



Public Education Outreach Plan

A component of the
Virginia Municipal
Separate Storm Sewer System Management Program
Loudoun County, Virginia

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Table of Contents

	Page
1.0 Introduction	1
1.1 Goals	1
1.2 Objectives	1
2.0 Municipal Separate Storm Sewer System Stormwater Management Program.....	2
2.1 Background.....	4
2.2 Applicable Regulations	4
3.0 COMMUNITY CONDITIONS	5
3.1 Community Profile.....	5
3.2 High Priority Water Quality Issues.....	6
3.2.1 Bacteria Impacts to Water Quality	6
3.2.2 Illicit Discharges from Commercial and Community Swimming Pools.....	8
3.2.3 Nutrient Impacts to Water Quality	8
4.0 Current and Past Community Outreach Efforts.....	9
4.1 Existing Program.....	9
4.2 Existing Resources	10
5.0 Public Education and Outreach Planning.....	10
5.1 High-Priority Water Quality Issues	11
5.2 Additional Water Quality Issues	11
5.4 Plan Implementation	13
5.4.1 Actions and Messages	13
5.4.2 Format and Distribution	16
5.5 Public Participation	16
5.5.1 Involvement of the Community in Program Development	17
5.5.2 Citizens' Stormwater Education Committee	18
5.6 Evaluation	19
5.6.1 Evaluation after Permit Year 2.....	20
5.7 Additional Opportunities for Education and Outreach.....	21

Appendices

Appendix A – Public Comments

Appendix B – Public Participation

List of Figures

	Page
Figure 1. The Loudoun County Permitted MS4 Area.....	3
Figure 2. Unincorporated Communities within the Loudoun County Permitted MS4 Area	7

List of Tables

	Page
Table 1: Housing Structures in Loudoun County	6
Table 2: High-Priority Water Quality Issues.....	11
Table 3: Target Audiences for each High-Priority Water Quality Issue	12

List of Acronyms

ACS	American Community Survey
BMP	best management practice
DCR	Virginia Department of Conservation and Recreation
DEQ	Virginia Department of Environmental Quality
E. coli	Escherichia coli
EPA	Environmental Protection Agency
HOA	homeowner association
IDDE	illicit discharge detection and elimination
MCM	minimum control measure
MS4	municipal separate storm sewer system
PEOP	Public Education Outreach Plan
VAC	Virginia Administrative Code
VPDES	Virginia Pollutant Discharge Elimination System
VSMP	Virginia Stormwater Management Program

1.0 INTRODUCTION

The purpose of this Public Education Outreach Plan (PEOP) is to identify the community involvement approach Loudoun County will use to promote methods to reduce the discharge of pollutants in stormwater runoff. The Department of General Services is responsible for managing the PEOP for Loudoun County's municipal separate storm sewer system (MS4) management program. The activities identified in this plan apply to the unincorporated urbanized areas of Loudoun County that are contained within the County's MS4 permit area. In general, this mainly encompasses the eastern portion of the County as shown on **Figure 1**.

1.1 Goals

The Virginia General Permit for Discharges of Stormwater from Small MS4s (General Permit), published at 9 VAC 25-890-40 et al, has specific requirements for public education and outreach efforts. The General Permit was revised in 2013 and the updated version became effective on July 1, 2013. Loudoun County obtained coverage under the 2013 General Permit as General Permit Number VAR040067.

The 2013 General Permit regulations, including the definitions of terms used under this regulatory program, can be found at the Virginia Stormwater Management Program Permit Regulations: <http://register.dls.virginia.gov/details.aspx?id=3490>

As required in Section II, Part B.1.b of the General Permit, this plan was designed with consideration of the following goals:

- Increasing target audience knowledge about the steps that can be taken to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns;
- Increasing target audience knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications; and
- Implementing a diverse program with strategies that are targeted toward audiences most likely to have significant stormwater impacts.

1.2 Objectives

The PEOP outlines a process for communicating with people working and living in Loudoun County that will support the County's objective of achieving improved water quality through reduced pollutant volumes making their way into water bodies via the County's small MS4. Implementation of the actions described in this document will help the County achieve this objective of improving quality of the waters in Loudoun County.

The PEOP complies with the General Permit requirements to:

- Identify at least three high-priority water quality issues, and provide rationale for the selection of these issues;
- Identify and estimate the size of the target audience(s) associated with each high-priority water quality issue;
- Develop relevant message(s) and associated educational and outreach material for distribution to the target audiences, taking into consideration minorities, disadvantaged audiences, and minors;
- Provide for public participation during PEOP development;
- Annually conduct outreach activities designed to reach 20% of the target audience. Not reaching that goal is not a compliance issue unless “insufficient effort” is made to reach that goal; and
- Provide for the adjustment of target audiences and messages, including educational materials and delivery mechanisms to reach target audiences, in order to address any observed weaknesses or shortcomings.

This plan was originally drafted using information obtained through interviews with the Virginia Department of Environmental Quality (DEQ), Virginia Department of Conservation and Recreation (DCR), and Loudoun County employees. Public input for the PEOP was sought during a 30-day comment period. In addition, internet research was conducted to collect outreach material and guidance available from various sources including, but not limited to, the Environmental Protection Agency (EPA), DEQ, DCR, the Loudoun County government website, and other municipalities.

It takes individual behavior change and proper practices to control stormwater pollution. The purpose of the PEOP is to identify methods that will be used to raise public awareness of the significance their behaviors can have on stormwater pollution, and to encourage changes in behavior to reduce future stormwater pollution.

2.0 MUNICIPAL SEPARATE STORM SEWER SYSTEM STORMWATER MANAGEMENT PROGRAM

Loudoun County operates an MS4 located primarily in the eastern portion of the county, as shown in **Figure 1**. The MS4 area identified in **Figure 1** reflects its updated boundaries that were drawn after the 2010 census.



Figure 1. The Loudoun County Permitted MS4 Area

An MS4 is defined as a conveyance or system of conveyances that is:

- Designed or used to collect or convey stormwater runoff (including curbs, storm drains, pipes, ditches, etc.);
- Owned by a state, city, town, village, or other public entity that discharges to waters of the United States;
- Is not a combined sewer; and
- Is not part of a publicly owned treatment works (sewage treatment plant).

Polluted stormwater runoff is commonly transported through MS4s, from which it is often discharged, untreated, into local water bodies. The Commonwealth of Virginia requires operators of an MS4 to obtain a permit for their MS4 discharges and to develop a stormwater management program. Loudoun County first established a Stormwater Management Program by ordinance in October 2003 to be compliant with the Virginia Stormwater Management Program (VSMP) Regulations, which are authorized by the Virginia Stormwater Management Act. Among the requirements of the permit, Loudoun County must prepare and implement a PEOP as one measure to help prevent harmful pollutants from entering Loudoun County's MS4. This document fulfills the requirement to prepare a PEOP.

2.1 Background

Common stormwater pollutants that may be found in Loudoun County's MS4 area include bacteria from pet waste and wildlife; sediment from development activities, streambank erosion and managing green spaces; chemicals contained in materials used on yards and green spaces such as fertilizers; and chemicals contained in leaked, spilled or dumped materials such as oils, lubricants, and cleaners.

