



Education Plan

The Florence/Darlington Stormwater Consortium 2019-2023 Education Plan was created with input from partners at a strategic planning session on December 6, 2018 at the Pee Dee Research and Education Center, in X, SC . Partners included city and county staff, local representatives from an engineering firm, Clemson University staff, and Clemson Extension agents. Input included prioritizing pollutants of concern, developing a list of contributing behaviors, and brainstorming barriers and benefits for behavior change adoption. This education plan will guide the efforts of the Florence & Darlington Stormwater Partners from January 1, 2019 to December 31, 2023.

Top Three Pollutants of Concern (POCs) and Their Contributing Behaviors

Pollutant of Concern	Contributing Behaviors
Fats, Oils, and Grease (FOG)	<ul style="list-style-type: none"> Residents who improperly dispose of FOG at home. Restaurant staff who do not properly dispose of FOG, maintain grease receptacles, and/or properly clean equipment.
Litter	<ul style="list-style-type: none"> People who contribute to roadside littering or improperly dispose of household items. Municipal waste disposal services and residents who do not tarp their waste material and contribute to roadside littering. Littering and illegal dumping fines are not fully imposed by enforcement professionals.
Bacteria	<ul style="list-style-type: none"> Septic systems that are not properly maintained/repaired. Residents are unaware of how to identify SSO (Sanitary Sewer Overflow) and where to report them. Dog owners who do not pick up and properly dispose of their pet waste.
General Awareness	<ul style="list-style-type: none"> Residential and commercial properties contribute to nutrient, sediment, and bacteria pollution. Residents are not familiar with the effects of local stormwater runoff on the larger watershed.

Fats, Oils, and Grease (FOG)

1. Residential FOG management
2. Restaurant FOG management

1. Residential FOG Management

Target audience: Residents in neighborhoods with FOG-related issues reported.

Problem: Some residents are not aware of the proper disposal methods of FOG at home.

Short Term Objective: Increase the number of residents who are aware of negative effects of FOG and properly dispose of it.

Long Term Goal: Fewer FOG related issues in infrastructure and local waterways.

Message	Format and distribution	Partners	Evaluation
<ul style="list-style-type: none">• FOG down drains can clog pipes and lead to sewer overflows.• Save money on pipe repairs by properly disposing of FOG.	<ul style="list-style-type: none">• FOG Disposal magnets• Doorhangers in grease troubled neighborhoods• Can lids to collect grease• A guide to local recycling centers• Motor oil recycling receptacles• Radio PSA• Apartment specific FOG info• Newspaper articles	<ul style="list-style-type: none">• Local recycling centers• Municipalities• Apartment rental offices• Local Keep America Beautiful Affiliates• Radio	<ul style="list-style-type: none">• Number of materials distributed• Radio PSA audience• Newspaper readership

Actions:

- Place informational doorhangers on all doors in grease troubled neighborhoods.
- Distribute materials for collecting FOG at local events, apartment rental offices, and recycling centers.
- Create timely radio PSAs.

2. Restaurant FOG Management

Target audience: Restaurant owners and staff

Contributing behavior: Restaurant staff do not properly dispose of FOG, maintain grease receptacles, and/or properly clean equipment.

Short Term Objective: Restaurant staff are aware of the negative effects of FOG and practice the correct disposal methods.

Long Term Goal: Fewer FOG related issues in infrastructure and local waterways.

Message	Format and distribution	Partners	Evaluation
<ul style="list-style-type: none"> Maintaining proper FOG disposal methods decreases future maintenance costs. Providing proper tools and behaviors for FOG management will result in an increase in restaurants that pass inspection. 	<ul style="list-style-type: none"> Packets for restaurants with training materials, informational signage, and grease recycling information. 	<ul style="list-style-type: none"> Local Restaurants Municipalities/Wastewater Utilities Local Recycling Centers DHEC 	<ul style="list-style-type: none"> Number of packets distributed Number of restaurants who pass FOG related Municipal inspections

Actions:

- Create FOG packets for restaurants that include information on maintenance strategies, informational signage, and information on where to recycle FOG.
- Promote Carolina Clean Restaurant initiative to incentivize following FOG BMPs.
- Promote volunteer events to mark storm drains and hang FOG doorhangers.

