



Annual Report of Activities

JANUARY 2023 - DECEMBER 2023



COOPERATIVE EXTENSION
College of Agriculture, Forestry and Life Sciences

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Executive Summary

Sumter Stormwater Solution’s Annual Report of Activities summarizes education, involvement, and participation programming provided by Sumter Stormwater Solutions’ (SSS) community and education consortium partners. Programming activities strive to educate community members about stormwater quality and quantity and its role in the health of our local waterways. Program areas are determined by the SSS Strategic Plan, which identifies target pollutants of concern, outreach strategies, and short-term and long-term goals.

In 2023 we participated in a variety of events, including Art in the Park and Sumter’s eSTEAM festival. Carolina Clear’s commercial and billboard campaigns launched in 2022, focused on preventing sanitary sewer overflows (more details on page 8). City of Sumter and Sumter County have taken actions to reduce litter in Sumter, including litter clean-ups, tarp giveaways, and tire buyback programs.

OUTREACH ACTIVITIES AND TOTAL NUMBER REACHED (*estimated*)

1. Internet: 980,509
2. Television: 530,072
3. Billboard: 60,875
4. Publication: 86,099
5. Outreach Materials: 1,000
6. Demonstrations sites: 3,000
7. Fairs and Festivals: 3,527
8. Trainings, presentations, contacts: 4,994
9. Public involvement: 4,310



Cassie Castleberry
SSS Coordinator

Cassie Castleberry has been a Clemson Extension Water Resources Agent since June 2023 and is the coordinator of Sumter Stormwater Solutions. She is a native South Carolinian and is passionate about protecting the natural resources and quality of life in Sumter and throughout the state. Cassie’s professional interests include storm water education in the classroom, wildlife/land management, and how water connects us all .



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Community Partners

Sumter Stormwater Solutions community partners include Sumter County and the City of Sumter. Both City and County are instrumental for prioritizing efforts, evaluating stormwater pollutants and challenges, and developing new initiatives. In addition, the communities assist with clean-ups, display stormwater information at public events, and participate in planning meetings. Their leadership and support is essential to the function and progress of this group.

Local MS4 Consortium Representatives: 2023

Municipality & Position	Representative
Sumter County	
Stormwater Manager	Alfred Conyers
Environmental Technician	Reggie Felder
City of Sumter	
Stormwater Manager	Teige Elliot
Engineering Associate	Aashad Carter

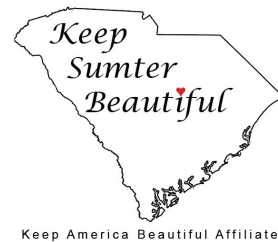




Education Partners

Sumter Stormwater Solutions education partners include government agencies, non-profit and community organizations and businesses who share the consortium’s mission of providing education to the public on stormwater issues throughout the City and County. Each partner brings a unique skill set to the organization and enhances the variety of programs the consortium is able to offer.

Education Partners



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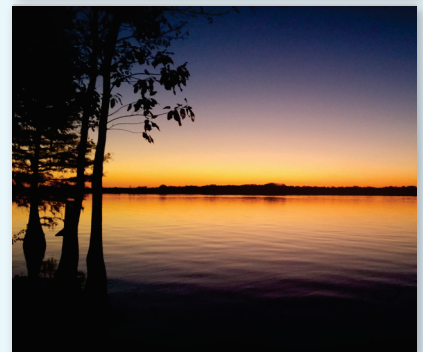
Mission and Goals

MISSION STATEMENT

To enhance water resource protection and stewardship through education, public involvement and partnerships.

PROGRAM GOALS

- Use a watershed approach to develop and implement a comprehensive education strategy that addresses stormwater pollution using a prioritized approach capitalizing on local training resources.
- Foster and expand upon citizen involvement in stormwater management through education and participation programs to encourage behavioral change towards improved environmental protection and awareness.
- Facilitate collaboration among local organizations interested in watershed-related education to best meet the educational needs of local communities.
- Through partnerships, leverage education resources and organize outreach programs to meet the NPDES Phase II permit requirements for public stormwater education and outreach to achieve greater water resource protection.
- Participate in collaborative stormwater education that can serve as a model for others.