2.2 Applicable Regulations

Loudoun County maintains a small MS4, which consists of stormwater conveyances including treatment facilities, roads with drainage systems, streets, catch basins, curbs, gutters, ditches, manmade channels, and/or storm drains. As a small MS4 operator, Loudoun County is obligated to comply with the requirements set forth in the, "General Permit for Discharges of Stormwater from Small Municipal Storm Sewer Systems", General Permit No. VAR040067, dated July 1, 2013. The permit establishes six "minimum control measures" (MCMs) to prevent stormwater pollution in the MS4; they are:

1. Public education and outreach on stormwater impacts;
2. Public involvement/participation;
3. Illicit discharge detection and elimination (IDDE);
4. Construction site stormwater runoff control;
5. Post-construction stormwater management in new development and development on prior developed lands; and,

6. Pollution prevention/good housekeeping for municipal operations.

Loudoun County's MS4 Program Plan (which is updated annually) outlines specific actions, known as best management practices (BMPs), that the County will use to address the six MCMs. The updated regulatory requirements, which are reflected in the General Permit issued on July 1, 2013, mandate the preparation of a plan which addresses the first MCM: public education and outreach. Although this plan is focused on the first MCM listed above, there are also educational and outreach aspects associated with MCMs 2 – 6 and with other permit requirements. Within the new permit, under which the County must operate, there are opportunities for communicating with people working and living in Loudoun County that will support the broad goals of improved water quality through reduced pollutant volumes making their way into water bodies via the County's small MS4.

3.0 COMMUNITY CONDITIONS

Loudoun County is one of the most affluent and fastest growing counties in the nation. The County is known for its beautiful scenery, rich history, expanding business opportunities, comfortable neighborhoods, and high quality public services.

3.1 Community Profile

The 2014 Loudoun County population was estimated at 363,050 by the U.S. Census Bureau. This represents a 16.2% increase over the 2010 figure of 312,311. According to the 2016 American Community Survey (ACS) 2010-2014 Five-Year Estimates, Loudoun County's estimated median household income was \$123,966 during that period. This was more than twice the national median of \$53,046, and nearly twice Virginia's median of \$63,907 reported by the U.S. Census Bureau Quick Facts during about the same timeframe.

English is the predominant language spoken at home in Loudoun County (71%). The second-most common language spoken at home is Spanish (11%), followed by Other Indo-European languages (10%), Asian and Pacific Islander languages (6%), and Other (2%). The majority of the population in Loudoun County has attained a Bachelor's degree or higher, and more than 75% of the population has attended some college.

The most recent Loudoun County demographics can be found on the Loudoun County government webpage: <https://www.loudoun.gov/index.aspx?NID=1914#ACS>. The 2000 and 2010 US Census data is available at: <http://censusviewer.com/county/VA/Loudoun>. Available statistics include: educational attainment, foreign born population, language spoken at home, household income, and housing characteristics. The majority of the population in Loudoun County resides in "1-unit, detached" structures, or single-family homes. The second most-common type of home is a "1-unit, attached" structure, such as a townhouse. Housing structures in Loudoun County are summarized in **Table 1**, below.

Table 1: Housing Structures in Loudoun County

Units in Structure	Percent
1-unit, detached	53.8
1-unit, attached	28.1
2 units	0.3
3 or 4 units	0.9
5 to 9 units	3.9
10 to 19 units	7.3
20 or more units	5.1
Mobile home	0.5
Boat, RV, van, etc.	0
<i>Source: 2014 American Community Survey 1-Year Estimates</i>	

Leesburg is not located within the MS4 area; in fact, there are no incorporated towns within the Loudoun County MS4 jurisdiction. There are 14 unincorporated communities within the Loudoun County MS4 jurisdiction, they are shown in **Figure 2** and are listed below:

- Ashburn
- Belmont
- Brambleton
- Broadlands
- Cascades
- Dulles
- Lansdowne
- Lenah
- Lowes Island
- River Creek
- South Riding
- Sterling
- Sugarland Run
- Waxpool

3.2 High Priority Water Quality Issues

In accordance with the General Permit, Loudoun County has identified three high-priority water quality issues, and has provided rationale for the selection of these issues in the proceeding sections of this PEOP.

3.2.1 Bacteria Impacts to Water Quality

E. coli is used as an indicator of the presence of harmful bacteria that may cause disease, especially among people with a weakened immune system. In urban areas, such as the Loudoun County’s MS4 area, common sources of E. coli include human fecal matter (in the case of a poorly functioning wastewater treatment plant or septic system), or animal fecal matter, including both domesticated animals and wildlife. Loudoun County has selected bacteria as one of its three high-priority water quality issues on which public education and outreach efforts will focus. Section 5.1 of this plan provides the rationale for the selection of bacteria for outreach and education efforts.



Figure 2. Unincorporated Communities within the Loudoun County Permitted MS4 Area

3.2.2 Illicit Discharges from Commercial and Community Swimming Pools

According to VSMP Permit Regulations (9 VAC 25-870-10), illicit discharge means “any discharge to a municipal separate storm sewer that is not composed entirely of stormwater” with a few exceptions. Discharges from firefighting activities and discharges permitted under another Virginia Pollutant Discharge Elimination System (VPDES) or other state permit are exempt.

Illicit discharge detection and elimination (IDDE) is important because some stormwater runoff from Loudoun County’s MS4 flows directly to streams and rivers without additional treatment. Illicit discharges often include pathogens, nutrients, surfactants, and various toxic pollutants. Loudoun County has selected illicit discharges related to chlorinated swimming pool operation and management as the second high-priority water quality issues on which public education and outreach efforts will focus. Section 5.1 of this plan provides the rationale for the selection of illicit discharges from swimming pools for outreach and education efforts.

Although dechlorinated swimming pool discharge is not typically a concern, Loudoun County has identified problems associated with incorrect swimming pool operation, pollutants in filter flushing, and cleaning in the past. Recent problems have included improper disposal of swimming pool cleaning wastes by pool contractors.

3.2.3 Nutrient Impacts to Water Quality

According to the EPA, one of the most widespread environmental problems is nutrient pollution, caused by excess nitrogen and phosphorus in surface water. Nitrogen and phosphorous are naturally found in surface waters and, under normal circumstances, contribute to the presence of food and habitat for fish, shellfish, and other organisms. When too much nitrogen and phosphorous enters a water body it can cause algae to grow quickly. The algae deplete the water of dissolved oxygen, which can result in the illness and/or death of fish and other aquatic life. Excessive amounts of algae can also be a risk to human health because they produce elevated levels of toxins and bacterial growth.

In urbanized areas, such as the Loudoun County MS4 area, common nutrient sources include: stormwater runoff from hard surfaces (such as roads, driveways, sidewalks, and rooftops), and substances used around the home (such as fertilizers, and some soaps and detergents). Loudoun County has selected nutrients as the third of three high-priority water quality issues on which public education and outreach efforts will focus. Section 5.1 of this plan provides the rationale for the selection of nutrients for outreach and education efforts.

4.0 CURRENT AND PAST COMMUNITY OUTREACH EFFORTS

As noted in Section 2.2 of this plan, Loudoun County must meet the requirements set forth in the Virginia General Permit for Discharges of Stormwater from Small MS4s. In an effort to comply with the permit's MCMs to prevent stormwater pollution within the MS4, the County identified numerous actions or BMPs.

BMP 1A: Develop Written Materials to Distribute to Target Audiences for Each of the High Priority Water Quality Issues Identified in the PEOP

BMP 1B: Conduct Training for Target Audiences for Each of the High Priority Water Quality Issues Identified in the PEOP

BMP 1C: Deliver Stormwater or Water Quality Announcements through Broadcast Media

BMP 1D: Establish/Maintain Standard Delivery Points for Printed Stormwater Materials

BMP 1E: Provide Public Access to Online Stormwater Materials

BMP 1F: Distribute Written Materials for High Priority Water Quality Issues to Reach the Target Audiences

BMP 1G: Evaluate and Update the PEOP to promote sediment reduction in the Bull Run and Goose Creek Watersheds

4.1 Existing Program

During the previous VSMP Permit cycle, the County added additional educational materials to their stormwater page on the county website, located at <http://www.loudoun.gov/index.aspx?NID=686>. The page is used to provide citizens with information about the stormwater program. Available on that page are links to the Stormwater Management Ordinance, the VSMP Permit Program, annual progress reports, and other educational and environmental information. There is also a "quick links" feature on this page which includes news releases for upcoming events and useful educational information from other resources.

