

COASTAL WACCAMAW STORMWATER EDUCATION CONSORTIUM



Annual Report of Activities

JANUARY 2022 - DECEMBER 2022



COOPERATIVE EXTENSION
College of Agriculture, Forestry and Life Sciences

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Executive Summary

The Coastal Waccamaw Stormwater Education Consortium's Annual Report of Activities for 2022 summarizes outreach and involvement programming offered by the Coastal Waccamaw Stormwater Education Consortium (CWSEC) community and education partners throughout the year. The CWSEC implements a region-wide outreach strategy to educate Horry and Georgetown County residents on water quantity, quality, and the cumulative impacts of stormwater. Education programming was steered by the CWSEC's Annual Activity Plan, which identifies priority issues to address through messaging and outreach that targets residential and commercial audiences.

Through partner collaboration, new initiatives in stormwater outreach offered creative methods to work with communities to address pollution in the region.

2022 Highlights

- In 2022, Clemson Extension's Carolina Clear program launched a multi-part mass media campaign "Flush Only TP." This campaign focused on the prevention of sanitary sewer overflows (SSOs) as bacteria in waterways has been identified as a pollutant of concern. This campaign included four billboards in the Coastal Waccamaw region as well as a commercial that was aired on WBTW.
- The North Inlet-Winyah Bay National Estuarine Research Reserve (NI-WB NERR) celebrated 30 years of research, education, and stewardship in year 2022. The anniversary was celebrated from August 31st throughout September with library talks, public programs, evening seminars, and ended with an "Estuary Open House Party".
- In the summer of 2022, NI-WB NEER hosted their first CTP intern, CCU's Bailie Willis. Bailie conducted a survey of coastal residents who live in communities with stormwater ponds with the goal to better understand the barriers to applying landscaping BMPs, such as vegetated shoreline buffers. The survey received 186 responses from Grand Strand residents and gave insight into the current vs. preferred state of local stormwater ponds.



CWSEC Coordinator

In October 2022, Catherine Watts joined the Clemson Extension Water Resources Team and assumed the role of CWSEC Coordinator.

Catherine is originally from Conway, SC but moved from the area to obtain a Bachelor of Science in Earth & Environmental Science from UNC Charlotte and a Master of Science in Ecosystem Science and Management from University of Michigan. She has most recently worked with Michigan Audubon Society to manage and restore wetland habitat at their Bernard W. Baker Sanctuary for the conservation of the Sandhill Crane. Catherine's professional interests include native plant landscaping, low impact development, and wetland restoration.

Executive Summary

2022: A Year in Pictures

NI-WB NERR's and Waccamaw Neck Branch Library team up to compare salt marsh and ocean habitat at a Beach Seining Event.



Community members help paint a 150-gallon cistern installed to capture rainwater from the roof of Andrews Public Library.



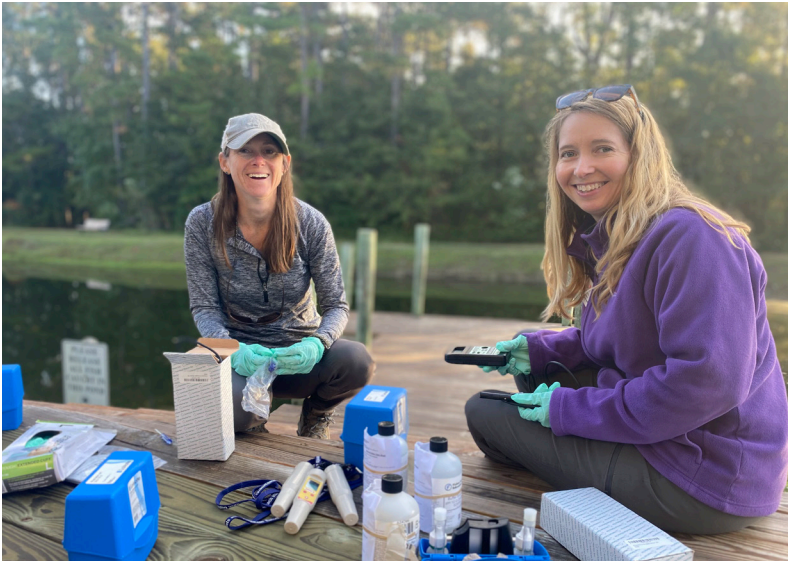
A student in Clemson Extension's Master Rain Gardener program arranges plants as part of a rain garden installation during the field day.



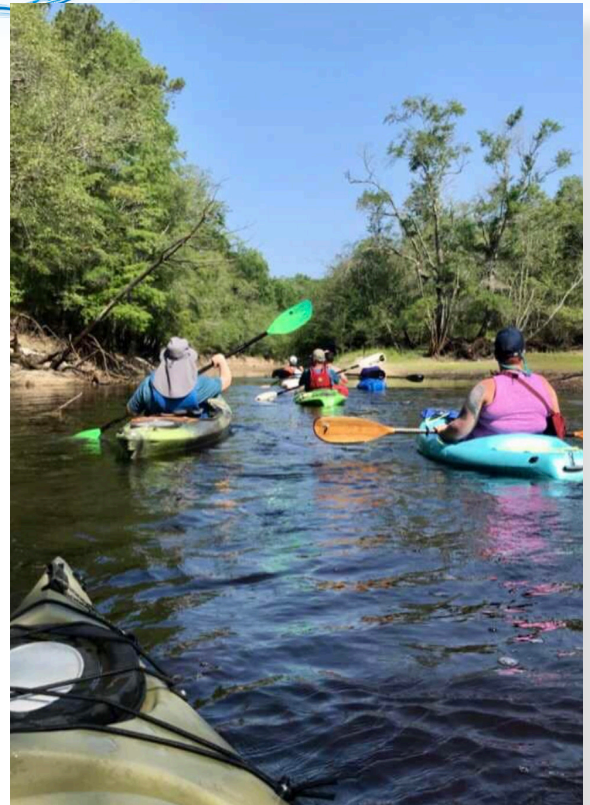
A volunteer recording notes during water sampling for Waccamaw Watershed Academy's Volunteer Water Quality Monitoring Program.

Executive Summary

2022: A Year in Pictures



Water quality monitoring during a field day as part of Clemson Extension's Master Pond Manager program.



Volunteers help keep the Waccamaw clean by collecting litter during a paddle hosted by the Waccamaw Riverkeeper.



CCU, Horry County and NMB partnered to build an oyster reef restoration site in the Hog Inlet watershed.



CWSEC & Surfside Beach Stormwater Committee each made a presence by tabling a booth at the Surfside Beach Family Festival.

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Students from Andrews High School helped install a rain garden at their school in partnership with The Nature Conservancy & Clemson Extension.

Community Partners

The table below represents the designated Small Municipal Separate Storm Sewer Systems (SMS4) communities in Horry and Georgetown Counties that have committed to the CWSEC regional collaboration. These communities are represented by a dedicated group of public professionals who have been engaged for many years in building the partnership.

Local SMS4 Consortium Representatives: 2022

Town of Atlantic Beach	Benjamin Quattlebaum
Town of Briarcliffe Acres	Brian Palliser
City of Conway	Brandon Harrelson, Braxton Fleming, & Frankie Edwards
Georgetown County	Ray Funnye
Horry County	Thomas Roth & Chelsea Cogliano
City of Myrtle Beach	Janet Curry & Liudmila Maslova
City of North Myrtle Beach	Kevin Blayton, Jay Beeson, Dana Hamilton, & Sarah Lawrence
Town of Surfside Beach	John Adair



Education Partners

Collaboration is integral in developing and delivering a successful watershed-scale outreach program that reaches diverse audiences. The CWSEC is fortunate to have a variety of organizations in Horry and Georgetown County area that have joined the effort. Education partners include universities, state and local government agencies, and non-profit organizations. Each brings unique expertise, resources, ideas, and programs to the CWSEC. The CWSEC fosters communication among organizations and through this cooperative effort, programs are being created and enhanced. Lead and supporting partners are noted in the following report of activities.

CWSEC Education Partners

Coastal Carolina University's Waccamaw Watershed Academy	Susan Libes, Founding Director Victoria Green, Volunteer Monitoring Program Manager
Clemson Extension's Carolina Clear	Kim Morganello, Carolina Clear Program Coordinator Catherine Watts, CWSEC Coordinator
Murrells Inlet 2020	Stacy Johnson, Executive Director
North Inlet- Winyah Bay NERR	Beth Thomas, Education Coordinator Hayley Fournier, Education Specialist Maevae Snyder, Coastal Training Program Coordinator
S.C. Sea Grant	April Turner, Coastal Communities Program Specialist Brooke Saari, Coastal Environmental Quality Program Specialist Katie Finegan, Coastal Processes Program Specialist
Winyah Rivers Alliance	Cara Schildtknecht, Waccamaw Riverkeeper



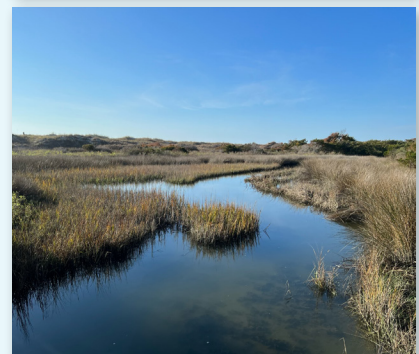
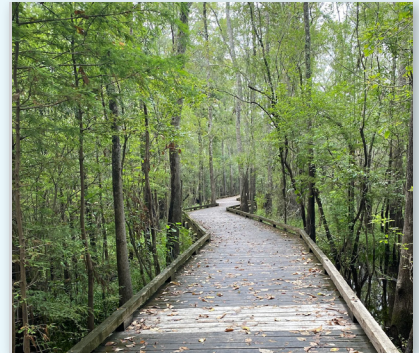
Mission and Goals

CWSEC MISSION STATEMENT

Improve water quality within the Waccamaw River Basin and coastal watersheds along South Carolina's northern coast by providing educational opportunities on stormwater impacts and our community roles in supporting healthy, fishable, and swimmable waterways.