Education and Involvement Program History

The Sumter Stormwater Solutions Strategic Education Plan was developed in 2018 to guide the education efforts of the consortium from January 2019 through December 2023. It was developed with input from consortium partners and identified Pollutants of Concern and Target Behaviors to be addressed through public education and involvement activities. A copy of the strategic plan can be viewed on the Sumter Stormwater Solutions page at clemson.edu/carolinaclear.

Priority Pollutants of Concern (POC) and Target Behaviors identified in the Sumter Stormwater Solutions Strategic Education Plan (2019-2023)

Pollutant of Concern	Target Behavior
Bacteria	<ul style="list-style-type: none"> Residents are able to identify and report sanitary sewer overflows (SSO)
Sediment	<ul style="list-style-type: none"> Construction professionals know how to properly install and maintain sediment control and erosion BMPs
FOG	<ul style="list-style-type: none"> Residents properly dispose of FOG by recycling or throwing in trash Restaurant owners/employees know how to properly dispose of grease and maintain grease receptacles
Litter	<ul style="list-style-type: none"> Residents report illegal dumping sites and activity Potential litterers understand the long-term effects of littering
General Awareness	<ul style="list-style-type: none"> Adults and youth are aware of how local stormwater runoff affects the larger watershed Property owners adopt home BMPs and land management practices that minimize pollution in runoff (including drainage ditch maintenance) Residents are able to identify and report illicit discharges



2023 Highlight

Stormwater In the Classroom

4th Grade Lessons

Bringing awareness and education about the importance of clean water to our community is an integral part of ensuring the future status of our water resources. Helping others understand the connection between storm water, wastewater and the environment can lay the foundation for understanding the intricacies of our world and future jobs in the world of water.

Working together, Cassie Castleberry, Water Resources Agent in Sumter County, and Josh Castleberry, Dean of Workforce Development at CCTC and Sumter Soil & Water District Commissioner, brought the worlds of storm water and wastewater together for the 4th grade classes at Crosswell Elementary. Using lessons from Project WET and Project Learning Tree students spent time learning about the effects of storm water on the environment and how the water cycle never ends. Students were able to do hands on learning to see how humans have created a need for storm water management and they took a journey as a water molecule to show the importance of keeping our water clean.

To bring it all together students reviewed both lessons and were able to discuss the need for jobs in the field of water resources. As a final “exit ticket” students were asked to write their own water molecule journey along with an illustration. 1st, 2nd and 3rd place winners were chosen and recognized for their stories. A field trip to the wastewater plant is planned for the spring 2024 semester to show real world application.





2023 Highlight

Litter in Sumter

City of Sumter and Sumter County have continued outreach/education and the enforcement of litter laws in the community throughout 2023. City of Sumter hired a litter enforcement officer in 2020 and Sumter County hired 2 litter enforcement officers in 2023. City of Sumter organized 6 Community clean-up days in 2023 resulting in 70,325 pounds of litter removed from around Sumter by 970 volunteers. City of Sumter partnered with Continental Tire and Sumter County to hold a tire buy-back event in March. A total of 995 tires were bought from residents for \$2 per tire. They also worked with 9 people who completed court mandated litter abatement with 149 bags of litter collected totaling 3,725 pounds.

In addition to partnering with the City of Sumter, Sumter County removed 536,700 pounds of litter and large debris along roadways in the Sumter area, with the assistance of 1,796 volunteers.

Employees of City of Sumter and Sumter County attended the eSTEAM Sumter festival to discuss the impacts of litter and stormwater runoff with participants.



ABOVE: SUMTER HIGH STUDENTS PICKED UP LITTER AT PACK'S LANDING

RIGHT: SUMTER HIGH STUDENT WEIGHING A BAG OF LITTER





2023 Highlight

Statewide: In-Person On-Site Field Visits

In 2023, Clemson Extension’s Carolina Clear agents educated the citizens of South Carolina through coordinated and unified efforts on issues associated with stormwater. We raised awareness of actions and behaviors to help protect and manage water quantity and quality. As a team, Carolina Clear Water Resources Agents working with partners across the state, including Sumter Stormwater Solutions, improved the lives and had a significant impact on our communities by delivering research-based information on best management practices (BMPs) through numerous outreach activities including approximately 200 in-person on-site field visits.

The overall objective of field visits is to empower residents to better understand and manage their stormwater concerns utilizing BMPs in their own surroundings and enable them to share their new knowledge throughout the community. Building trust and rapport with our clients through listening to their needs and goals during our initial contact via phone, email, text, or in-person in the office leads to desired outcomes associated with their stormwater issues. Agents offer numerous BMP options that include behaviors, actions, and structural installations that can be adopted to improve the situation and stress that by just starting with one measure has proven productive.