Elsewhere on the County website is the Online Mapping System. This system can be used to view a variety of land-based information including the entire county stormwater system. The Department of General Services maintains a Speakers' Bureau to provide sources knowledgeable about County stormwater issues for public gatherings such as Homeowners' Association meetings. The County is a member of the Northern Virginia Clean Water Partners. Through that organization, the County participates in an annual media campaign to educate the public on stormwater concerns.

4.2 Existing Resources

Loudoun County has conducted a variety of community outreach activities in the past and has numerous existing resources at their disposal, including:

- Loudoun County’s database of readily-available outreach material from sources including the EPA, DEQ, DCR, and other Virginia localities.
- Outreach brochures and presentations available on the County website, <http://www.loudoun.gov/index.aspx?NID=2094>, include:
 - Items oriented toward individuals and homeowners
 - “A Resident’s Guide for a Cleaner Environment”
 - “A Resident’s Guide to Lawn Care for a Cleaner Environment”
 - “A Resident’s Guide to Automotive Care for a Cleaner Environment”
 - “Scoop the Poop”
 - Items prepared for commercial and business organizations operating within the MS4
 - “Commercial Lawn Care, a Guide for Preventing Stormwater Pollution”
 - “Swimming Pools, a Guide for Preventing Stormwater Pollution”
 - “Drains for Rain” presentation
 - A Dog Waste Postcard
 - Instructions for Marking Stormwater Drains
- Television and radio advertisements developed by the Northern Virginia Clean Water Partners media campaign, available online at: <http://www.onlyrain.org/about-2/>.
- Previously-recorded public service announcements.
- Promotional material prepared by local environmental groups such as Northern Virginia Clean Water Partners, Loudoun Environmental Stewardship Association Alliance, Loudoun Watershed Watch, members of Loudoun’s Clean Streams Association Coalition and others.

5.0 PUBLIC EDUCATION AND OUTREACH PLANNING

Stormwater runoff is generated from various pervious and impervious surfaces (e.g., roads, sidewalks, lawns, managed green spaces such as golf courses, driveways, and roofs) and efforts to control stormwater pollution must consider individual, household, commercial/business and public behaviors and activities that can generate pollution coming from these and other surfaces. The purpose of outreach is to educate the public about the significance their behaviors can have on stormwater pollution, and to encourage changes in behavior to reduce future stormwater pollution. In addition to the six BMPs for public education and outreach specified in the Annual Report for the most recent permit cycle; the County has added a seventh BMP, “1G: Evaluate and Update the PEOP to promote sediment reduction in the Bull Run and Goose

Creek Watersheds”. Specific goals of the education program are to positively impact the public by:

- Increasing target audience knowledge about the steps that can be taken to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns;
- Increasing target audience knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications; and
- Implementing a diverse program with strategies that are targeted toward audiences most likely to have significant stormwater impacts.

The following sections present the rationale used to develop the PEOP and the process to be followed for implementing the plan.

5.1 High-Priority Water Quality Issues

Loudoun County will focus on the three high-priority water quality issues identified in Section 3.2. The high-priority water quality issues, along with the rationale as to why they were selected, are presented in **Table 2** below.

Table 2: High-Priority Water Quality Issues

High-Priority Water Quality Issue	Rationale
Bacteria	Bacteria (i.e., E. coli), have been identified as a significant concern that is contributing to impairments in waters in Virginia and Loudoun County. There is a significant target population to work with in Loudoun County.
Illicit Discharges – Commercial and Community Swimming Pools	Loudoun County has responded to illicit discharge violations in the past that were specifically related to swimming pool maintenance. Improper discharges can result in the release of toxic chemicals and bacteria to waters of Virginia and Loudoun County.
Nutrients	Eighty percent of Loudoun County residents live in single-family or town homes where the lawn may be managed by landscape companies or homeowners where nutrients may be improperly applied. Excessive nutrient loading contributes to impairments in waters in Virginia and Loudoun County. Rapid development has included a significant increase in managed green spaces.

5.2 Additional Water Quality Issues

Sediment in Goose Creek and Bull Run. Sediment entering stormwater degrades the quality of the receiving waterbody by impacting its suitability for drinking; it stresses aquatic life and vegetation; it fills up storm drains and catchment basins increasing the likelihood of flooding; and, it can act as a transport mechanism for nutrients, a High Priority Water Quality Issue and stormwater pollutant. Excessive sediment is entering the stormwater and contributes to impairments in waters in Virginia and Loudoun County.

5.3 Target Audiences

As discussed in Section 3 of this PEO, the population characteristics of the Loudoun County MS4 area were evaluated to identify the County populations to be reached by the education and outreach effort. Target audiences were selected based on an assessment of Loudoun County’s community profile. Target audiences for stormwater outreach are shown in **Table 3** below.

Table 3: Target Audiences for High-Priority and Additional Water Quality Issue

High-Priority Water Quality Issue	Topic of Concern	Target Audience	Size
Bacteria	Pet waste	Homeowner and residents with pets	16,375 dog owners, owning about 23,000 dogs
Illicit Discharges – Commercial and Community Swimming Pools	Proper disposal of pool water and filter debris	Pool companies who provide pool maintenance services within the Loudoun County MS4	60 companies
	Requiring proper disposal of pool water and filter debris by their service companies	HOAs, hotels, and other pool owners	140 pool owners
Nutrients	Proper application of fertilizers	Landscape companies who provide services within the Loudoun County MS4	120 companies
	Proper application of fertilizers	Homeowner Associations	180 associations
Sediment (additional issue, non-high priority)	Appropriate cleanup of dirt, leaves, and clippings	Landscape companies who provide services within the Loudoun County MS4	120 companies
	Appropriate cleanup of dirt, leaves, and clippings	Homeowner Associations	180 associations

Bacteria – To reduce the levels of bacteria, the focus will be on pet waste from dogs. Loudoun County has 33,400 registered dog owners, of which 16,375 are in the MS4 Permit area with approximately 23,000 dogs.

Illicit Discharges – The focus of illicit discharge control will be chlorinated water and polluted filter-flush water from commercial and community swimming pools. There are approximately 140 such pools on record in the MS4 Permit area and an estimated 60 pool management companies serving them.

Nutrients – Application of fertilizers will be the focus of nutrient discharge control. There are approximately 120 landscaping companies serving the MS4 area and approximately 180 homeowners' associations either applying fertilizers to common ground or having the ability to reach individual lot owners who are applying fertilizers to private lots. Another source of stormwater pollution associated with lawn care is sediment.

Sediment - The County will use the interaction with the public about the use of fertilizers as an opportunity to educate residents and lawn care companies about reducing the amount of sediment entering the waters by not leaving yard waste (leaves, dirt, clippings) on sidewalks and in gutters. The County will continue to target land developers through their Erosion and Sediment Control Program as well as continue with their efforts to reduce streambank erosion which also contribute to sediment concerns in the Bull Run and Goose Creek watersheds.

5.4 Plan Implementation

A variety of actions will be conducted to educate the public in attempts to change behavior within the County's permitted MS4 area. Actions will be focused on targeted audiences and high-priority water quality issues identified in this implementation plan. Details for implementation are provided below.

5.4.1 Actions and Messages

The messages developed for public education and outreach will be provided in both English and Spanish language versions. Attention will be given to developing informative, easily-understood materials.