PROGRAM GOALS

- Maximize efficiency and effectiveness through coordinated and collaborative stormwater education activities.
- Using a regional watershed approach, help member SMS4s meet NPDES Phase II stormwater permit requirements for public education and outreach and public involvement/participation.
- Provide and exchange technical information and expertise on innovative stormwater best management practices and supporting funding opportunities.
- Improve watershed and stormwater awareness in target audiences that informs decision-making and promotes behavior change to address water quality impairments.
- Continue to serve as a model for collaborative stormwater education and involvement throughout the state of SC and beyond.



Education and Involvement Program History

To meet the CWSEC program goals, community and education partners meet twice a year or more, if needed, to work collaboratively in the development, implementation, and evaluation of new and existing programming. These meetings and decision-making process is open to the public.

The objective of the Coastal Waccamaw Stormwater Education Consortium is to help member SMS4s meet their NPDES Phase II stormwater permit requirements for public education and outreach (MCM #1) & public participation/involvement (MCM #2). The CWSEC utilizes an annual Activity Plan to identify and develop programming priorities for a given year. Generally outlined the fall of the previous year, the Activity Plan summarizes the activities for a specified year that will address and prioritize pollutants of concern for the Coastal Waccamaw region and the associated target audiences. A procedural flowchart for the Activity Plan process can be seen on the following page. Each year, the Activity Plan is formulated, discussed, and approved during meetings with CWSEC's education partners and at CWSEC biannual meetings. The approved Activity Plan is compiled and presented in a Microsoft Excel spreadsheet containing the following information: pollutant of concern; target audience; activity description; MCMs addressed; lead service provider; and geographic target. Once an activity is completed, this information is compiled into a database and reported in that year's CWSEC Annual Report.

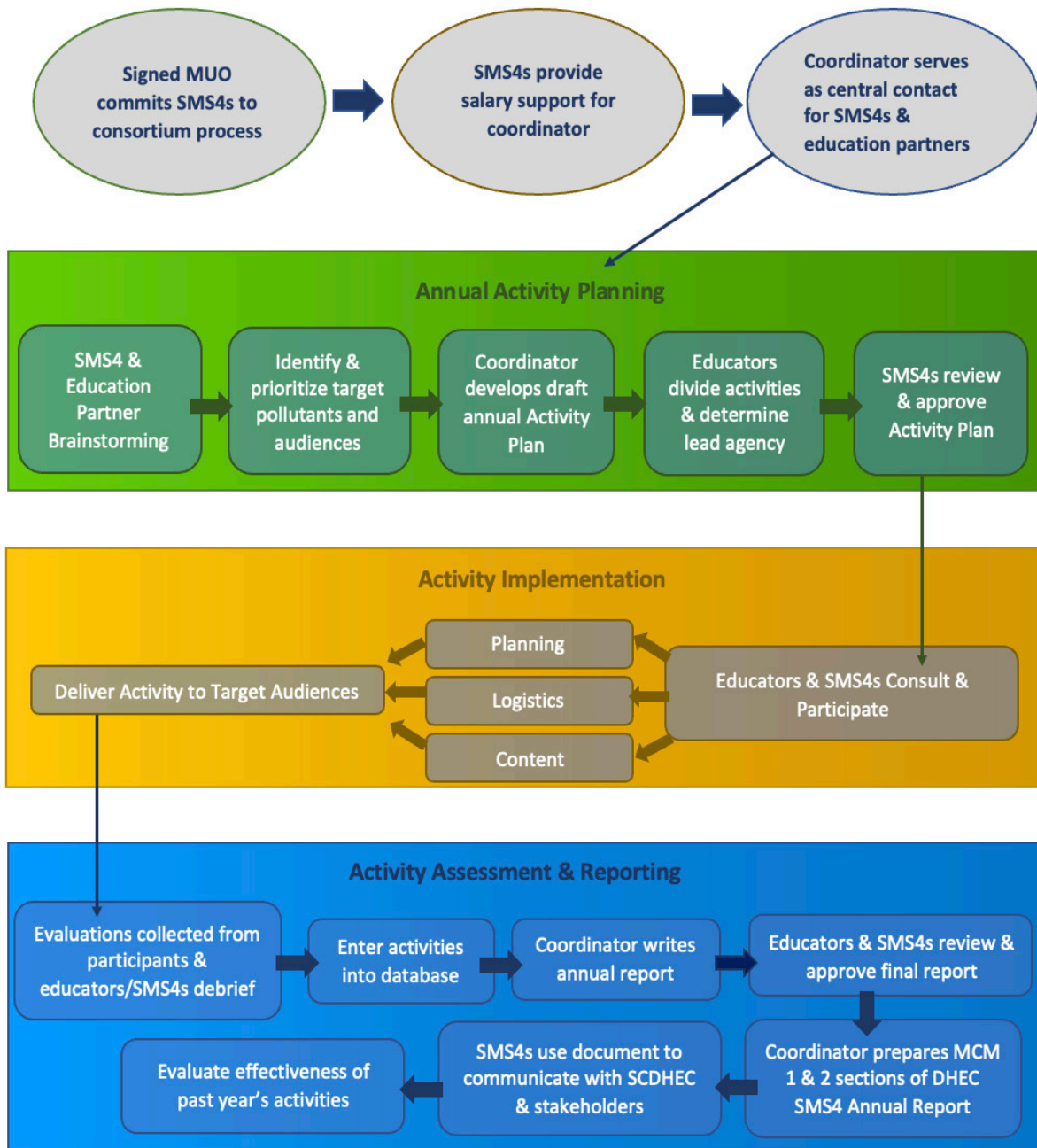
Since its conception in 2004, the CWSEC has utilized an Annual Plan to help develop and implement effective stormwater education and outreach programs for member SMS4s located within the Coastal Waccamaw region. However, with the transfer of the CWSEC coordinating organization from Coastal Carolina University (CCU) to Clemson University in 2022, the annual Activity Plan will be replaced with a Strategic Plan that spans a five-year period. The Strategic Plan provides a framework for prioritizing regional issues, develops target outreach methods, and determines program evaluation metrics to improve the delivery and impact of CWSEC efforts. Voted by members of the consortium, the Strategic Plan identifies the top three pollutants of concern (POC) for a specific region as well as their contributing target behaviors. This process also analyzes barriers to behavior adoption and, conversely, motivators for behavior adoption. The Strategic Plan is considered a "living" document to allow for refinement, supplementation, and flexibility as regional efforts and issues evolve over the five-year period. The development of the Strategic Plan was a multi-year effort that involved community and education partner input and an evaluation of geography, pollutant concerns, and public perception as identified in the 2019 Carolina Clear Statewide Survey.

The beginning stages of Strategic Planning started at the CWSEC's 2022 summer meeting with the identification of the Coastal Waccamaw's top POC's: nutrients, bacteria, and litter. The Strategic Planning process will continue throughout 2023 and will be implemented in CWSEC 2023's Annual Report.

Activity Plans & Annual Reports from years past can be found online at: cwsec-sc.org

Education and Involvement Program History

Planning & Operations Summary for Coastal Waccamaw Stormwater Consortium



Year 2022 Highlight

“Flush Only TP” Mass Media Campaign

In 2022, Clemson Extension’s Carolina Clear program launched our newest mass media campaign focused on the prevention of sanitary sewer overflows (SSOs). SSOs can lead to degradation of water quality in local water bodies through bacteria and other forms of pollution as well as cause costly damages to infrastructure. Stormwater Consortiums across the State, including the Coastal Waccamaw, have identified bacteria in waterways as a pollutant of concern. The prevention of flushing of non-flushable materials has been identified as a target behavior to address through education.

The multi-part mass media campaign included a billboard and television commercial. The theme of the campaign is “Flush Only TP.” The billboard reads “Protect Your Pipes. Flush Toilet Paper Only. Trash Everything Else.” In the fall of 2022, 18 copies of the



THE “FLUSH ONLY TP” BILLBOARD WAS PLACED IN THE CWSEC REGION: 3RD AVENUE SOUTH, US 76/301, & TWO LOCATION ON HIGHWAY 501.

billboard were installed around the state through a partnership with the Outdoor Advertising Association of South Carolina. These billboards impacts are documented with weekly views and had a combined total of over 13 million people. In the CWSEC-region, billboards are rotating through select locations and have included 3rd Avenue South, US 76/301, & two locations on Highway 501 with a combined total of 2,318,741 estimated views.



THE “FLUSH ONLY TP” COMMERCIAL ENDS WITH THE ‘ANGELIC PLUMBER’ TELLING PEOPLE WHERE TO GO TO LEARN MORE ABOUT PROTECTING CLEAN WATER.