Photo credit: Kim Morganello



Photo credit: Susan Lunt



Photo credit: Susan Lunt

In addition to providing information on BMPs, our education involves increasing understanding on watersheds, our built environment, and population & climate changes as they relate to stormwater runoff. On-site, agents walk the property with the clients, following the path of the water sources and potential contaminant issues to the final water destination, focusing on the clients’ areas of concern, identifying areas they may not have considered, and sharing site specific BMPs in an integrated treatment train approach. Visits conclude with the sharing of Clemson Extension resources in print and online, and an introduction to hybrid courses and webinars that will allow the residents to take action and to become better Earth Stewards.



Photo credit: USGS



2023 Highlight

October 7, 2023-Sumter's eSTEAM Festival

During the 2023 eSTEAM Clemson Extension Agents partnered with city and county stormwater staff to provide a creative activity to teach Sumter's youth about the impacts of stormwater pollution. Located on Main Street, in downtown Sumter; the eSTEAM festival is a celebration of science, technology, engineering, art, and math that draws hundreds of local families.

At the Sumter Stormwater Solutions booth, festival attendees played a game of chance that determined where an individual drop of rain might end up and what pollutants it would pick up along the way. Based on their results, they added a loop to a paper chain to represent their rain drop. The color of their paper loop was based on the pollutant they encountered. The result was a paper chain that represented a local stream and provided a visual indication of the pollution discharged into our waterways due to human activities. One hundred and twenty-five individuals participated in the activity and even more received information about common pollutants and received branded giveaways to help them be good watershed stewards. Giveaways included reusable shopping bags and pet waste bag dispensers.

In addition to the SSS booth, Clemson Extension Agents provided educational materials for booths run by Sumter Highschool, City of Sumter, and Sumter Soil and Water Conservation District. These booths covered topics related to stormwater including information about composting, recycling, storm drains, and common pollutants.





Annual Report of Activities Format

This annual report details all stormwater education, outreach, involvement, and participation activities provided by Sumter Stormwater Solutions from January 2023 to December 2023. Activities are obtained from an online database managed by Carolina Clear that consortium partners contribute to throughout the year.

Activities are divided into two categories: public education and public involvement. Public education is further broken down into direct and indirect outreach methods. Direct methods include activities that are implemented through direct contact (e.g. workshops, presentations). Indirect activities include internet, television, radio, print, and billboard activities.

For each activity, the following information is provided: lead provider, supporting partners (if applicable), date conducted, and number of impacts.

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 Sumter Stormwater Solutions. 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
Ongoing	Website: Total unique views in 2023 for the Carolina Clear, Sumter Stormwater Solutions, Carolina Yards, Stormwater Ponds, Clemson Extension Water Resources, Rain Gardens, Living Shorelines, CEPSCI, and CSPR websites	Clemson Extension	83,264
Ongoing	Carolina Clear Youtube page provides educational videos related to stormwater.	Clemson Extension	10,400
Ongoing	Carolina Clear Facebook page provides information on stormwater best management practices.	Clemson Extension	17,892
Ongoing	Sumter Stormwater Solutions Facebook Page provides information on stormwater best management practices and related, local events.	Clemson Extension	400
Ongoing	Carolina Yards Facebook page provides information to help South Carolinians conserve water and make positive changes to the environmental quality of their yards, neighborhoods, and surrounding waterways.	Clemson Extension	6,738
Ongoing	Water quality tips and segments on <i>Making It Grow</i> television show on ETV or Facebook Live.	Clemson Extension, SCETV	18,527
Ongoing	Making It Grow! FB page (Lifetime Post Total Reach: The number of people who had your Page's post enter their screen. Posts include statuses, photos, links, videos and more)	Clemson Extension, SCETV	861,815
Ongoing	Factsheets located on the Clemson Home and Garden Information Center (HGIC) that have been authored by Water Resource Agents and that directly relate to stormwater education include topics on pond management, landscape-level stormwater management, vegetative buffers, low impact development, and more. The total unique views is estimated from previous data due to google analytics platform changes this year. Note: this is an underestimate 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	55,000