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1. Litter
2. Tarping Vehicles
3. Illegal Dumping and Litter Enforcement

1. Litter

Target audience: People Who Litter

Contributing behavior: People who contribute to litter, illegal dumping, and improper disposal of household items.

Short Term Objective: People who litter are aware of the environmental, health, and economical impacts of litter on our landscape and in our waterways.

Long Term Goal: Decrease the amount of trash and cigarette butt waste found in MS4 waterways.

Message	Format and distribution	Partners	Evaluation
<ul style="list-style-type: none"> Plastic litter can negatively affect 	<ul style="list-style-type: none"> Mass media Factsheets 	<ul style="list-style-type: none"> Municipalities 	<ul style="list-style-type: none"> Number of organized clean

<p>your health by contaminating waterways and wildlife with toxic compounds.</p> <ul style="list-style-type: none"> Litter can negatively affect tourism and property values and can increase crime. Areas clear of litter can reduce potential breeding sites for mosquitos. 	<ul style="list-style-type: none"> Newspaper articles Who to Call List List of approved dump locations Installation of cigarette butt receptacles “Trash Talk” awareness events Rack Cards Community clean-up efforts 	<ul style="list-style-type: none"> Local Keep America Beautiful Affiliates Palmetto Pride Adopt-A-Highway Solid waste departments Law enforcement/litter officers Sidewalk Buttler and participating restaurants 	<p>ups on/around streams and number of volunteers/participants</p> <ul style="list-style-type: none"> Number and readership of published articles about litter clean ups Pounds of debris removed from environment Number of cigarette butt receptacles installed/number of butts recycled Number of Trash Talk awareness events and participation
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Actions:

- Create or streamline online resources, including Who to Call list.
- Organize stream clean ups.
- Organize “Trash Talk” awareness events.
- Develop cigarette butt recycling program.
- Develop Storm Drain Art Contest.

2. Tarping Vehicles

Target audience: People who do not tarp trucks when transporting trash

Contributing behavior: People do not tarp their vehicles while transporting trash, allowing it to litter local roadways and waterways.

Short Term Objective: Increase the number of people who use tarps on their vehicles when transporting trash.

Long Term Goal: Decrease the amount of trash found in MS4 waterways.

Message	Format and distribution	Partners	Evaluation
<ul style="list-style-type: none"> It is required by law to tarp your trash. (Save your 	<ul style="list-style-type: none"> Tarp giveaways at local events and dump locations 	<ul style="list-style-type: none"> Municipalities 	<ul style="list-style-type: none"> Number of tarps distributed

<p>cash, tarp your trash).</p> <ul style="list-style-type: none"> It is important to properly secure loads with tarp to prevent trash and debris from littering the roads and falling out and hurting someone. 	<ul style="list-style-type: none"> Newspaper articles Informational signage at dump locations 	<ul style="list-style-type: none"> Local Keep America Beautiful Affiliates Solid waste departments Law enforcement/litter officers 	<ul style="list-style-type: none"> Number of articles written and readership
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Actions:

- Organize events to give away tarps.
- Create signage for dump locations with educational message.

3. Illegal Dumping and Litter Enforcement

Target audience: Local Code Enforcement and Law Enforcement

Contributing behavior: Enforcement professionals are not fully aware of current laws and codes and do not always actively ticket or impose fines for littering or illegal dumping.

Short Term Objective: Increase the amount of enforcement professionals who write tickets and impose fines for littering and illegal dumping.

Long Term Goal: Decrease the amount of trash found in MS4 waterways.