Year 2022 Highlight

“Flush Only TP” Mass Media Campaign

Development of the commercial was based on feedback from regional Consortiums and the Carolina Clear Advisory Committee. The commercial aimed to include humor, demonstrate positive behavior adoption, and share a clear message. As a result, the “angelic plumber” was created who arrives just in time to prevent a non-flushable wipe from entering the toilet. The commercial directs viewers to visit [Clemson.edu/carolinaclear](https://www.clemson.edu/carolinaclear) for more information about the prevention of SSOs in their community. The commercial was shared on five stations and streaming services around the State



and reached over 3 million viewers across South Carolina during the two months it aired in fall of 2022. Locally, the commercial aired on WBTW with total impressions of 698,400 being delivered. To view the commercial visit: <https://www.clemson.edu/extension/carolinaclear/campaign.html>



THE ANGELIC PLUMBER, WHO ALSO APPEARED IN THE 2020 CAROLINA CLEAR MASS MEDIA CAMPAIGN FOCUSED ON FATS, OILS, AND GREASE MANAGEMENT; STARRED IN THE 2022 CAMPAIGN WHICH FOCUSED ON THE PREVENTION OF SANITARY SEWER OVERFLOWS.

SEEN HERE, THE COMMERCIAL WAS FILMED IN FRONT OF A GREEN SCREEN SINCE THE ANGELIC PLUMBER IS STANDING ON THE EDGE OF A TOILET SEAT IN THE COMMERCIAL.

Year 2022 Highlight

Andrews Rain Garden Workshops

Thanks to generous funding from the Dorothy D. Smith Charitable Foundation, The Nature Conservancy partnered with Clemson Extension, Georgetown County Government, the City of Andrews, and The Sustainability Institute to host two rain garden workshops during the Spring of 2022. These workshops resulted in a total of two rain gardens, two rain barrels, and two cisterns installed in the Andrews community.

The first workshop took place at Andrews High School in April of 2022. This site was chosen because of its vast potential to engage students on sustainable, resilient, nature-based solutions to flooding. Thirty students and teachers from Andrews High School were an integral part of the rain garden installation by helping to build a berm, amend the soil, plant native plants, and add mulch. Additionally, the students learned about rainwater harvesting while helping to paint two 50-gallon rain barrels that were installed to capture runoff from the school's entrance.

The second workshop took place at Andrews Public Library and was open to the Andrews community. This site was chosen because of its central location in town, its ability to reach all members of the community, and its focus on education. To promote this community educational event, food and educational materials were available to all volunteers and plants and books were awarded through a raffle. Twenty-five volunteers from the community helped to install the rain garden by shaping the garden, amending the soil, planting native plants, and adding mulch. Volunteers



learned about the purpose and functionality of rain gardens as well as all aspects of the installation process so they could apply this knowledge to their own yards. After the rain garden was installed, the community helped paint two 150-gallon cisterns that were installed to capture runoff from the library roof with the overflow directed toward the rain garden.

STUDENTS & VOLUNTEERS HELP INSTALL RAIN GARDENS AT ANDREWS HIGH SCHOOL & ANDREWS PUBLIC LIBRARY (LEFT & ABOVE).

Year 2022 Highlight

NI-WB NERR's 30th Anniversary

On August 31, 1992, a little over 18,000 acres of salt marsh and wetlands received the special designation of becoming the 20th National Estuarine Research Reserve (NERR) due to their importance to the coastal ecosystem. From then on, the North Inlet-Winyah Bay NERR has been dedicated to maintaining resilient estuaries and coastal watersheds having become a productive site for long-term research, water-quality monitoring, education, and stewardship. This year marked the 30th anniversary of the NI-WB NERR with the celebrations beginning August 31st and lasting throughout the month of September.

The official anniversary was celebrated with an intimate gathering of longtime partners, supporters, volunteers, and friends of the Reserve. Thereafter, events throughout September included Reserve staff visiting local library branches and the Georgetown County Museum to present the series of talks, “Know Your NERR”, to increase community awareness and involvement of NI-WB NERR. The Reserve also hosted the series of lectures, “Then/Now/Future—30 Years of Research and Conservation at North Inlet & Winyah Bay”, in which special guest speakers reflected on long-term ecological changes in North Inlet.



On September 24th, the Anniversary events culminated in an “Estuary Open House Party” with activities at the Hobcaw Barony Discovery Center including an obstacle course for kids, face painting, fish printing, and marsh ‘critters’ and microscopes. A trolley bus brought visitors to the Reserve headquarters on Hobcaw, where they could walk on the marsh boardwalk, go up on the water tower, see live animals in the wetlab, and visit the Baruch Marine Field Lab to learn about research projects and volunteer opportunities at the Reserve.



NI-WB NERR'S 30TH ANNIVERSARY WAS KICKED OFF WITH A GATHERING OF FRIENDS OF THE RESERVE.



ACTIVITIES UNDERWAY AT THE “ESTUARY OPEN HOUSE PARTY”.

Year 2022 Research Highlight

NERR Intern Researches Barriers to Landscaping BMPs

In the summer of 2022, NI-WB NERR hosted a coastal training program (CTP) intern, Bailie Willis. Bailie is a sustainability and coastal resilience major at Coastal Carolina University. For her project, Bailie conducted a survey of coastal residents who live in communities with stormwater ponds in order to understand barriers to applying landscaping best management practices, such as vegetated shoreline buffers. The survey was developed by Sean Cannon, a College of Charleston Master's student, in collaboration with the ACE Basin NERR. Bailie's project adapted the survey to the Grand Strand region and used the computer program ArcGIS Survey123 to conduct the survey. The survey received 186 answers from Grand Strand residents!

A key feature of the survey was that participants were asked to review pictures of different stormwater pond shorelines. Some showed manicured turfgrass edges, some had vegetated buffers such as littoral plantings or no-mow meadows, and some had pond problems such as eroding or collapsed banks. Participants used the pictures to indicate what their stormwater pond currently looked like and what they would like their pond to look like. The most common response (30%) was that participants' ponds currently have eroding shorelines. However, the majority of respondents (43%) preferred a pond with a buffer (littoral plantings or meadow) over mowed turfgrass (33%).

In the fall of 2022, Bailie presented the results of her research to the CWSEC. She also developed recommendations that will guide future CTP stormwater education efforts. These will include a focus on technical aspects of buffer installation such as cost and maintenance, more opportunities for hands-on demonstrations, and providing resources for HOA boards to increase acceptance among their community members.



**BAILIE WILLIS WAS
NI-WB NERR'S FIRST SUMMER
INTERN.**



**30% OF PARTICIPANTS CLAIMED TO HAVE
PONDS WITH ERODING SHORELINES.**



**43% OF PARTICIPANTS WOULD PREFER A POND WITH
A BUFFER SIMILAR TO THE SURVEY PICTURE ABOVE
RATHER THAN TURFGRASS.**

Annual Report of Activities Format

The annual report utilizes the same general format as other Clemson Extension Carolina Clear regional stormwater consortiums in South Carolina. This annual report, number 18 for the consortium, is intended to give the reader a comprehensive look at the CWSEC from January 1, 2022 through December 31, 2022. This report delineates activities into public education and public involvement categories. For each activity, a brief description is provided as well as information on lead provider, supporting partners, date, number of impacts, and target audiences. Furthermore, public education activities are identified as either direct or indirect outreach strategies.

Generally, activity information is gathered from CWSEC's education partners and member SMS4s through an excel spreadsheet of that year's Activity Plan. As mentioned previously, the Activity Plan outlines the upcoming year's activities to better help member SMS4s meet their NPDES Phase II stormwater permit requirements for public education and outreach & public participation/involvement. The education partners provide data on education and outreach efforts and are able to add any relevant activities that were not previously planned on the Activity Plan. Activity information from member MS4s is collected on an individual basis.

It is also important to note the online database developed by the Clemson Extension's Carolina Clear program which records detailed information on activities conducted by consortium partners. The data collected in the online database includes information on target audiences, pollutants addressed, activity type, lead service providers, supporting partners, number of impacts, location, and several other categories. For year 2022, the CWSEC did not utilize the Carolina Clear activity database due to the Coastal Waccamaw region transferring coordinating organizations mid-year. However, this will be an important resource for the CWSEC starting in 2023.

Public education activities are classified into two broad categories, **direct** and **indirect** outreach methods, to express mechanisms by which information has been communicated to the public. Direct methods include activities that are implemented via direct personal contact. Examples of direct methods include workshops, presentations, trainings, and public involvement activities. In contrast, indirect outreach methods refer to contacts through traditional media channels including television, radio, print, and billboards. Indirect methods generally reach a much greater portion of the population due to the nature of their mediums; however, it is often more difficult to gauge specific impacts. When dealing with direct methods, smaller numbers of people are reached yet the ones that are reached generally provide a forum for direct evaluation and feedback. Each method is important in the overall education campaign, and both are part of the five year educational strategy for the CWSEC. Throughout the document, the words "direct" or "indirect" are provided at the top of each reporting table.

*Data provided are as accurate as possible and are reviewed by multiple individuals involved in the reporting process. However, due to the nature of indirect outreach initiatives, indirect impact numbers are typically estimates.

The activities in the report are listed in table format.