Public Education: Indirect

DATE	ACTIVITY DESCRIPTION	PARTNERS	NUMBER OF IMPACTS
Ongoing	Land Grant Press publications authored by the Clemson Extension Water Resources Team include 23 publications since 2019. Topics include stormwater ponds, recreational ponds, wetlands, aquaponics, funding, flooding, pond dredging, headwater streams, watershed based planning, harmful algal blooms and more. These publications can be accessed at lpress.clemson.edu	Clemson Extension	31,077
Ongoing	Billboard: The 2022/23 Carolina Clear mass media campaign focused on water pollution associated with sanitary sewer overflows. Billboard messaging was provided on the target behavior “Protect Your Pipes, Flush only TP, Trash Everything Else,” in high-visibility location: US 76/378 W, 0.2 miles W/O State Road 441 (impacts reported as total the weekly impressions in 2023).	Clemson Extension	60,875
Ongoing	TV: The 2022/23 Carolina Clear mass media campaign focused on water pollution associated with sanitary sewer overflows. Commercial messaging was provided on the target behavior “Protect Your Pipes, Flush only TP, Trash Everything Else,” on WLTX/Streaming in Sumter county. Note: there was no air time in 2023; the impact numbers are from 2022 as part of the 2022/23 mass media campaign.	Clemson Extension	261,545
Ongoing	Take Action E-News: an online newsletter that is issued 4 times a year and provides information about stormwater events in Sumter County.	Clemson Extension	22
Ongoing	Dog waste stations: 4 at Patriot Park, 4 at Dillon Park, 5 at Palmetto Park, 2 at Live Oak Park	Sumter County, City of Sumter	3,000
October 2023	Rainwater harvesting display at Sumter County Fair, including information about protecting water quality in the home landscape	Master Gardeners, Clemson Extension	500
2023	Litter Education Events: Stash the Trash, Teacher’s Appreciation Night, E-STEAM	Sumter County, Clemson Extension	1,027
Ongoing	Outreach materials (rack cards, manuals, fact sheets) and promotional materials (reusable water bottles, grocery bags, and travel utensil sets) distributed at public events	Clemson Extension, PalmettoPride	1,000
Ongoing	Media Coverage: WLTX and The Sumter Item aired news segments and printed articles about litter and water quality issues in the Sumter area.	The Item, WLTX, Clemson Extension	125,000
10/7/2023	eSTEAM Sumter: Participants learned about stormwater runoff, composting, litter prevention, and stormdrain education.	City of Sumter, Sumter County, Clemson Extension, SSWCD, SHS	2000



Public Education: Direct

DATE	ACTIVITY DESCRIPTION	PARTNERS	NUMBER OF IMPACTS
Ongoing	Carolina Yards Online Guide to Environmentally Friendly Gardening: online training course *Statewide	Clemson Extension	21
May-June 2023	CSPR Course: 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. *Statewide	Clemson Extension, SCDHEC	73
Ongoing	CEPSCI Course: 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. *Statewide	Clemson Extension, SCDHEC, SCDOT	2,009
Fall 2023	The Master Pond Manager (MPM) course teaches recreation and stormwater pond management, training participants through online classroom and field-based curriculum; it was offered in the fall, with field days hosted in Horry county	Clemson Extension	42
Ongoing	Post Construction BMP Inspector: re-certification was offered in a virtual format that included virtual field days and online learning modules *Statewide	Clemson Extension	74
Ongoing	Master Rain Gardener: an online and field based training focused on rain garden and rainwater harvesting system design and implementation. Online classroom was held between Sept-Oct 2023. Two field days took place in October in Folly Beach, SC.	Clemson Extension	44
2023	Dam Ownership in South Carolina Course is an on-demand online course to assist dam owners and/or operator with understanding the basic concepts to protect the integrity and benefit of dams.	Clemson Extension, SCDHEC, Natural Resources Conservation Service	137
2023	South Carolina Certified Landscape Professional Course is an online, self-paced course designed to provide a basic working knowledge of sound horticultural and landscaping practices.	Clemson Extension	124
March 2023	The Nature-Based Exchange is designed as a series of practical and outcome-based workshops, the Exchange aims to bring together an array of local partners to discuss and develop natural and nature-based solutions for South Carolina.	The Nature Conservancy, Clemson Resilient Urban Design Program, City of Charleston	45