Bacteria

Written Materials – A trifold brochure that presents the impact animal waste can have on water quality, *Scoop the Poop*, is available and distributed within the MS4 area.

Active Engagement – In-person presentations for selected targeted audiences will be provided. Good examples of active engagement include a guest speaker for a school science class, community education class, and dog obedience classes.

Physical Improvements – Additional pet waste stations will be installed at selected public and private locations within the MS4 area.

The brochure, Scoop the Poop, explains that pet waste is a major source of the bacteria found in the waters within the County and that the bacteria need to be reduced. Topics that are addressed in the brochure include: Why pet waste is a concern; how it impacts the local water by contributing to bacteria levels; and what simple practices can be used to keep pet waste out of the water. Local contact information and other sources of additional information are included.

Illicit Discharges

Written Materials – A trifold brochure that presents the impact swimming pool discharges can have on water quality, *Swimming Pools, A Guide for Preventing Stormwater Pollution*, is available and distributed within the MS4 area.

Active Engagement – Preparation of “Train the Trainer” materials to facilitate in-person training for pool management companies that operate within the County. The materials will be provided to the companies with recommendations on how to use the materials for in-house staff awareness training.

The training information for swimming pool management companies will address the basics of stormwater runoff and how uncontrolled water discharges to the storm sewers contribute to the degradation of water quality in nearby waters. The training materials will include do’s and don’ts for operators when starting up pool operations in the spring, maintaining pool water quality during the summer swim season, and when emptying or lowering the pool levels in the fall. Training will also address year-round indoor pool water maintenance issues as they relate to IDDE. Local contact information and other sources of additional information, such as web sites, will be included.

Informational material, such as brochures and letters from the County, has been developed for swimming pool operators. These materials are designed to assist owners and operators in understanding their responsibilities in pool operation and ensuring that pools are managed in a way that does not negatively impact nearby waters.

Nutrients

Written Materials – A pair of trifold brochures that present the impact nutrient waste can have on water quality were developed. One brochure is oriented to the homeowner; the other is designed for commercial lawn care companies. Another pair of brochures, to address sediment in the Bull Run and Goose Creek watersheds, will be prepared and distributed.

Active Engagement – Preparation of “Train the Trainer” materials to facilitate in-person training for landscape and grounds management companies that operate within the County. The

materials will be provided to the companies with recommendations on how to use the materials for in-house staff awareness training.

The training information for lawn care/landscape companies will address the basics of stormwater runoff and how improper use and over use of lawn care chemicals can contribute to the degradation of water quality in nearby waters. The training materials will include dos and don'ts for crews when they use fertilizers. Information on alternative products and practices that do not use chemicals such as nitrogen and phosphorus will be included. The importance of vacuuming and removing, properly bagging, or leaving yard waste for later collection in areas on the property where rain water will not carry materials away and contribute to sediment issues will be included.

Again, informational material, such as brochures and letters from the County, has been developed and provided to HOAs for their use. These materials are designed to assist association management in communicating with home owners so that they can learn about ways to maintain their yards in a manner that does not negatively impact nearby waters.

Sediment

Written Materials – A pair of trifold brochures to address sediment in the Bull Run and Goose Creek watersheds, will be prepared and distributed. One brochure that is oriented to the homeowner; the other designed for commercial lawn care companies. Another pair of brochures,

Active Engagement – Preparation of “Train the Trainer” materials to facilitate in-person training for landscape and grounds management companies that operate within the County. The materials will be provided to the companies with recommendations on how to use the materials for in-house staff awareness training.

The training information for lawn care/landscape companies will address the basics of stormwater runoff and how to reduce the amount of sediment entering the waters by not leaving yard waste (leaves, dirt, clippings) on sidewalks and in gutters. The training materials will include dos and don'ts for crews when they perform their lawn care duties. The importance of vacuuming and removing, properly bagging, or leaving yard waste for later collection in areas on the property where rain water will not carry materials away and contribute to sediment issues will be included.

As with the nutrient material, informational material, such as brochures and letters from the County, has been developed and provided to HOAs for their use. These materials are designed to assist association management in communicating with home owners so that they can learn about ways to maintain their yards in a manner that does not negatively impact nearby waters.

5.4.2 Format and Distribution

Brochures are developed that include visually appealing graphics and provide information in easily understood terms. Use of existing themes developed under previous County outreach efforts will be continued; or, supplemented with new/additional color schemes, graphics and slogans. These features will be used throughout the County's stormwater education and outreach efforts. The familiarity and thus the recollection of the better practice (e.g., picking up the pet waste) of the messages are enhanced by the proper use of repeating themes. The same themes are used in the development of materials for swimming pool owner/operators and HOAs/landscaping companies, and will be used in future efforts and updates.

Brochures or information about how to get the brochures from the County stormwater web page has been made available to HOA offices, recreational/school facilities, and at certain pet waste stations. These brochures are maintained in weather-protected containers at the station and their numbers are tracked to both identify level of interest in the subject matter and to ensure that supplies are never depleted; or, if they are depleted, that the container remains empty for the shortest time possible.

Brochures related to swimming pool management and lawn care are made available to HOAs within the MS4 area and are sent with a cover letter on County letterhead explaining the importance of the brochure and its intended use. When more than one brochure is applicable, the cover letter and follow up communications with HOA points of contact are critical to ensuring effectiveness. Every effort to minimize the possibility that the material is not perceived as "junk mail" but as important information from local government is made.

Training materials provided for pool management and landscape companies will utilize similar themes and appearance to the brochures developed for pet owners and HOAs. Copies of training will be numbered and tracked to retain information about dissemination numbers and observed changes in behavior over time. Sent with a cover letter on County letterhead, the training packages will be distributed to companies that operate within the MS4 area. Part of the training package will include a "train the trainer" explanation that requests the recipient (e.g., the owner of a lawn care business) to inform the County of who they convey the information to (e.g., their six employees) this information could be reported in a postage paid, preaddressed envelop that is included in the training package and is resent to the recipient annually. Optimally, this would be done electronically, but both paper and electronic formats will be provided.

5.5 Public Participation

The County's MS4 permit also requires that the public be given the opportunity to participate in the development of the PEOP. During year one of the renewed permit, Loudoun continued to implement the education and outreach activities identified in the old permit. During Year 2, and throughout the remaining years of the permit, the expanded education and outreach

requirements will be implemented. Each year, there must be an evaluation of the strengths and weaknesses of the education and outreach effort with improvements, if any, that will be implemented in the next permit year.

5.5.1 Involvement of the Community in Program Development

As noted in Section 1.2 of this plan, there are a number of required actions specified in the permit related to public education and outreach, including:

- Identify at least three high-priority water quality issues, and provide rationale for the selection of these issues;
- Identify and estimate the size of the target audience(s) associated with each high-priority water quality issue;
- Develop relevant message(s) and associated educational and outreach material for distribution to the target audiences, taking into consideration minorities, disadvantaged audiences, and minors;
- Provide for public participation during PEOP development;
- Annually conduct outreach activities designed to reach 20% of the target audience. Not reaching that goal is not a compliance issue unless “insufficient effort” is made to reach that goal; and
- Provide for the adjustment of target audiences and messages, including educational materials and delivery mechanisms to reach target audiences, in order to address any observed weaknesses or shortcomings.

This plan, was originally developed during Year 1 of the new permit, provides for these actions with the exception of bulleted item four above.

Summary of Community Comments

Input from the public is collected from requests for review and comment on plans required under the MS4 Stormwater Program Management Plan and again during the convening of a Citizen’s Stormwater Education Committee. The input collected through the end of calendar year 2015 is attached as Appendix A to this Plan and is summarized below.