Public Education: Indirect

DATE	ACTIVITY DESCRIPTION	PARTNERS	NUMBER OF IMPACTS
2022	INTERNET: Total unique views in 2022 for the Carolina Clear, CWSEC, Carolina Yards, Stormwater Ponds, Clemson Extension Water Team, Carolina Rain Garden Initiative, Living Shorelines, & Be Septic Safe websites.	Clemson Extension, Clemson University	132, 146
2022	INTERNET: Total followers of Clemson Extension's Carolina Clear Facebook page	Clemson Extension	1,900
2022	INTERNET: Total views on Carolina Clear YouTube page (386 subscribers). Numbers based on total page views for the Carolina Clear YouTube page in 2022! The average view duration was 1 minute and 46 seconds.	Clemson Extension	21,943
2022	INTERNET: Total unique views for Making It Grow Facebook page in 2022 (23,844 followers)	Clemson Extension	904,440
2022	INTERNET: Posts on Stormwater &/or watershed related topics. CWSEC education & MS4 partners often post water-related topics and projects on their Facebook page. The impact number represents the number of followers multiplied by the number of water-related posts made in 2022.	ALL	251,928
2022	INTERNET: Online coverage on stormwater-related activity. The impact number represents any television, magazine, and newspaper interviews that have been shared online.	ALL	100,000
2022	INTERNET: SC Coastal Information Network (SCCIN) hosts an online event calendar and resource portal providing educational and training opportunities for coastal community officials, staff, and public. The SCCIN is a coastal partnership of local, state, and federal partners (23) coordinated through the SC Sea Grant Consortium. The winter meeting was held Feb.10th with 21 members in attendance; the summer meeting was held June 20th with 16 members in attendance.	SC Sea Grant	37
2022 (Ongoing)	INTERNET: SCCIN website views. SCCIN is a partnership between coastal institutions and organizations to enhance coordination of community outreach efforts in SC. Website maximizes efficient delivery of quality training and educational material to coastal decision-makers, community planners, local officials, and the public. It also provides a directory of outreach events and links to collaborating partners.	Sea Grant, Clemson Extension, NI-WB NERR, Waccamaw Watershed Academy	5,768

Public Education: Indirect

DATE	ACTIVITY DESCRIPTION	PARTNERS	NUMBER OF IMPACTS
2022 (Ongoing)	INTERNET: SC LID Atlas access. The SC LID Atlas is an interactive map that displays current LID projects throughout SC. The goal of the atlas is to showcase LID projects so they can serve as models for communities trying to address stormwater & growth-related issues. NOTE: SC LID Atlas underwent complete redevelopment in 2022 and has only been promoted in the summer of 2022 with SCCIN members.	SC Sea Grant	21
2022 (Ongoing)	INTERNET: SC Stormwater Pond Research & Management Collaborative webpage. SC Sea Grant updates and maintains the Stormwater Pond collaborative webpage. This webpage investigates and addresses the challenges associated with stormwater ponds in SC's coastal areas. There were 112 downloads of the Stormwater Pond State of Knowledge report. The impact number represents webpage visits.	SC Sea Grant	176
2022	INTERNET: SC Clean Marina website views. This website outlines the program's goal to protect and improve local water quality by reducing pollution from marinas, boatyards, & yacht clubs as well as how to become a certified 'clean marina' and where to find a 'clean marina' in SC.	SC Sea Grant	272
2022	INTERNET: Volunteer Monitoring Website views in 2022. The website describes the Volunteer Water Monitoring Program and provides access to the program's database in which viewers can get an overview of parameters such as temp., pH, conductivity, dissolved oxygen, etc. for selected sampling sites over a specified date range.	Waccamaw Watershed Academy	2,133
2022	INTERNET: River Gaging Monitoring Website views in 2022. The website describes the River Gauging Program and provides access to the program's database in which viewers can get an overview of parameters such as temp., pH, conductivity, DO, etc. for selected sampling sites over a specified date range.	Waccamaw Watershed Academy	428
2022	INTERNET: ENTEROview Monitoring website views in 2022. This website describes the Beach Monitoring Program and provides access to the program's database in which viewers can get an overview of the parameters salinity, conductivity, & enterococci for selected sampling sites over a specified date range.	Waccamaw Watershed Academy	220
2022	TELEVISION: SCETV and Clemson Extension's "Making It Grow" shares home and garden information for South Carolina residents; a water quality tip is included each week during the broadcast	SCETC, Clemson Extension	19,405

Public Education: Indirect

DATE	ACTIVITY DESCRIPTION	PARTNERS	NUMBER OF IMPACTS
2022	TELEVISION: The 2021-2022 Carolina Clear Mass Media Campaign focuses on water pollution associated with sanitary sewer overflows. If not properly managed, SSOs can lead to costly repairs and polluted waterways. See report highlight for additional information. The campaign's television commercial is 30 seconds in length. A complimenting billboard "Protect Your Pipes, Flush only TP" was placed in 4 locations around the region (see BILLBOARD). Commercial was aired on WBTW.	WBTW, Clemson Extension	698,400
2022	TELEVISION: Four mini-clip segments on gardening practices for clean water aired on WBTW between February and May 2022	WBTW, Clemson Extension	388,247
2022	TELEVISION: TV coverage on stormwater-related activity and/or interview on local TV stations and shows. The impact number represents news coverage of the Waccamaw River Keeper speaking about stormwater issues in the local community.	ALL	100,000
2022	BILLBOARD: The 2022 Carolina Clear mass media campaign focused on water pollution associated with sanitary sewer overflows. See report highlight for additional information. Billboard messaging was provided on the target behavior "Protect Your Pipes, Flush only TP, Trash Everything Else," in high-visibility locations in 2022 as the following: 1) 3rd Ave. S, 150 ft. E/O US Hwy 501: 39,249 weekly impressions; 2) US Hwy 501, 1.26 miles W/O Forestbrook Road: 181,072 weekly impressions; 3) US 76/301 W/O Sammy Lane: 80,245 weekly impressions; 4) US Hwy 501, 3.21 miles W/O Forestbrook Road: 84,676 weekly impressions	Clemson Extension	2,318,741
2022 (Ongoing)	MANUAL: Low Impact Development in Coastal SC: A Planning and Design Guide. This guidance manual is available as hard copies or for download from the SC Sea Grant Consortium's and NI-WB NERR websites. NI-WB NEER distributed 12 hard copies in 2022 & downloads from the SC Sea Grant's site totaled 73 downloads of the entire document and 28 downloads of individual chapters from January through December 2022.	NI-WB NERR, SC Sea Grant	113
2022	PUBLICATION: Land Grant Press publications authored by the Clemson Extension Water Resources Team include 12 publications since 2020. Topics include pond dredging, headwater streams, watershed based planning, harmful algal blooms and more. This publications can be accessed at lgpress.clemson.edu	Clemson Extension, Clemson University	17,875

Public Education: Indirect

DATE	ACTIVITY DESCRIPTION	PARTNERS	NUMBER OF IMPACTS
2022	PUBLICATION: HGIC Factsheet views. Clemson's Home and Garden Information Center (HGIC) includes factsheets that have been authored by Water Resource Agents that directly relate to stormwater education. These include topics on pond management, landscape-level stormwater management, vegetative buffers, low impact development, etc. Note: Impact is an under estimate of the total impacts as this does not include factsheets on topics associated with fertilizer application, composting, native plants, and other best management practices associated with water quality. These publications can be accessed at hgic.clemson.edu	Clemson Extension, Clemson University	52,129
2022	PUBLICATION: Newspaper coverage on stormwater topics such as introduction to stormwater systems, IDDE, remodeling/renovation activities, & volunteer monitoring. The impact number represents the Waccamaw River Keepers monthly editorial to Trilogy Outdoors Magazine that focuses on issues and activities in the Waccamaw River watershed.	ALL	10,000
2022	NEWSLETTERS: Write and submit newsletters with stormwater/watershed focus. The Waccamaw Riverkeeper's monthly newsletters "What's Up on the Waccamaw?" shares information about programs, issues, and advocacy. Waccamaw Watershed Academy monthly newsletters includes water quality updates and events related to stormwater and environmental science in our community. NIWB-NERR seasonal bulletins provide updates of ongoing research at the reserve, event information, & news from the Research, Education, Training & Stewardship programs. The impact number represents total number of views of newsletters by contributing CWSEC education partners	Waccamaw River Keeper, Waccamaw Watershed Academy, NI-WB NERR	1,447
2022	REPORTING: Provisional Reports for Volunteer Water Quality Monitoring Program; Detailed water quality reports submitted to the local MS4s to help inform their stormwater management based on the WWA monitoring program.	Waccamaw Watershed Academy	391
2022	REPORTING: Provisional Reports for River Gaging Program; Detailed water quality reports submitted to the local MS4s to help inform their stormwater management based on the WWA & EQLs monitoring programs.	Waccamaw Watershed Academy	161
2022	PROMOTIONAL MATERIAL: Distribute recycling activity and coloring books to school-aged children	Murrells Inlet 2020	150

Public Education: Indirect

DATE	ACTIVITY DESCRIPTION	PARTNERS	NUMBER OF IMPACTS
Continuous	NEW DEMONSTRATION SITE: Rain garden and signage at James R. Frazier Community Center in Bucksport; installed in 2022 with continued maintenance by Horry County	Betterment of Bucksport, Clemson Extension, Coastal Conservation League, Horry County	100
Continuous	NEW DEMONSTRATION SITE: Shoreline Planting with signage on Nixon Street in North Myrtle Beach; installed in 2022	North Myrtle Beach	250
Continuous	NEW DEMONSTRATION SITE: 150-gallon cistern and an adjacent rain garden with signage was installed at Andrews Public Library in the summer of 2022 demonstrates a "Treatment Train". Rainwater is captured from the library roof into the cistern with overflow directed toward the rain garden.	Dorothy D. Smith Charitable Foundation, Nature Conservancy, Clemson Extension, Georgetown County, City of Andrews, Sustainability Institute	100
Continuous	NEW DEMONSTRATION SITE: Two 50-gallon rain barrels and an adjacent rain garden with signage were installed at Andrews High School in the summer of 2022. Rainwater is captured from the roof of the school's entrance into the rain barrels.	Dorothy D. Smith Charitable Foundation, Nature Conservancy, Clemson Extension, Georgetown County, City of Andrews, Sustainability Institute	100
Continuous	DEMONSTRATION SITE: Rain garden and signage at Loris Recycling Center; installed in 2013 with continued maintenance by Horry County Solid Waste Authority	Horry County	250
Continuous	DEMONSTRATION SITE: Floating wetland in stormwater pond at South Strand Rec Center; installed in 2012 with renovations in 2021	Horry County	500
Continuous	DEMONSTRATION SITE: Rain garden and signage at Ocean Bay Middle School; installed in 2014	Horry County	1,000
Continuous	DEMONSTRATION SITE: Shoreline Planting with signage on Riverside Drive in Conway; installed in 2022 with maintenance by Horry County	Horry County	50
Continuous	DEMONSTRATION SITE: Rain garden and signage at Horry County Courthouse; installed in 2010 with continued maintenance by Horry County	Horry County	1,000