Public Education: Direct

DATE	ACTIVITY DESCRIPTION	PARTNERS	NUMBER OF IMPACTS
Ongoing	In-Person, Phone, Email: Clemson Extension Agents and Master Gardeners answered questions relating to a variety of home landscaping issues that impact water quality; topics including compost, mulch, fertilizers, native plants, irrigation, etc.	Clemson Extension	1000
Ongoing	In-Person, Phone, Email: Clemson Extension Agents answered questions and provided services to a variety of Sumter County audiences regarding water resources and stormwater-related best management practices	Clemson Extension	58
Ongoing	Soil and Water Samples: Clemson Extension, in cooperation with Clemson's Agricultural Service Lab, processed soil and water samples for Sumter County residents and commercial audiences	Clemson Extension	510
1/18/2023	Presentation about planting riparian buffers using livestakes for Sumter Master Gardeners	Clemson Extension, Sumter Master Gardeners	30
3/3/2023	Berea Jr Academy-Water Cycle Activity	Clemson Extension	8
4/13/2023	Poinsett Garden Club-Water Resources Presentation	Clemson Extension,	42
10/7/2023	eSTEAM table- stormwater runoff game	Clemson Extension, SSS	125
10/19/2023	Women's Afternoon Book Club- Water Resources Presentation	Clemson Extension	12
10/19/23	SC Master Gardener Conference presentation: Rain Gardens As A Wildlife Habitat	Clemson Extension, Master Gardener, Carolina Clear	30
11/13/2023, 11/15/2023	Crosswell Drive Elementary School 4th grade classes- stormwater and waste water lessons	Clemson Extension, SSWCD	80
2023	Litter Education Events: Chestnut Oaks, Manchester Elementary, Boys & Girls Club, Woodridge HOA, Mayesville Community	Sumter County	413