Favorable comments included expressions of enthusiasm that the County is taking steps to protect the Chesapeake Bay and the waters that lead to the Bay. Commenters expressed their opinion that preventing pollution in the first place is a far better use of funds than spending greater amounts of money on clean up after avoidable polluting occurs.

A neutral comment related an observation that some appendices appeared to be missing from a Total Maximum Daily Load Action Plan that was posted on the County webpage dedicated to stormwater management.

The convening of a Citizen Stormwater Education Committee resulted in robust scrutiny of the County's outreach plans. Much of the discussion during the meeting that occurred July 21, 2015, was related to providing the attendees with a better understanding of the requirements of the MS4 permit and how the County is implementing its responsibilities under the MS4 permit. For example, conducting certain aspects of the County outreach effort to only 20% of the targeted population each year, rather than all at once seemed odd to some at the meeting. The County explained that actions were being taken in accordance with how the permit requirements were established, and added that other actions being taken to improve public understanding of preventing pollution via stormwater, were going out to all of the community at one time.

Some comments expressed a desire that the County take the steps outlined in the PEOP further and that enforcement actions be added to the program. While many good ideas were shared, some of the attendees repeated what the County is already doing. Some of the attendees focused on issues that (while applicable to the County) were more rurally oriented and not pertinent to the MS4 permit area, and referred to punishment rather than what the MS4 permit directs the County to do which is to evaluate effectiveness annually and to change the program where and however it is needed.

5.5.2 Citizens' Stormwater Education Committee

Education efforts, implemented under this PEOP, are likely to have greater success if they consider input from a citizen's stormwater education committee. Such a committee would be made up of members representing diverse interests and roles in the MS4 area. Members should be identified and solicited based on their being part of the "targeted audiences" but not exclusively so. Typically, such a group should include at least ten to twelve members but not more than fifteen. Ten to twelve provides for the diversity of backgrounds sought; a critical mass to accomplish tasks even when some members are absent; yet is a manageable number that can be kept on topic and on task.

During year two, concurrent with the initial efforts to implement the Program as it is described in the current PEOP, the Department of General Services will solicit interested individuals to serve on the committee who express an interest in reducing stormwater pollution generally and stormwater education in particular. Identification of potential committee members would be accomplished by soliciting interested individuals via the County's web site. The opportunity to participate on the Committee would also be posted on the websites of other County government organizations within the MS4 area, including but not limited to public libraries, recreation centers, high schools, community colleges, and other appropriate locations. Additionally, for those that have ideas about what the County could do to inform the public about best practices related to stormwater but do not want to serve on the committee, the web site will facilitate citizen input directly, using a messaging feature. This addition to the web site will be advertised widely to ensure awareness of this opportunity.

The purpose of the Committee is to both comply with the requirements for public participation in the development of education and outreach efforts under the MS4 permit and to increase the likelihood of success of the education and outreach program. Facilitating public input and feedback will improve the quality and effectiveness of the actions taken under the program. The Committee will annually evaluate the strengths and weaknesses of each of the education and outreach activities, as discussed in the evaluation section below, and make recommendations for improvements, replacement of one activity with another, or the addition of new activities.

Recommendations of the Committee will be considered and will carry considerable weight but are not requirements for the County to adopt or implement. Recommendations and the County response will be recorded in the annual permit report.

5.6 Evaluation

The methodology for evaluating the effectiveness of the education and outreach program is provided in this section. Successful programs are the result of many things including: planning; preparation; hard work; collaboration; attention to detail; and adherence to the plan during execution. However, despite this there is usually room for improvement once the program's implementation occurs.

A planned evaluation process is needed to record strengths and weakness encountered while implementing this plan. For example, observations and evaluations should be made and feedback should be sought and documented at the following key points in the process:

1. **Planning and Development** – the time during which the various activities and educational tools are identified, developed and scheduled;
2. **Execution of Actions** – the time during which the planned activities and educational tools are conducted and introduced to community, respectively;
3. **Target Audience Feedback** – the time during which the members of a targeted audience are asked to provide feedback regarding their understanding of the need to change their behavior; and,
4. **Behavior Change and Evaluation Period** – the time during which the County observes improved conditions within a targeted audience related to stormwater pollution.

During the planning and development period, interim feedback may indicate that some additional “audiences” should be added, or that some aspect of gathering information for the targeted audience may need to be altered. The location and impact of activities may be changed to better address the needs of the County or, of the targeted audience.

During the execution of actions, there are additional opportunities to note interim feedback. Information such as the general difficulties encountered on the impact of weather on pet waste stations, responsiveness (or lack of responsiveness) from HOAs, pool management, and

landscape businesses that are provided training and informational materials should be recorded during this stage of the evaluation period.

After the first year of conducting education and outreach activities on stormwater pollution reduction, feedback from targeted audiences should be formally sought. A short survey seeking input should be conducted. For the HOAs, pool management, and landscape businesses, the survey can be distributed to the points of contact that have been established for each business. Surveys regarding pet waste can be placed at the pet waste stations for members of the public to use. However, it should be noted that the placement of surveys at the waste stations can skew the survey results negatively, since people typically chose to respond to surveys more often when they have a problem with something than when they are pleased. It is still worthwhile to seek input at pet waste stations to record ideas for improving the program.

Finally, there will be an organized formal effort to determine what percentage of the target audience was reached in any given year and how effective that communication was in changing behavior. Observations of changes (e.g., absence of pet waste and reduced illicit discharges) will be recorded and reported. The evaluation process should identify strengths and weaknesses identified in the program. Significant changes identified during this process should be made as soon as possible or at the end of each annual review cycle. Minor issues that surface during the year should be considered and addressed immediately when appropriate.

5.6.1 Evaluation after Permit Year 2

Observations and recommended changes for consideration are provided in this subsection based on the program carried out during Permit Year 2.

1. **Planning and Development** – Creative use of staff time and resources allowed for the planning and development of activities and used resources beyond the expectations of the stormwater management office. This should continue with possible attention given to the synergy between various other MS4 permit requirements such as sediment and erosion control related to development, good housekeeping requirements related to land disturbance, and training within the General Services Department.
2. **Execution of Actions** – The requirements of the MS4 permit were met. Targeted audiences were reached at the required 20% per permit year rate. Additionally, the four public participation events were greatly exceeded. A list of community events in which the County participated is provided in Appendix B. Participation in these events should continue and effort should be made to deepen and expand the stormwater pollution prevention messages shared at the various events.
3. **Target Audience Feedback** – The comments and feedback provided by the public was addressed by the County. Public comments and County responses have been posted on the stormwater web page maintained by the County.
4. **Behavior Change and Evaluation Period** – The County will evaluate what additional and/or different approaches it can take in response to comments it receives during each permit year, as well as address plans outlined in this document

that have not yet been undertaken. Utilization of surveys of those targeted in a given year, public participation event attendees and other County staff involved in stormwater management, to gauge both the familiarity of certain communities with the concept of stormwater pollution prevention and observations of County staff on the level of changed behavior may be used. Limited budget and staff effectively constrain the County from doing more.

5.7 Additional Opportunities for Education and Outreach

The Department of General Services is fully committed to maintaining compliance with its MS4 Permit requirements. The PEOP is designed to guide the County through the steps it must take to increase target audience knowledge about stormwater pollution reduction. The PEOP was developed to address the MS4 Permit requirements related directly to MCM 1, as described in Section 2.2. There are numerous other education and outreach steps that can be taken to supplement other aspects of permit compliance and to improve water quality in the County. To achieve the County's goals and objectives, the County will revise and adapt the PEOP throughout the permit term to address observed weaknesses or shortcomings.