Public Education: Direct

DATE	ACTIVITY DESCRIPTION	PARTNERS	NUMBER OF IMPACTS
Continuous	WATER SAMPLES: Clemson Extension in cooperation with Clemson's Agricultural Service Lab, processed water samples for residential and commercial audiences. Impact represents total in Horry & Georgetown Counties.	Clemson Extension, Clemson's Agricultural Service Lab	14
Continuous	SOIL SAMPLES: Clemson Extension in cooperation with Clemson's Agricultural Service Lab, processed soil samples for residential and commercial audiences. Impact represents total in Horry & Georgetown Counties.	Clemson Extension, Clemson's Agricultural Service Lab	673
2022	TRAINING: CEPSCI. Clemson provides training and certification through the Certified Erosion Prevention and Sediment Control Inspector (CEPSCI) program to assist in pollution prevention control on construction projects. Impacts reflect statewide trainings. In 2022 certifications and recertifications were offered as online and in-person formats.	Clemson Extension, Clemson University, SCDOT, SCDHEC	1,581
2022	TRAINING: CSPR. Clemson provides training and certification through the Certified Stormwater Plan Reviewer (CSPR) program to educate personnel on the proper design and review of stormwater and sediment control plans for development sites in order to meet regulator and environmental requirements. Impacts reflect statewide trainings. In 2022 certifications and recertifications were offered in-person.	Clemson Extension, Clemson University, SCDHEC	85
Fall 2022	TRAINING: Certificate in Native Plant Studies is an elective taught on salt marsh ecosystem ecology and associated garden stewardship. Class participants travelled from around the state for this full day workshop which included classroom and field-based components. Course was taught on Folly Beach on November 17, 2022 with 14 participants.	Clemson Extension, Clemson University	14
May 25, 2022	TRAINING: The South Carolina Clean Marina Program aims to protect and improve local water quality of South Carolina waters by reducing pollution from marinas. This voluntary certification program recognizes marinas, boatyards, and yacht clubs for helping create a cleaner marine environment in South Carolina. 11 participants representing 8 marinas attended the SC Clean Marina Certification Workshop in 2022.	SC Sea Grant, Clemson Extension, SCDNR	11
March 4, 2022 June 23, 2022 Aug.30, 2022	TRAINING: Training sessions for WWA Volunteer Water Quality Monitoring Program	Waccamaw Watershed Academy, Waccamaw Riverkeeper	9
Oct.29, 2022	TRAINING: Training volunteers for SC Adopt-A-Stream Program	Waccamaw Watershed Academy	12

Public Education: Direct

DATE	ACTIVITY DESCRIPTION	PARTNERS	NUMBER OF IMPACTS
March 28, 2022	TRAINING: Stormwater presentation & training lunch & learn hosted by Advanced Drainage System to NMB Public Works staff	North Myrtle Beach	13
May 12, 2022	TRAINING: Backhoe Rodeo NPDES Good Housekeeping Training for all Horry County public works, storm water, and engineering employees. This event covered several safety courses including training on stormwater illicit discharges in which attendees learned what they look like, what to do if you find one, and how to report them.	Horry County	129
2022	HYBRID TRAINING: Master Rain Gardener is an online and field-based training focused on rain garden and rainwater harvesting system design and implementation. The Master Rain Gardener's online classroom was held between September and October 2022. Two field days took place in October on Folly Beach, SC with a total of 46 participants enrolled for the certification track and 13 participants in the Letter of Completion track.	Clemson Extension	59
Fall 2022	HYBRID TRAINING: Master Pond Manager teaches recreational and stormwater pond management training to participants through online classroom and field-based curriculum. The Master Pond Manager class was offered in the fall of 2022, with field days hosted in North Charleston & Mount Pleasant, SC with 27 participants.	Clemson Extension	27
Spring & Fall 2022	HYBRID TRAINING: Post Construction BMP Inspector; online and field-based training focused on inspection and maintenance of best management practices used for stormwater management. The certification and re-certification courses were offered in the spring and fall of 2022. In total, 73 individuals were certified, and 40 were re-certified.	Clemson Extension, Clemson University	113
2022	ONLINE TRAINING: Carolina Yards Online provides online learning opportunity to South Carolina homeowners in conserving water in the landscape and making positive changes in the environmental quality of their yards, neighborhoods, and surrounding waterways by implementing and maintaining low impact and low maintenance yard practices. Impact represents the 39 individuals who registered for the course.	Clemson Extension, Carolina Clear	39
2022	ONLINE TRAINING: Salt Marsh Short Course is a continuing online course to teach salt marsh ecology, research and management as it relates to the South Carolina salt marsh. The course includes information on threats to the salt marsh, flora and fauna highlights, oyster reef ecology and stewardship actions. Participants are given 45 days to complete the 5 learning modules.	Clemson Extension, Clemson University, SCDNR, SC Sea Grant	125

Public Education: Direct

DATE	ACTIVITY DESCRIPTION	PARTNERS	NUMBER OF IMPACTS
Oct.2022	ONLINE TRAINING: Master Gardener Mondays is a series of virtual learning opportunities to help Master Gardener volunteers strengthen their horticultural knowledge and skills. The October session covered stream bank repair and reducing sediment pollution in streams.	Clemson Extension	86
March 23, 2022 Aug.3, 2022	VIRTUAL WORKSHOP: Grand Strand Healthy Pond Series. A community-based discussion series for pond owners in Horry & Georgetown counties to learn and share stormwater pond management solutions. Two workshops were held in 2022; March's workshop provided an overview of pond aeration & August's workshop focused on plastic pollution sources, transport, and management strategies in stormwater ponds.	Clemson Extension, NI-WB NERR, SC Sea Grant	36
Summer 2022	VIRTUAL WORKSHOP: Water Chats is a technical training program designed to facilitate access to and use of new and emerging water quality research to inform natural resource management decisions in South Carolina. In 2022, this series covered emerging contaminants, HABs, stormwater control measures, and source water protection.	Clemson Extension, SC Sea Grant	373
Sept.21, 2022	WORKSHOP: Horry County hosted "Getting to Know Your Neighborhood Stormwater System" HOA Course to the public to learn about how stormwater works, roles and responsibilities, mosquito control, and illicit discharges.	Horry County	24
Oct.12, 2022	WORKSHOP: NI-WB NERR hosted the Governors School for Science & Math for a 'Seeds to Shoreline' Veteran Teacher 2022 workshop.	NI-WB NERR, SC Sea Grant	9
2022	PUBLIC ACTIVITY: NIWB-NERR partners with SCDNR to host Family Fishing Clinics. As an introductory class to fishing, it teaches skills on how to tie fishing knots, how to rig a rod and reel, casting as well as ethical fishing practices and stewardship toward future fish generations. There were 7 family fishing clinics in 2022 total with one offered as a bilingual class aided by SCDNR's Diversity and Outreach crew.	NI-WB NERR, SCDNR	88
2022	PUBLIC ACTIVITY: NI-WB NERR hosts 'Bike to the Boardwalk' (5 mi), 'Ride with the Tide' (5 mi), & 'Biking with Beach Bike Shop' (13 mi) which takes participants throughout Hobcaw Barony's pristine forests to the Reserve's salt marsh boardwalk on North Inlet estuary. Throughout the journey, participants are given an overview of NI-WB, the research being conducted there as well as talks on wildlife and salt marsh ecology. There was a total of 10 biking classes in 2022.	NI-WB NERR	58