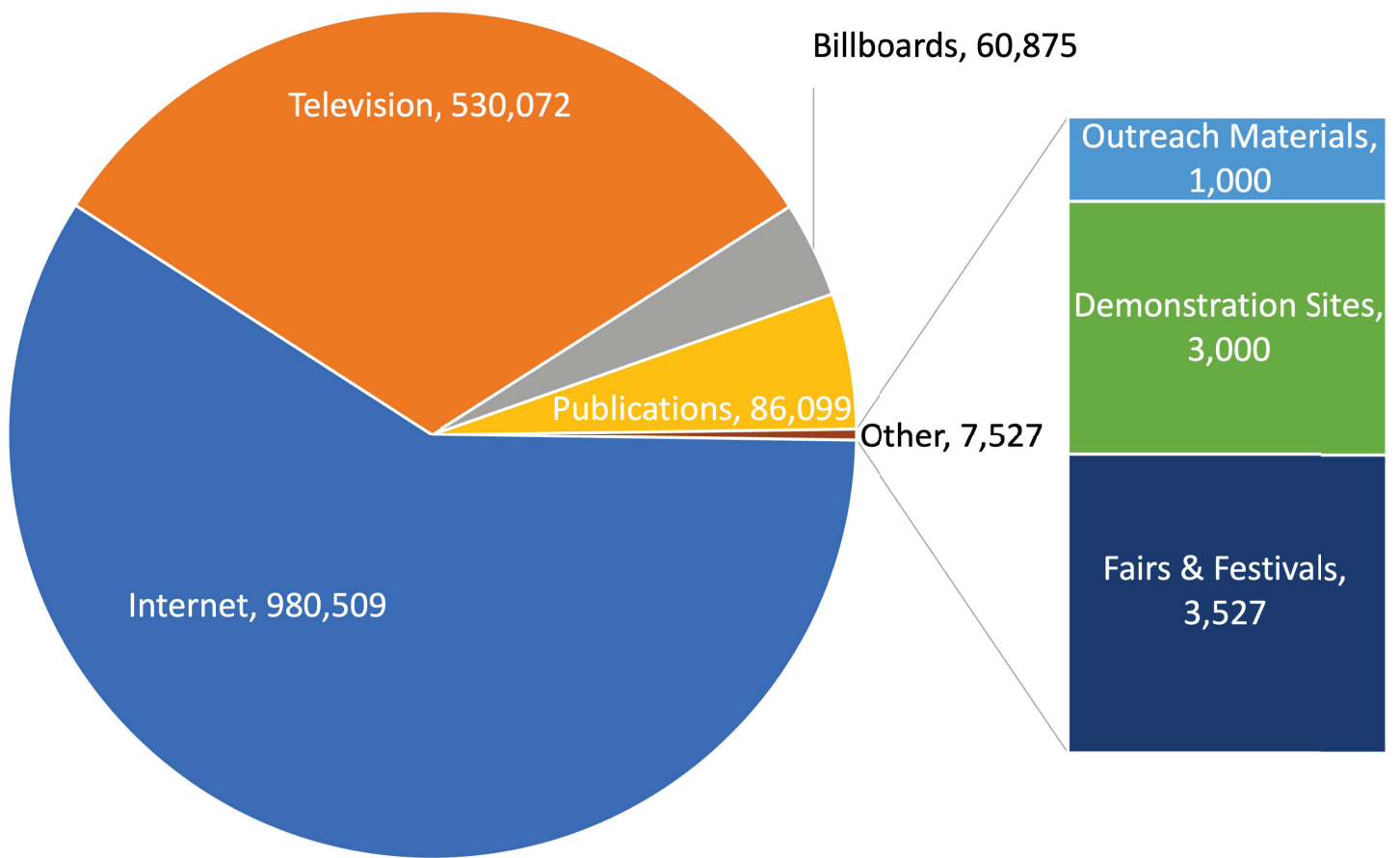
Public Involvement

DATE	ACTIVITY DESCRIPTION	PARTNERS	NUMBER OF IMPACTS
Ongoing	Certified Carolina Yards Individuals putting Carolina Yards behaviors into practice in their own yards can have a certified Carolina Yard *Statewide	Clemson Extension	54 certified new in 2023
9/16/2023	Litter cleanups: Sumter Highschool hosted litter clean-up at and Pack's Landing. Keep Sumter Beautiful provided supplies.	Sumter Highschool, Clemson Extension, PalmettoPride	65 volunteers, 533 lbs of litter picked up
2023	City of Sumter hosted 6 Community Clean-up days	City of Sumter, Sumter County, Sumter Litter Advisory Board	970 volunteers 70,325 lbs collected
3/18/2023	City of Sumter Tire Buy-Back event	City of Sumter, Continental Tire, Sumter County	995 tires collected
Ongoing	Sumter County hosted 117 litter clean-up days. Total weight includes litter bags, debris cleaned along roads, and litter rake pick-ups.	Sumter County	1,796 volunteers 536,700 lbs collected
Ongoing	Sumter SWCD rented out feral hog traps that were used to capture approximately 430 feral hogs. This helped farmers prevent crop damage or loss and reduce bacteria and sediment inputs to local waterways.	Sumter Soil and Water Conservation District	430