Appendix A – Public Comments

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Public Comments on the Public Education Outreach Plan

Q. From Laura Hisam:

Promoting public awareness of stormwater quality protection should have been made priority years ago. Suggest utilizing the following tools:

1. Brochures/fact sheets/social media for general public and specific audiences such as: homeowner and condo associations, apt. complexes, shopping centers, private and public schools, churches, parks/public places, etc.
2. Recreational guides to educate groups such as golfers, hikers, paddlers, climbers, fisherman, and campers;
3. Alternative information sources, such as web sites, bumper stickers, refrigerator magnets, posters for bus and subway stops, and restaurant placemats;
4. A library of educational materials for community and school groups;
5. Volunteer citizen educators to staff a public education task force;
6. Event participation with educational displays at home shows and community festivals;
7. Educational programs for school-age children;
8. Storm drain stenciling of storm drain inlets with messages such as "Do Not Dump - Drains Directly to Lake";
9. Storm water hotlines for information and for citizen reporting of polluters;
10. Economic incentives to citizens and businesses (e.g., rebates to homeowners purchasing mulching lawnmowers or biodegradable lawn products); and
11. Tributary signage to increase public awareness of local water resources.
12. Improved/more frequent hazardous waste pick-up and/or drop-off availability with incentives.

A. There are many good ideas/methods provided. However, Loudoun County's program is constrained by budget and staffing. Currently, Loudoun County does brochures, event participation, storm drain marking, a storm water hotline, and household hazardous waste drop offs. The county may delve into the other mentioned areas if they are perceived as effective outreach methods. This is a good subject for the Citizen's Stormwater Education Committee described in Section 5.4.2 of the Plan.

Q. From Phil Daley—Loudoun Watershed Watch

OK I read the entire 'program' and it looked pretty good. BUT NO TEETH!!!-yes you evaluate how many you reach, and what feedback you get from some-but do they REALLY comply/implement what you are preaching?? That is the tough part to crack, especially in a county where most folks only think of themselves-not the impact that they, when combined with others, has in total. 'A little here or there won't hurt anything, so I won't worry about dumping my stuff, it isn't much'. Also where are the Loudoun Environmental Stewardship Alliance and Loudoun Clean Stream Association Coalition when you have family stream day?? I have never heard of them-who are they? Great names-hope they do great work!!

A. The purpose of the outreach effort is to educate target audiences about reducing stormwater pollution—not to ensure compliance. If the proposed methods are deemed ineffective, then the Citizen’s Stormwater Education Committee (Section 5.3.2 of the Plan) can recommend changes in efforts to improve the program's performance.

Q. From Bonnie L. Mattingly—Goose Creek Association, Co-Chair

1. Increased storm water runoff - This results in massive soil erosion leading to excessive sediment pollution in which the benthic and overall aquatic community in the Goose Creek watershed in both Fauquier and Loudoun Counties is decimated. There are more and bigger storms and the erosion in our streams is increasing. This can be seen by the benthic scores on the stream monitoring report card of the Goose Creek Association.
2. Nutrient (nitrogen and phosphorous) - There must be acknowledgement of the regulatory impacts which will be ever increasingly imposed through the Chesapeake Bay TMDL over the next decade which could be as high as hundreds of millions of dollars.
3. Water supply - Sustainable water supply in Loudoun County could be in jeopardy with multi-year drought. Current belief there is abundant aquifer water flowing is not factual. Severe drought conditions would require emergency water supply for areas devastated by lack of rain. Before the wells go dry, the creeks completely stop flowing endangering the entire riparian ecosystem. In eastern Loudoun, the Luck Stone quarries storing billions of gallons of emergency water will not be the high quality of the water from the Potomac River from which it has previously been tapped. Drought is an issue that has been noted as causal of many problems

A. The purpose of the public outreach plan is multi-fold: increasing target audience knowledge about the steps that can be taken to reduce stormwater pollution, increasing target audience knowledge of hazards associated with illegal discharges and improper disposal of waste, and implementing a diverse program with strategies that are targeted toward audiences most likely to have a significant stormwater impact. The Goose Creek benthic impairment will be addressed in the Goose Creek TMDL Action Plan that will be developed during the next twelve months. Nitrogen is being addressed in this Plan. Overall water supply is a land development issue and not part of the MS4 program.

Q. From David Ward

The plan is too highly focused on Loudoun County activities and the formation of yet another Committee. The Plan fails to acknowledge the existing resources and activities already in place both by other agencies and non-governmental agencies. The Plan should better define how existing partnerships such as Loudoun Environmental Stewardship Alliance and Loudoun Watershed Watch can be leveraged and promoted. The Plan needs greater emphasis on existing programs in Loudoun Soil & Water Conservation District which distributes thousands of printed material to schools and makes routine watershed demonstration visits to the schools and has held dozens of rain barrel workshops. The Plan does not explain how the existing activities in County community centers and Parks and Rec programs can help deliver the message. The Plan does not provide detail on promoting various programs such as Audubon Naturalist, summer "environmental" camps, Blue Ridge Environmental Center and many others. The Plan is devoid of graphics and photographs to attract attention and be an effective "marketing" tool.

The Plan should consider adopting a theme, tag line and logo as so many other government programs have. The plan should consider developing a calendar of events such as <http://www.bluewaterbaltimore.org/events/> and include activities other than just Loudoun County Government.

A. The Plan is a requirement of the MS4 Permit and must show efforts to be undertaken by Loudoun County. Nothing precludes cooperation or collaboration with others and discussions of such will likely be held by the Citizen's Stormwater Education Committee whose purpose is to address weaknesses or shortcomings in the program. Outreach material details will be developed over the next several months. Graphics, photos, theme, tag line, and logo are all items to be determined during that process.

Q. From David Ward

I do not agree with the following three issues identified in the plan as being high-priority water quality issues:

1. Bacteria
2. Swimming pool discharge
3. Nutrient (nitrogen and phosphorous)

The justification section in the Plan cites no data, cites no reports, ignores County-written Water Resource Monitoring Reports, ignore the 2006-2007 County-lead strategic watershed management planning efforts, ignores the 2008 County-contracted comprehensive watershed management plan which has over 90 recommendations, pays no acknowledgement to the BOS appointed Water Resources Technical Advisory Committee recommendation for over a decade to BOS, disregards the County-lead 2009 comprehensive stream assessment, makes no mention of Loudoun Watershed Watch State of The Streams Reports 2002 and 2005, neglects Goose Creek Association 2013 Report Card and does not mention the recreational use stream impairments developed by VA DEQ and approved by EPA.

I would recommend the following three issues:

1. Increased stormwater runoff and sediment - This results in significant soil and bank erosion leading to excessive sediment pollution in which the benthic and overall aquatic community in Loudoun County is decimated. The County reports show this time and time again, not to mention state and federal reports. The increased flashiness of the streams from urbanization and inadequate stormwater controls do little to compensate for the ever increasing imperviousness.
2. Nutrient (nitrogen and phosphorous) - The PEOP correctly cites EPA, but fails to acknowledge the regulatory impacts which will be ever increasingly imposed through the Chesapeake Bay TMDL over the next decade as a price tag in the hundreds of millions of dollars!
3. Water supply - Loudoun County uses both surface water supplies mostly in eastern Loudoun and groundwater supplies in western Loudoun. A multi-year drought would devastate both supplies. While water supply is a quantity issue, with an inadequate supply the water quality will be adversely affected.

I do not believe that swimming pool discharge is a significant issue and is illegal per regulation.

