into neighborhoods. Wetlands were trashed as they were considered useless land full of undesirable plants and threatening animals.

Despite a concerted effort by community members, property-owners, countless volunteers and city employees, dumping and littering continues as a chronic problem. In the dark of night, a pickup truck can offload 20 tires or the remains of a tenant’s apartment faster than it can be cleaned up.

Dumping tires and household debris, littering from a car window, discharging sewage waste from a rental RV, broken glass, discarded shopping carts, etc. are more than unsightly, they are polluting our city and its waterways, and contribute to a community’s negative vision of itself. Using the [“broken window theory”](#) (Wilson and Kelling, 1982), dumping and littering simply begets more dumping and littering.

The Trash Task Force worked to dive deeper to identify the multiple problems that they were seeing and what the barriers (other than just meanness and apathy) were to trash being disposed of appropriately. They found that even they didn't always know what to do with an item. Some were not aware that the City of Raleigh Solid Waste would pick up bulky items quarterly for free. Education and marketing options made the most sense to many of the participants. If they themselves didn't know all the options (or where to find that information), then the average person probably didn't know either.

Our younger, tech-savvy task force members, liked the idea of an app that you could just plug a word into (such as "mattress") and it would show you ways to donate, recycle or dispose of that item. Others supported getting children involved to paint trash cans as a way to educate the younger generations, and many on the task force agreed that just getting the word out through traditional means (and in Spanish) could be effective. Some supported trying some of these new ideas on a small scale as a prototype for the larger city.

Next Steps

The 2021 Trash Task Force has done the heavy lifting. Some research has been done, the voices and ideas brought to the table, and those ideas have been looked at for viability, cost, and practicality. Some ideas we believe would be very impactful, but have an uphill challenge of taking time, staff resources, and money to implement.

It is recommended that a multi-faceted, multi-department effort be made to implement many of the suggested options, utilizing the easiest and least expensive options of marketing and education (and reaching out to non-English-speaking community members), but also taking the longer view of how to "right the ship" by making it easier to dispose of tires by removing a limit on the number, by making sure that our community members living in one of the highest poverty areas have reasonable access to a Convenience Center, and by adding trash cans to high-use areas such as bus stops.

A Special Thanks to All the Participating Task Force Members!

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Corey Sudderth

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Carolyn Smith
Megan Anderson
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Kenny Lyons
Matthew Winkle
Mo Johnson



Inside a storm drain in Rochester Heights



State Street. Note the homemade dumping sign adjacent to the sofas



Trash collects in Walnut Creek near Dacian Road



Tires, Tires, Tires



Dumping at end of Birch Ridge Road



Results of Volunteer Cleanup through Greenways



Discarded new Styrofoam trays in creek between Hammond Road and Hertford Village



End of Waller Place in Rochester Heights



Tires discarded behind J.D. Lewis Multi-Purpose Center- Garner Road



Sawyer Road



Waller Place in Rochester Heights



Saints Avenue off Garner Road

South Blount Street





Biltmore Hills Park



Fitzgerald Drive at Biltmore Hills



Drainage ditch South Bloodworth Street



Discarded TV "shells" after being stripped of wiring for resell- Garner Rd across from Wall Recycling



Saints Avenue



South Blount Street



Southlight parking lot at Biltmore Hills