Outreach Summary

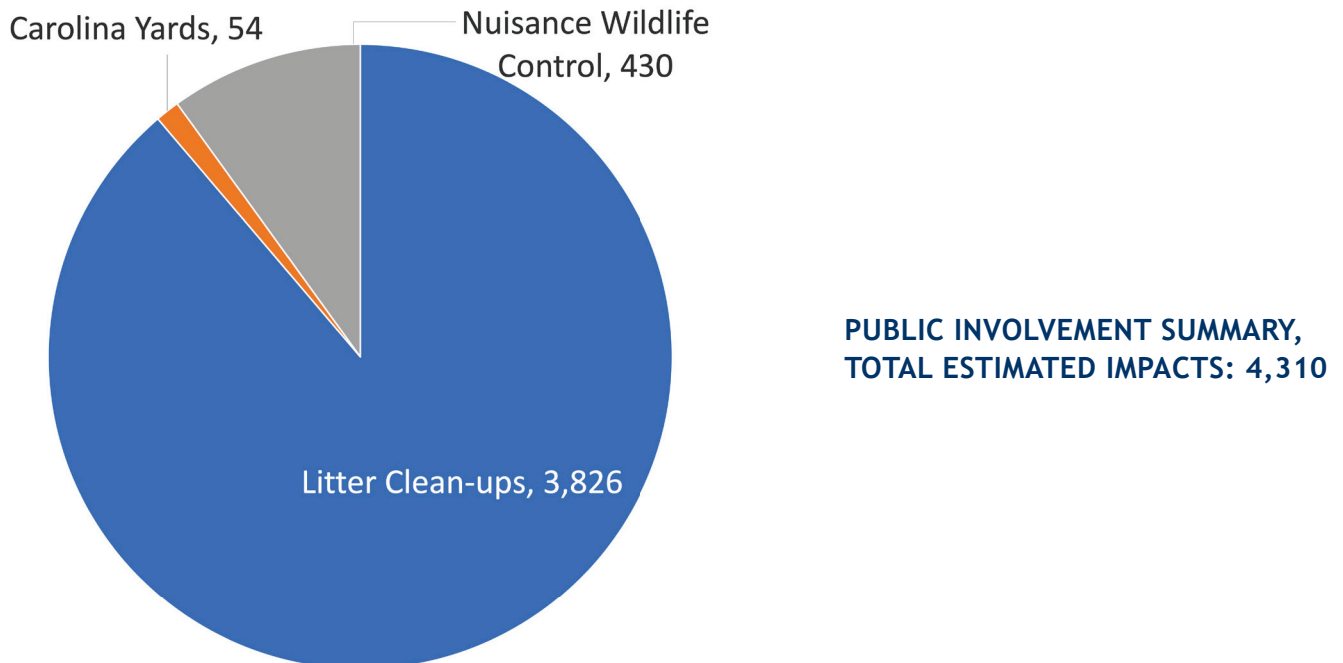
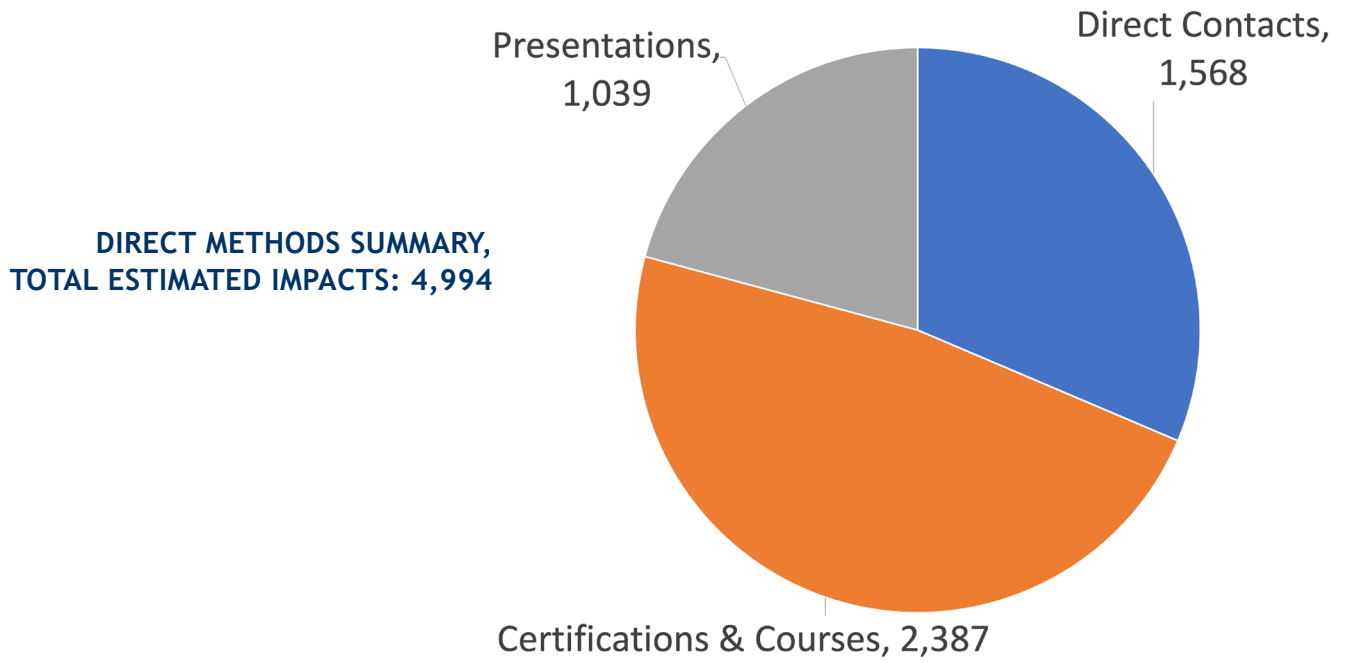
Total impacts for 2023: 1,674,080 individuals.



INDIRECT METHODS SUMMARY,
TOTAL ESTIMATED IMPACTS: 1,665,082



Outreach Summary





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