Public Education: Direct

DATE	ACTIVITY DESCRIPTION	PARTNERS	NUMBER OF IMPACTS
2022	PUBLIC ACTIVITY: NI-WB NERR lead a naturalist-guided tour "Paddle North Inlet" through the North Inlet Estuary while giving an overview of it's natural history, water quality, and the research and educational happenings around the Reserve. There were a total of 7 paddle trips in 2022.	NI-WB NERR	44
2022	PUBLIC ACTIVITY: NI-WB NERR partners with local libraries and museums throughout Georgetown County to host talks "Know Your NERR" overviewing NERRs and the 30 years of NI-WB reserve activities. There were a total of 5 talks in 2022.	NI-WB NERR	37
2022	PUBLIC ACTIVITY: NI-WB NERR staff and Waccamaw Neck Branch Library hosts "Beach Night Life". The activity compares salt marsh and ocean habitats by using seine nets to explore what lurks on the beach at night. There were a total of 4 Beach Night Life events in 2022.	NI-WB NERR	135
2022	PUBLIC ACTIVITY: NI-WB NERR staff and Waccamaw Neck Branch Library hosts "Pond Life". This activity finds creatures in a freshwater pond ecosystem, supplies microscopes to analyze them, and explains how they relate to water quality. There were a total of 2 Pond Life events in 2022.	NI-WB NERR	27
April 19, 2022	PUBLIC ACTIVITY: NI-WB NERR hosts "Picnic at the Pond" where participants receive an overview of the Reserve and the pond as well as analyze macroinvertebrates under microscopes and learn about water quality measurements.	NI-WB NERR	3
2022	PUBLIC ACTIVITY: NI-WB NERR partnered with Waccamaw Neck Library to host "Magical Microbes" where participants learned about nutrient overload, threats to salt marshes, and how scientists research salt marshes through taking soil cores. Participants were given a hands-on activity by taking their own cores using cake. There were a total of 2 'Magical Microbes' events in 2022.	NI-WB NERR	42
2022	PUBLIC ACTIVITY: NI-WB NERR hosts "Feeding Frenzy" where staff feed the native animals such as fish, snakes, and alligators that are in Hobcaw Barony's Discovery Center and talk about each species unique characteristics. There were a total of 7 events in 2022.	NI-WB NERR	50
Nov.22, 2022	PUBLIC ACTIVITY: NI-WB NERR hosted a salt marsh hike for all ages. Participants were given an overview of the Reserve and the research happenings while exploring their diverse salt marsh trail .	NI-WB NERR	15
June 15, 22	PUBLIC ACTIVITY: NI-WB NERR hosted a "Nature Drawing" activity a Southern Branch Library in which staff overviewed aquatic species such as crabs, fish, and clams.	NI-WB NERR	54

Public Education: Direct

DATE	ACTIVITY DESCRIPTION	PARTNERS	NUMBER OF IMPACTS
June 21, 2022	PUBLIC ACTIVITY: NI-WB NERR presents “Crabs & Clams” at various public libraries in Georgetown County where staff teach about the biology and life history of shellfish, bivalves and crustaceans. There were 2 'Crabs & Clams' events in 2022.	NI-WB NERR	30
June 23, 2022	PUBLIC ACTIVITY: NI-WB NERR hosted 'Storytime & Swamp Yoga' in which staff read 'A Day in a Forested Wetland' and lead a swamp yoga session that imitates animals that live in the swamp.	NI-WB NERR	2
July 6, 2022	PUBLIC ACTIVITY: NI-WB NERR partnered with Waccamaw Neck Branch Library to host "Edible Estuary" where participants learned about estuaries by creating their own salt marsh using various food related items.	NI-WB NERR	13
June 17, 2022	PUBLIC ACTIVITY: NI-WB NERR offers Nature Journaling to inspire curiosity and connect participants with the environment. Participants visited a seawater lab for shrimp science in Baruch Marine Field Lab and walked the marsh boardwalk.	NI-WB NERR	5
Dec.3, 2022	PUBLIC EVENT: Winyah Rivers Alliance relaunched the Canines for Clean Water Campaign and hosted a Spokesdog Contest. Participants attended the contest and learned about local stormwater issues related to pet waste.	Waccamaw Riverkeeper	50
Nov.10, 2022	PUBLIC EVENT: An open house event for the Burroughs & Chapin Center for Marine & Wetland Studies which encompasses the Waccamaw Watershed Academy & Environmental Quality Lab. The public was invited to tour the center and educational booths displayed ongoing projects and research.	Waccamaw Watershed Academy, SC Sea Grant	100
Sept.24, 2022	PUBLIC EVENT: NI-WB NERR hosted "Estuary Open House Party" celebrating 30 years of being a productive site for long-term research, water-quality monitoring, education, and coastal stewardship.	NI-WB NERR	175
Sept.28, 2022	PUBLIC EVENT: NI-WB NERR hosted 'Myrtle Beach Green Drinks' at Pawley's Island Tap & Pour. This monthly happy hour series is hosted by local organizations who are providing solutions to environmental concerns and provides the opportunity for socializing, education, and networking.	NI-WB NERR	32
Nov.2022	SCHOOL ACTIVITY: NI-WB NERR partnered with SCDNR aboard their Marine Discovery Vessel to provide education to local schools about water quality and the biology of aquatic organisms while trawling for marine life. There were 3 outings in November 2022 engaging over 80 students.	NI-WB NERR, SCDNR	88
Nov.2022	SCHOOLACTIVITY: NI-WB NERR hosts the 'Discovery Land Program' to local schools in Georgetown County in which students learn about water quality and are able to get an up-close view of macroinvertebrates under a microscope. There were 3 'Discovery Land Program' events in November 2022.	NI-WB NERR	94

Public Education: Direct

DATE	ACTIVITY DESCRIPTION	PARTNERS	NUMBER OF IMPACTS
Oct.18, 2022	SCHOOL ACTIVITY: NI-WB NERR hosted Homeschool co-op for tour of Hobcaw's Discovery Center and Midden Trail allowing students to a close-up experience with the salt marsh.	NI-WB NERR	10
June 14, 2022	SCHOOL ACTIVITY: NI-WB NERR participated in 'Kinderwaves', a summer outreach enrichment program at Andrews Elementary School.	NI-WB NERR	49
May 23, 2022	SCHOOL ACTIVITY: NI-WB hosted a 'From Seeds to Shoreline' project with students from Holy Trinity Catholic School. This project involved activities of planting seedlings at Pawley's creekside to teach students about estuarine habitats and marsh restoration.	NI-WB NERR, SC Sea Grant	16
July 12, 2022	SCHOOL ACTIVITY: NI-WB NERR hosted an estuary field study for 7-9th graders at Plantersville Summer Academy.	NI-WB NERR	40
Sept.28, 2022	SCHOOL ACTIVITY: NI-WB NERR hosted HGTC's Wetland Ecology course in which students identified wetland plants and fish along Hobcaw's trails and the educational boardwalk.	NI-WB NERR	25
March 4, 2022	SCHOOL ACTIVITY: NI-WB NERR hosted an interactive virtual field study for Waccamaw High School. Topics included an NI-WB overview, nutrient runoff in salt marshes, marsh organisms, sea level rise, and the impact climate change has on salt marshes.	NI-WB NERR	14
March 20-26, 2022	CONFERENCE: Winyah Rivers hosted a week of activities during the 2022 Waccamaw Conference. The theme was CWA@50: 50 years of the Clean Water Act where celebrated our accomplishments, review the current state of our waters, and determine the next steps to protect clean water in our watershed. The Conference featured virtual events, a keynote speaker presentation, outdoor activities, and interactive competitions. NOTE: Waccamaw Conference renamed to Waccamaw Week in 2023.	Waccamaw Riverkeeper, Waccamaw Watershed Academy, NI-WB NERR	350
Jan.18, 2022	CONFERENCE: The annual Waccamaw Data Conference is an opportunity to learn about the results & conclusions of water quality data collected by the Waccamaw Volunteer Water Quality Monitoring Program. 2022's conference featured keynote speaker Dr. Pamela Martin and included a talk from Horry County on why data collection is important and data uses. NOTE: This conference will be dissolved in 2023 for a revised State of the River event.	Waccamaw Watershed Academy, Waccamaw Riverkeeper, Horry County	100
Oct.15-16, 2022	EXHIBIT: Winyah Rivers Alliance hosted an educational exhibit at the Georgetown Wooden Boat Show to educate the public on the importance of protecting our local waterways, potential impacts from stormwater, and how communities can get involved. NI-WB NERR hosted an exhibit focused on how water quality effects pond life.	Waccamaw Riverkeeper, NI-WB NERR	1150

Public Education: Direct

DATE	ACTIVITY DESCRIPTION	PARTNERS	NUMBER OF IMPACTS
Nov.5, 2022	EXHIBIT: CWSEC & Surfside Stormwater Committee hosted educational booths at the Surfside Beach Family Festival. Educational rack cards & handouts detailing rain garden, rain harvesting, native vegetation, FOGs, litter, etc. as well as giveaways were available at each booth. Impact represents number of guests given handouts &/or spoken to about water quality.	Clemson Extension, CWSEC, Surfside Beach	250
Feb.15-16, 2022	EXHIBIT & PRESENTATION: The Waccamaw Riverkeeper was an educational exhibitor at the virtual Pathways to Possibilities Career Expo. The Waccamaw Riverkeeper presented two live stream events: 1) Carolina Blue Stewards Program and 2) health of the Waccamaw River and answered questions from students about the Riverkeeper role.	Waccamaw Riverkeeper	300
2022	YOUTH PRESENTATION: The Waccamaw Riverkeeper visited locals schools, student groups, and summer programs throughout 2022 and presented the Carolina Blue Stewards program. The volunteer monitoring program educates community youth on the importance water quality monitoring and its impact on protecting clean water in our watershed.	Waccamaw Riverkeeper	200
2022	YOUTH PRESENTATION: NI-WB NERR hosted the virtual presentation "Threats to Salt Marshes" by Johanna discussing pollution, nutrient runoff, and sea level rise to 2nd-6th grade classrooms. There were a total of 2 presentations in 2022.	NI-WB NERR	6
May 24, 2022	YOUTH PRESENTATION: Horry County Stomwater introductory presentation for NRCS Essay Contest in which 5th & 7th graders at participating Horry County Schools are issued a writing prompt on stormwater pollution. This ceremony was held at the Academy for Art, Science, and Technology.	Horry County, NRCS	100
April 14, 2022	PRESENTATION: NI-WB NEER gave a presentation to the Grand Strand Shell Club about the reserve, who they are and what they do, advertised different programs offered, and gave information on sea turtles.	NI-WB NERR	41
April 25, 2022 May 24, 2022	PRESENTATION: Horry County, Georgetown County, and the Town of Surfside Beach participated in volunteer appreciation event for the volunteers with the WWA's Volunteer Water Quality Monitoring Program.	Waccamaw Watershed Academy, Horry County, Georgetown County, Surfside Beach	55
June 20, 2022	PRESENTATION: WWA Water Quality Monitoring Session in which participants with the Chapin Memorial Library were introduced to water quality monitoring techniques as part of the Oceans of Possibilities public outreach event.	Waccamaw Watershed Academy, Waccamaw Riverkeeper, Chapin Memorial Library	10