A. The Public Education Outreach Plan is meant to address stormwater pollution from the urbanized area in eastern Loudoun County. It is not intended as a program to address issues beyond the MS4 Permit area. The studies and planning efforts cited in the question address primarily other areas of the County or pollution sources other than urban stormwater. Impairments in the urban streams are generally due to sediment or bacteria. Chesapeake Bay impairments are due to sediment and nutrients. This Plan addresses bacteria and nutrients. Sediment is addressed through the County's Erosion & Sediment Control program and the stormwater system maintenance program. Swimming pool discharge is being targeted because excess chlorine is hazardous to all biological life and, until relatively recently, swimming pool discharges were directed to go to the storm drain system. De-chlorinated swimming pool discharges are legal and safe.



Loudoun County, Virginia

Department of General Services

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Loudoun County Stormwater Management Program Public Education and Outreach Program Review

July 21, 2015

6:30 p.m. – 8:00 p.m.

Meeting Minutes

Participants

Pravin Gandhi
Paul Wagner
Susanne Ortmann
Sushma Bangarbale
Prisha Singh
Ava Woehr
Kiera McLaughlin
Sadhana Gowda
Surabhi Bangarbale
Blaine Woehr
Vasundhara Gowda
Howard Lusk
Steve Plante, Department of General Services
Tony Hayes, Department of General Services

Minutes

Steve Plante provided an overview of the County's Stormwater Management Program

Tony Hayes provided an overview of the Public Education and Outreach Program

General Questions / Group Observations

Question: Why provide outreach to only 20% of target audience population per year if materials or resources are available to send out all at once?

Answer: The County's MS4 permit requires that the program's outreach activities reach 20% of the population for each target audience during each year of the permit cycle. Printed materials are distributed by mail to 20% of each target audience as a baseline outreach activity to meet the minimum requirement. Other outreach activities are provided in addition to direct mail.

Question: How is the program measuring the success of its outreach activities?

Answer: An on-line survey at www.surveymonkey.com/s/LoudounStormwater is referenced on all direct mail items. Responses from the public are also received by phone. Currently there are no other methods in place for measuring the efficacy of the outreach activities.

General Observations:

- Residents may not understand there is a difference between “sanitary” sewer and “stormwater” sewer systems.
- The County’s Stormwater Management webpage could be more user-friendly. Suggestions for alternate/additional outreach methods included Facebook; announcements through the County Alert System; i-phone/i-pad advertising applications; distribution of print materials through schools and community centers; work with Parent Teacher Organizations; work with homeowner associations to include information on their websites, in community newsletters, and in direct email to residents; submit information to regional magazines; create bumper stickers; and provide training and certification programs.
- Incentives are necessary to attract attention to the program and encourage best management practices, e.g. chance to win monetary prizes for signing up to receive Loudoun Alert about stormwater issues; resident certification/acknowledgement for best management practices; personalized messages.
- The current style of storm drain markers could be improved to make them more noticeable, by using a larger marker (license plate size), make them more colorful, etc.

Program Discussion

As presented during the meeting, the County’s MS4 permit requires that the public education and outreach program identify three “high-priority water quality issues”, identify target audiences most likely to have significant impacts for each issue, and, develop and distribute educational materials to the targeted audiences.

Most of the comments and discussion concerning program improvement focused on message delivery.

High-Priority Issue: Bacteria (dog waste)

Question: One of the three high-priority issues for stormwater pollution is Bacteria. Is this really a significant water quality issue?

Answer: Yes, bacteria including E. coli has been identified in surface waters in Loudoun County and is contributing to impairments to surface waters in Loudoun and adjacent counties. There are over 16,000 registered dogs in the County’s MS4 permit area generating around 7,000 pounds of waste per day.

A post card was mailed to residents to promote proper disposal of dog waste. Comments were made that post cards are not an effective outreach method. Instead, it was proposed that the program work with veterinary offices to promote the issue of pet waste disposal. Suggested themes and graphics included “My dog protects the Chesapeake Bay”; and, an image of a pet waste station and storm drain with a “no” symbol implying that the waste should not be put in

storm drains. Pet owners are more likely to be engaged about this topic if presented at the veterinary clinic or pet supplies/food store.

Other suggestions included:

- Homeowner associations could also help encourage residents to keep common areas clean.
- Work with elementary schools to send information home with students; Odette Scovel, Science Supervisor at Loudoun County Public School is a point of contact.
- Create a storm drain marker with a dog or other graphic to deter dumping.
- Use QR (Quick Response) code on dog waste station signage for more information on why waste should not be left on the lawn.

Question: What is the incentive for pet owners to pick up after their dog? An example provided as a possible incentive for property owners to implement stormwater management best management practices is the “Stormwater Management and Restoration Tracker” (SMART) which allows property owners to be certified and recognized for their stormwater protection best management practices.

Answer: Dog owners that fail to remove their pet waste from public areas are liable to receive a fine from Animal Control. Signage of potential fines could be installed at pet waste stations.

High-Priority Issue: Illicit Discharges from Commercial and Community Swimming Pools

Pool operator training programs may provide an opportunity for the County to assist with outreach on best management practices and local ordinance requirements.

Question: Are there any local species that have reached extinction or that are endangered due to illicit discharges from swimming pools? Endangered species should be included in the reasons for proper disposal of swimming pool water.

Answer: There are aquatic species of plants and animals that are listed as extremely rare and critically impaired in Virginia and are vulnerable to local extinction.

High-Priority Issue: Nutrients (from fertilizer applications)

Suggestions were made for outreach specific to this priority issue including:

- Partner with local retailers to help market environmentally preferable lawn care practices, and encourage retailers to tailor their own message.
- Work with schools on distribution of outreach materials; create and promote a school challenge program for students to participate in stormwater management projects.
- Offer website links to other organizations to promote best management practices for lawn maintenance and gardening.
- The “Enviroscape” model is portable display that illustrates the sources and prevention of water pollution through visual, hands-on interaction.
- Promote the use of compost/nutrient-rich top soil for new lawns to reduce the need for fertilizer applications.
- Provide/require a County-based certification program for lawn care companies to promote best management practices, e.g. grass clippings should be directed away from ponds.
- Offer multi-lingual print materials and trainings.

Question: Does the program partner with the Extension Service?

Answer: The Stormwater Management Program promotes the Loudoun County Cooperative Extension as a low cost resource for residents to perform soil testing for nutrient management.

Question: Does the County have the ability to ban fertilizer sales during certain times of the year to reduce stormwater pollution? An example was provided of a jurisdiction in Florida that enacted a ban on fertilizer sales due to surface water quality issues.

Answer: The County Board of Supervisors could enact legislation to ban fertilizer sales only if such provisions were approved at the state level.

Question: Can the County impose fines for improper application of fertilizers.

Answer: Legal action resulting in fines can be taken under the stormwater management ordinance, but the more likely outcome would be an education/outreach effort to properly train the offending party.

Question: Who is responsible for removing sand from roads after winter? Chemicals and sand applied to roadways in the winter for snow and ice are another source of stormwater pollution.

Answer: Virginia Department of Transportation is responsible for all roads with route numbers in the county.

Question: Sediment is a primary surface water pollutant. Why is that not included as one of the three Priority Issues?

Answer: Two primary causes for sediment pollution are construction site development and post-construction activities. Both activities are addressed under the six minimum control measures required by the permit.

Appendix 7: Public Comments Regarding the Chesapeake Bay TMDL Action Plan

From: [Mark Pankratz](#)
To: [DEPT-GENSERV-STORMWATER](#)
Subject: Loudoun Action on Chesapeake Bay Pollution
Date: Saturday, August 15, 2015 9:07:02 AM

I applaud the long overdue action on this very important issue. This program represents some of the best spent money to affect the health and well being of the greatest number of people. Let's continue treating the cause, not the symptoms! Thank you for your good work,
Mark Pankratz
Ashburn

540 882 3205 6:15 pm 9/7 43 sec – Stormwater Hotline Call

Otto Gudenshan (sp)

Calling in support of reducing pollutants going to the Bay – supporting the TMDL. Has reviewed the action plan. It is a great start. Hoping the county will do as much as they can afford to protect the Bay and the waters of Loudoun County.