Message	Format and distribution	Partners	Evaluation
<ul style="list-style-type: none"> Dumping trash and littering is illegal. Litter can negatively affect tourism, and can increase crime. 	<ul style="list-style-type: none"> Crime Prevention Through Environmental Design Training (CPTED) Signage in areas designated as problematic for illegal dumping. 	<ul style="list-style-type: none"> Municipalities Local Keep America Beautiful Affiliates Solid waste departments Law enforcement/litter officers HOAs 	<ul style="list-style-type: none"> Number of participants who participate in training.

Actions:

- Organize with local Keep America Beautiful affiliate to host CPTED training.

Bacteria

- Septic System Maintenance
- Identifying Sanitary Sewer Overflows (SSOs)

3. Dog Waste

1. Septic System Maintenance

Target audience: Homeowners on septic

Contributing behavior: Septic systems that are not properly maintained/repared.

Short Term Objective: Increase awareness and proper maintenance of septic systems.

Long Term Goal: Decrease amount of bacteria contributed to MS4 waterbodies due to failed septic.

Message	Format and distribution	Partners	Evaluation
<ul style="list-style-type: none"> Failing septic contributes to pathogens in the environment that can make humans sick. Save money by maintaining instead of waiting for failure. 	<ul style="list-style-type: none"> Septic workshops Newspaper articles Updated fact sheets Economic emphasis Billboards 	<ul style="list-style-type: none"> DHEC factsheets 319 grants Septic companies Realtors 	<ul style="list-style-type: none"> Number of people who attend workshops/ & program evaluations Self-reporting on state survey Site specific website hits on developed web-based material Number of magnets distributed

Actions:

- Create map for septic in our counties and determine problem areas.
- Create workshop/presentation for septic owners.
- Develop online resources – contractors and tips for inspection.
- Create magnet.
- Establish relationship with septic companies and create incentive program for septic owners to save money on inspection/maintenance costs.

2. Identifying Sanitary Sewer Overflows (SSOs)

Target audience: Residents who may encounter SSOs

Contributing behavior: SSOs are not properly identified or reported, allowing bacteria to leak into environment and contaminate local waterways.

Short Term Objective: Increase the number of SSOs that are reported.

Long Term Goal: Decrease the amount of bacteria in MS4 waterbodies due to SSOs.

Message	Format and distribution	Partners	Evaluation
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- Overflows of untreated sewage in the environment can lead to odors, exposure to bacteria and illnesses, and contamination of local waterways.
- Pollution reporting tool
- Fact sheet
- Newspaper articles
- Mass media
- Municipalities/wastewater utilities
- DHEC
- Number of pollution events reported
- Readership of newspaper article
- Website hits for fact sheet and Who To Call List
- Number of individuals who utilized septic incentive program

Actions:

- Advertise pollution reporting tool.
- Create a factsheet.
- Write newspaper articles regarding SSO pollution
- Create a Who to Call list.

3. Dog Waste

Target audience: Pet owners

Contributing behavior: Dog owners are not properly picking up and disposing of their pet waste.

Short Term Objective: Increase the amount of pet waste picked up and thrown away.

Long Term Goal: Dog owners feel social pressure to always pick up after their pets.

Message	Format and distribution	Partners	Evaluation
<ul style="list-style-type: none"> • Pet waste contributes to bacteria pollution of our surface water. • A small change in habit can make a big difference for water quality. • Utilize pet waste stations when available. 	<ul style="list-style-type: none"> • Commercial and billboards • Factsheet • Dog park signage and education • Puppy packets with educational material at dog adoption centers • Puppy pledges at community events 	<ul style="list-style-type: none"> • Adoption clinics • Municipalities • Lynches River County Park (dog related events) • Dog parks • Local television stations 	<ul style="list-style-type: none"> • Number of signed puppy pledges • Number of pet waste bags clips distributed • Viewership of mass media campaign • Number of public events /programs where relevant information is provided

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- Number of puppy packets distributed
 - Number of signs installed and visitor use data

Actions:

- Distribute pet waste bag clips.
- Get puppy pledges signed at adoption centers and local events.
- Annual Canines for Clean Water Contest.
- Mass media campaign - commercial and billboards.
- Create signage for pet waste stations.