Public Education: Direct

DATE	ACTIVITY DESCRIPTION	PARTNERS	NUMBER OF IMPACTS
Aug.1, 2022	PRESENTATION: NI-WB NERR staff spoke about water quality and the plants and animals that live in the marsh for Southern Branch Science Day.	NI-WB NERR	56
Sept.2022	PRESENTATION: NI-WB NERR was joined by three guest lecturers to help celebrate 30 years of research conservation. Jim Morris gives an overview of 35 years of spartina research at North Inlet, Dennis Allen summarizes long-term plankton research from North Inlet, and Mary-Catherine Martin discusses shorebird studies. There were a total of 3 events in September 2022.	NI-WB NERR, SCDNR	88
June 2, 2022	VIRTUAL PRESENTATION: "Calling the Coast Home" Real Estate Professionals Course provides Realtors® with an information about coastal issues and topics including coastal ecosystem/ biodiversity, water quality at a neighborhood level, flooding and flood maps, and rebuilding regulations. In 2022, only one course "Living with Water" was given by SC Sea Grant to the Coastal Carolina Association of Realtors with each participant receiving two CEU's each. NOTE: low enrollment has been a consistent issue with this target audience in the Grand Strand region.	Clemson Extension, NI-WB NERR, SC Sea Grant	23
2022	VIRTUAL PRESENTATION: Flooding 411 is an educational program that addresses flooding issues faced by coastal S.C. residents. This series invites various scientific, government, and education experts to deliver information on subjects such as flooding safety, property protection, community impacts, who to contact, and more. There were a total of five virtual webinars held in 2022.	Clemson Extension, SC Sea Grant, NI-WB NERR, SCDNR/ ACE Basin	265
Summer 2022	PROJECT: NI-WB NERR CTP hosted the first CTP summer intern, CCU student Bailie Willis. Bailie's summer research project aimed to better understand barriers to applying landscaping best management practices, such as vegetated shoreline buffers, by conducting a survey of coastal residents who live in communities with stormwater ponds. Bailie produced a report of the survey results and presented her findings to the CWSEC. Impact represents number of participants who were surveyed. (See Highlight on page 9)	NI-WB NERR	186
July 22, 2022	REVIEW: Review of Waccamaw Neck Watershed Plan for Wood, Inc.; Technical guidance provided by the WWA to help inform the development of the Waccamaw Neck Watershed Plan.	Waccamaw Watershed Academy	3

Public Education: Direct

DATE	ACTIVITY DESCRIPTION	PARTNERS	NUMBER OF IMPACTS
2022	MEETING: Surfside Beach Stormwater Committee quarterly meetings promote stormwater education and outreach within Surfside Beach from collaboration between committee members, Waccamaw Watershed Academy, & CWSEC. Meetings generally include the SWC members (up to 5 persons), representatives from the department of public works, the Waccamaw Watershed Academy, the CWSEC, and the town council. In 2022, meetings were held 1/26, 4/19, 8/10, & 11/2.	Surfside Beach, Waccamaw Watershed Academy, CWSEC	32
2022	MEETING: Surfside Beach Stormwater Committee conducted 12 meetings from February to November of 2022 to review Chapter 17- Zoning's Article VII- Landscaping & Tree Protection ("Tree Article") to help address tree protection revisions with a stormwater focus. Attendees included invited experts, SWC members, and representatives from public works, permits, building and zoning, and the town council.	Surfside Beach	83
Feb. 17, 2022 July 21, 2022	MEETING: Murrells Inlet Watershed Committee Meeting conducted two meetings in 2022. These meetings focus on protecting and sustaining Murrells Inlet's natural resources and how to implement the best management practices outlined in the Murrells Inlet Watershed Plan.	Murrells Inlet 2020, Waccamaw Watershed Academy, NI-WB NERR, SC Sea Grant	15
Dec. 13, 2022	MEETING: SC DHEC Beach Monitoring Program annual meeting. Discuss water sampling at 120+ locations along SC coasts.	Waccamaw Watershed Academy, DHEC, Myrtle Beach, NMB, Surfside Beach, Horry County	20
June 29, 2022 Nov.30, 2022	MEETING: Education partners & MS4s are invited to CWSEC Bi-Annual Meetings. The purpose of these meetings is to provide partner updates, discuss activity/strategic planning, discussion, and networkings.	ALL	20

Public Involvement

DATE	ACTIVITY DESCRIPTION	PARTNERS	NUMBER OF IMPACTS
Sept. 17, 2022	LITTER SWEEP: Keep North Myrtle Beach Beautiful sponsored the 33 rd Annual Beach-Creek Sweep where volunteers cleaned NMB's oceanfront & Cherry Grove's marsh. Our Beach Sweep/Creek Sweep is a part of the SC Sea Grant Consortium Statewide Beach Sweep/River Sweep.	NMB, Keep NMB Beautiful, SC Sea Grant	18
2022	LITTER SWEEP: Murrells Inlet 2020 hosts annual cleanups 'Fall Haul', 'Spring Tide' and '4th of July' throughout Murrells Inlet. Volunteers collected litter along various roads or took to kayaks and paddleboards to clean the marsh.	Murrells Inlet 2020	200
2022	LITTER SWEEP: Multiple partnerships to educate the public through engagement in litter prevention and collection. Winyah Rivers Alliance partnered with local Keep America Beautiful affiliates to host cleanups and provide education on the importance of keeping trash out of our waterways.	Waccamaw Watershed Academy, Waccamaw Riverkeeper, Murrells Inlet 2020, NI-WB NERR, Keep Horry County Beautiful, Keep NMB Beautiful, Keep Georgetown Beautiful	50
2022	LITTER SWEEP: Murrells Inlet 2020 hosts monthly community cleanups to engage community members in active stewardship throughout in Murrells Inlet. Impact represents total number of volunteers	Murrells Inlet 2020	50
2022	LITTER SWEEP: Cleanups at Adopt-A-Landing sites throughout Horry & Georgetown counties see volunteers collect, inventory, and report more than 2,300 pounds of trash from waterways and local boat landings. Impact represents over 24 cleanups throughout Waccamaw Watershed.	Waccamaw Riverkeeper, Murrells Inlet 2020	450
2022	WATER QUALITY MONITORING: The Volunteer Water Quality Monitoring Program monitors the health of surface waters in Horry & Georgetown counties. Four monitoring programs: Waccamaw River, Surfside Beach, Murrells Inlet, & Briarcliffe Acres, are monitored twice a month by trained volunteers using environmental testing equipment to sample selected sites within the watershed. Each program was designed to meet the specific water quality goals of each municipality. Impact represents the total public involvement from all four monitoring programs.	Waccamaw Watershed Academy, Waccamaw Riverkeeper, Murrells Inlet 2020, Surfside Beach, Briarcliffe Acres	699
2022	WATER QUALITY MONITORING: SC Adopt-A-Stream Monitoring Program monitors and reports data for streams that complements local and state data used to determine the health of our waterways. Impact represents total public involvement for the SC AAS program in Horry & Georgetown counties.	Waccamaw Watershed Academy, Waccamaw Riverkeeper, NI-WB NERR	160

Public Involvement

DATE	ACTIVITY DESCRIPTION	PARTNERS	NUMBER OF IMPACTS
Sept. 17, 2022	WATER QUALITY MONITORING: The Waccamaw Riverkeeper hosted a Bacteria Blitz where community members collected bacteria samples and water quality data on the Waccamaw River and CCU campus using the EarthEcho water quality monitoring kits.	Waccamaw Watershed Academy, Waccamaw Riverkeeper	60
May 25, 2022	RAIN GARDEN WORKSHOP: The Andrews community helped develop a ‘treatment train’ at Andrews Public Library by installing a 150-gallon cistern and rain garden. Participants helped to shape the rain garden, amend the soil, plant native plants, add mulch, and paint the cistern while learning how rain gardens help rainwater infiltrate into the ground. The cistern captures runoff from the library roof and the overflow is directed toward the rain garden.	Dorothy D. Smith Charitable Foundation, The Nature Conservancy, Clemson Extension, Georgetown County Government, The City of Andrews, The Sustainability Institute	25
April 12, 2022	RAIN GARDEN WORKSHOP: Students from Andrews High School helped install two 50-gallon rain barrels and rain garden. Students helped amend the soil, plant native plants, add mulch, and paint the rain barrels while learning how rain gardens function. The rain barrels capture runoff from the roof of the school’s entrance.	Dorothy D. Smith Charitable Foundation, The Nature Conservancy, Clemson Extension, Georgetown County Government, City of Andrews, The Sustainability Institute	30
May 3, 2022	STORMDRAIN WORKSHOP: Stormdrain Marking project at Ocean Bay Middle School teaches students about the link between the storm drain system and water quality.	Waccamaw Watershed Academy, SC Sea Grant	30
April 27, 2022	OYSTER WORKSHOP: Oyster Shell Bagging saw volunteers bag recycled oyster shells and complete other prep work for the reef building event the following day in the Hog Inlet Watershed. Horry County & NMB hosted this 319 project.	Waccamaw Regional Council of Governments, CCU, Horry County, Horry Soil & Water Conservation, NMB	15
April 28, 2022	OYSTER WORKSHOP: The Hog Inlet ‘Oyster Shell Installation Day’ was at the FFA Camp in Cherry Grove. Volunteers built an oyster reef restoration site to help mitigate fecal coliform water quality impairments in the Hog Inlet watershed.	Waccamaw Regional Council of Governments, CCU, Horry County, Horry Soil & Water Conservation, NMB	33