From: [Amanda Tandy](#)
To: [DEPT-GENSERV-STORMWATER](#)
Subject: Stormwater Responsibilities
Date: Saturday, August 15, 2015 1:02:56 PM

Hello,

I recently read in the Leesburg Today that you are taking public comments on upcoming plans for stormwater treatment.

As a concerned citizen, I am in favor of the option and actions that protect the Chesapeake Bay and our other natural resources above other concerns. Keeping our water supplies unpolluted takes a lot less effort than cleaning them up.

Thank you for your time,
Amanda Tandy

43607 McDowell Sq
Leesburg, VA 20176

From: [Ward, David](#)
To: [DEPT-GENSERV-STORMWATER](#)
Subject: TMDL Action Plan - Missing Appendices 5 and 6
Date: Monday, August 10, 2015 9:00:19 AM

The TMDL Action Plan as posted at <http://www.loudoun.gov/DocumentCenter/View/115458>, does not appear to include]

Appendix 5: Projects Initiating Construction between July 1, 2009 and June 30, 2014 Resulting in Over Treatment as a Result of a More Stringent ALCC

Appendix 6: Projects Initiating Construction between July 1, 2009 and June 30, 2014 Resulting in an Increase in POC Loads as a Result of a Less Stringent ALCC

There is a placeholder for public comment.

Appendix 7: Public Comments Regarding the Chesapeake Bay TMDL Action Plan

David Ward
[Water Resources Engineer](#)
Department of Building & Development
Loudoun County Government
1 Harrison St, MC #60
Leesburg, VA 20175
703-737-8670

Appendix B – Public Participation

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During this permit year, the County was involved in the stormwater activities discussed below.

Stormdrain Marking Program

In Permit Year 2, the County provided 1,100 storm drain markers for installation by a Boy Scout troop in support of an Eagle Scout service project.

Approximately 10,000 markers have been installed since the creation of the stormwater marking program. A map showing the reported locations of storm drain markers installed to date is included in Appendix I.

Family Stream Day

On October 18, 2014, County staff participated in “Family Stream Day”. At this event, staff emphasized the connection between neighborhood stormdrains and streams, rivers and the Chesapeake Bay with an interactive game where kids “throw” only clean water down the stormdrain. A scale model of a stormdrain inlet and pipes notes the direction of storm flows from neighborhood to the Chesapeake Bay. The stormdrain marking program is also discussed with event participants.

Household Hazardous Waste Events

Household hazardous waste collection events are held periodically throughout the year on weekend days at various locations around the County. During these events, residents are encouraged to collect household hazardous wastes from around their home and drop them off at the event site. The drop off is free to the homeowner. Table 8 below lists the household hazardous waste events that were held in Permit Year 2.

Table 8: Household Hazardous Waste Events – Year 2

Date	Location	Number of Participants	Tons Collected
June 27, 2015	Freedom High School (Dulles/South Riding)	447	11.42
May 16, 2015	Ashburn North Park and Ride (Ashburn)	578	12.96
April 18, 2015	Harmony Park and Ride (Hamilton)	507	16.19
March 21, 2015	Leesburg Park and Ride (Leesburg)	413	11.50
September 27, 2014	Harmony Park and Ride (Hamilton)	506	18.88
November 15, 2014	Leesburg	449	13.15
October 25, 2014	Ashburn North Park and Ride (Ashburn)	647	12.14
July 23, 2014	Lovettsville Elementary School (Lovettsville)	325	13.28

WIP Open House

County staff provided presentations to the groups listed below regarding the Chesapeake Bay Watershed Improvement Plan (WIP). Topics presented included results of the Phase II WIP Work Plan Process, and potential partnership opportunities.

- Heavy Construction Contractors Association (HCCA) - January 12, 2014
- Loudoun County Soil and Water Conservation District Board - January 12, 2014
- Agricultural District Advisory Committee (ADAC) - January 28, 2014
- Rural Economic Development Council (REDC) - February 4, 2014
- Dulles Area Association of Realtors (DAAR) - February 6, 2014
- Heavy Construction Contractors Association (HCCA) - March 14, 2014
- Loudoun County Chamber of Commerce - April 1, 2014

Earth Day Loudoun

On April 26, 2015, County staff participated in an “Earth Day” event sponsored by a large HOA. At this event, staff emphasized the connection between neighborhood stormdrains and streams, rivers and the Chesapeake Bay with an interactive game where kids “throw” only clean water down the stormdrain. A scale model of a stormdrain inlet and pipes notes the direction of storm flows from neighborhood to the Chesapeake Bay. The stormdrain marking program is also discussed with event participants.

Public School Support

DGS staff generated and provided a watershed mapping generated from county GIS data files. The mapping was used to support a series of elementary school teacher workshops that focused on watershed issues. DGS also provided 200 storm drain markers to be used for marking storm drains around the school campus. Maps and stormdrain markers were

provided for the following schools; Lincoln, Cardinal Ridge, Moorefield Station, Emerick, Cedar lane, Sterling, and Lincoln Elementary Schools.

Earth Day Tree Giveaway

On April 22, 2015 Loudoun County Government gave away approximately 1500 saplings to County employees and the public. The trees were given away at four County government facility locations. Tree species included Dogwood, Norway Spruce, Crepe Myrtle, and Common Apple. Planting instructions and maintenance information was provided with the trees. The event was sponsored by the Loudoun County Energy Conservation Committee and the trees were provided by the Loudoun County Department of Capital Infrastructure.

Tree Planting at Landfill

Early this Spring a crew planted over 6,000 tree seedlings on 9 acres to create a mixed upland forest at the Loudoun County Landfill. The mixed forest is a part of an on-going effort to create a vegetative buffer around the property. The County has planted approximately 30,000 seedlings on the site since the early 1990's. The seedlings planted this season include black cherry, dogwood, hackberry, hawthorn, sugar maple, red maple, chestnut oak, persimmon, Virginia pine, white pine, American plum, redbud, sycamore, hickory, and honey locust. Specifically, there were 3,960 hardwoods and 2,160 conifer seedlings planted around the week of April 27, 2015.

Floating Wetlands Launching

On April 13, 2015, County staff assisted with the launching of three floating wetlands at a wet pond in the Broadlands community. In addition, at the same wet pond on April 17th, 2015 County staff installed 5 biofilters.

Large HOA Managers Meeting

On April 16, 2015, County staff presented information regarding their stormwater management program to approximately ten HOAs managers.

Caring for Your Yard Presentation – March 26, 2015

On March 26, 2015, County staff, in conjunction with the local master gardeners' program, presented information related to how a stormwater system works so residents would better understand how to minimize nutrient runoff when fertilizing their lawns.

Sugarland Run Bioretention Rehabilitation

The Heavy Construction Contractors Association conducts a project management class for the the construction industry each year. The students select a project as part of their final requirements to plan and execute. This year the class selected a project within the Loudoun County MS4, which involved the rehabilitation of a bioretention BMP at the Sugarland Run Elementary School. The students planned out all of the work elements based on a scope of work provided by DGS and executed the project on April 3, 2015.

Sugarland Run Tree Planting

On April 25, 2015 more than 80 volunteers helped plant 134 trees along Sugarland Run, which will create a stream buffer. The community homeowners association received a grant from the National Fish and Wildlife Foundation through the Piedmont

Environmental Council to make the initiative possible. A local landscaping company donated a crew to dig the holes for each tree.