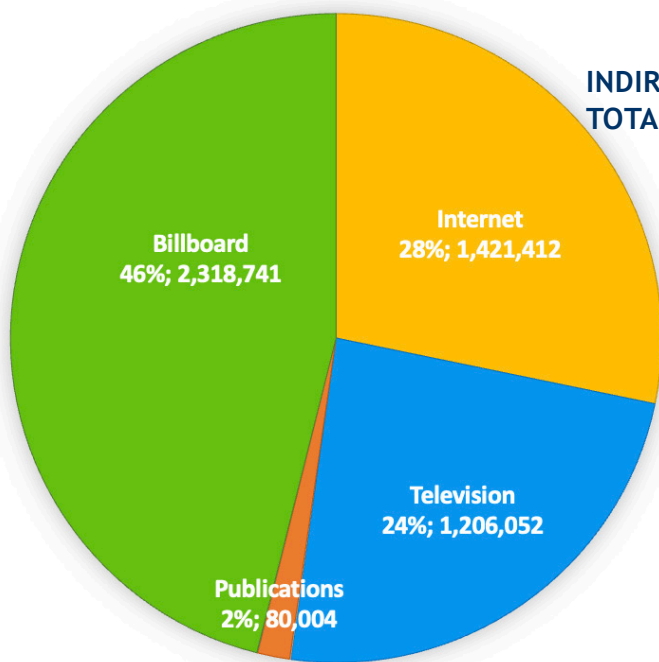
Public Involvement

DATE	ACTIVITY DESCRIPTION	PARTNERS	NUMBER OF IMPACTS
Dec. 17, 2022	SOIL WORKSHOP: The Bucksport community was invited to a 'Soil Sampling' event. Participants learned the function of rain gardens and the soil texture best suited for them. Demonstrations and hands-on learning of soil tests: jar, percolation, & ribbon.	American Rivers, Betterment of Bucksport, Coastal Conservation League, Clemson Extension, Waccamaw Watershed Academy	5
2022	CERTIFICATION: 60 homeowners demonstrated commitment to environmentally friendly landscaping and obtained Certified Carolina Yard status in 2022.	Clemson Extension, Carolina Clear	60
2022	PET WASTE STATION: Maintain pet waste bag stations and record bags used throughout Murrells Inlet. The impact number represents the number of bags distributed throughout Murrells Inlet. (Not calculated in total involvement pie graph.)	Murrells Inlet 2020	8,700 Bags

Outreach Summary

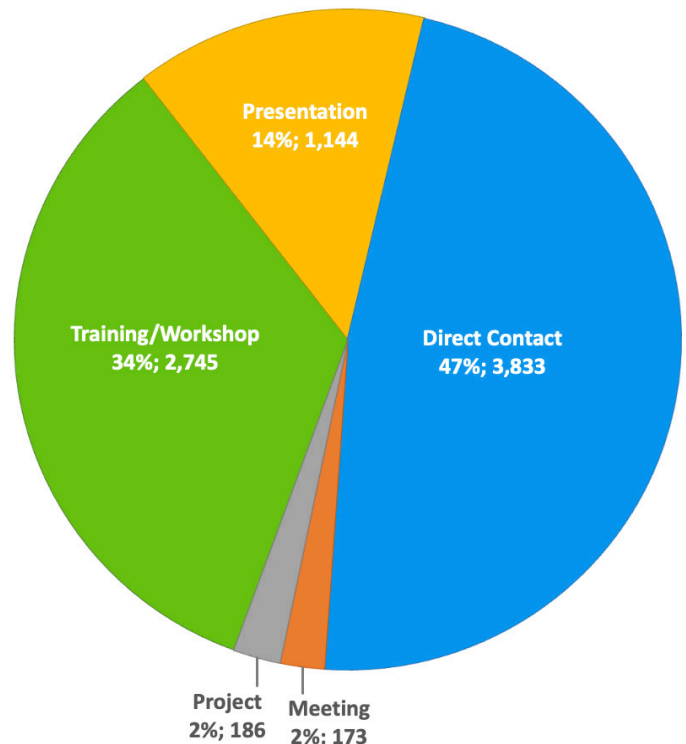
CWSEC program success is, in part, measured by outreach impacts that represent an estimate of individuals reached through direct and indirect education and involvement activities. There has been a resurgence of in-person activities since COVID-19, however, virtual components to some programs & activities will persist as a tool to reach greater audiences. **Total impacts for the 2022 reporting year (January 1, 2022 - December 31, 2022) total an estimated 5,039,902 individuals.**

**INDIRECT METHODS SUMMARY,
 TOTAL ESTIMATED IMPACTS: 5,031,821**



Demo Sites: 0%; 3,350
 Newsletter: 0%; 1,447
 Reporting: 0%; 552
 Promo Material: 0%; 150
 LID Manual: 0%; 113

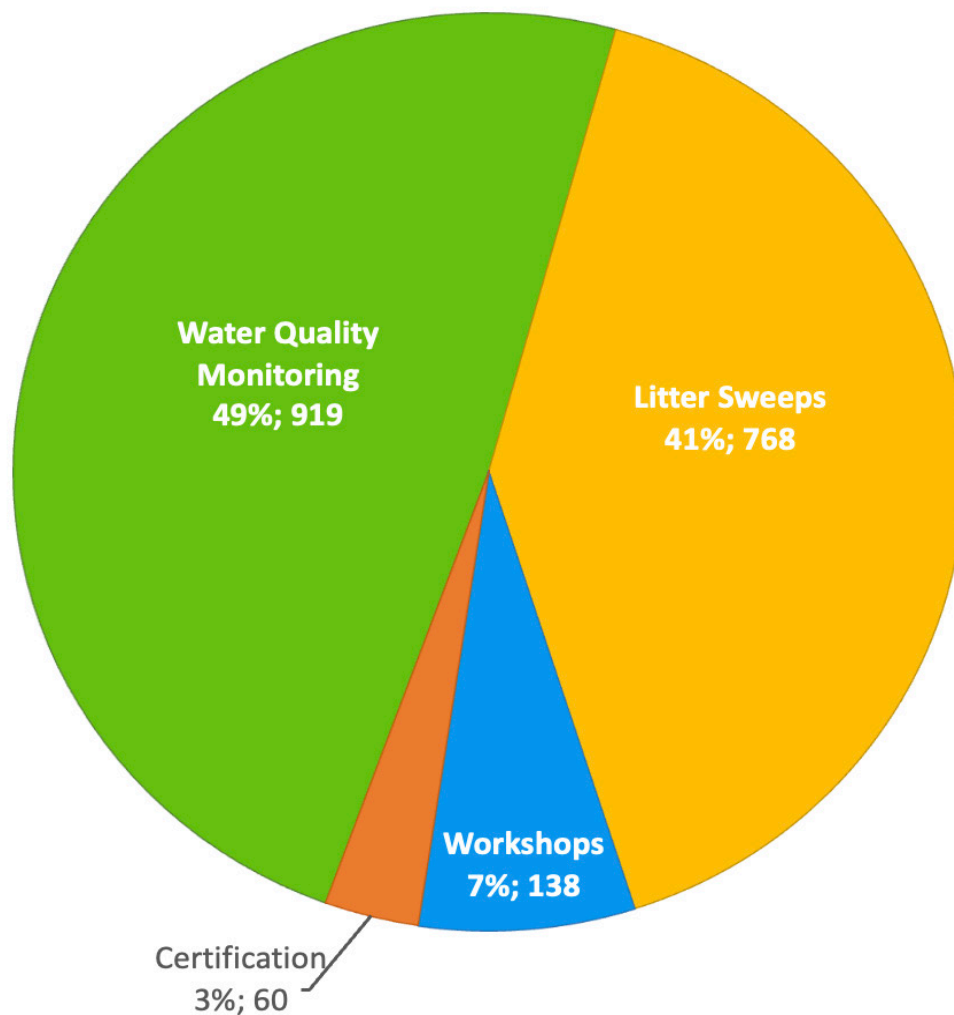
**DIRECT METHODS SUMMARY,
 TOTAL ESTIMATED IMPACTS: 8,081**



Outreach Summary

Public Involvement is considered an activity that provided hands-on opportunities for target audiences to take part in stormwater management and pollution prevention. Public involvement opportunities include oyster reef construction, water quality monitoring, litter sweeps, storm drain marking, rain barrel sales, native plant sales, and youth involvement activities. **Total impacts attributed to public involvement for the 2022 reporting year (January 1, 2022 - December 31, 2022) total an estimated 1,885 individuals.**

PUBLIC INVOLVEMENT SUMMARY, TOTAL ESTIMATED IMPACTS: 1,885



Prepared By:

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COASTAL WACCAMAW STORMWATER EDUCATION CONSORTIUM



*Foggy morning on the Waccamaw River.
Photo by Cara Schildtknecht.*



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