

MCM 1:PUBLIC EDUCATION AND OUTREACH ON STORMWATER IMPACTS

The Town of Vinton, Roanoke County, and City of Roanoke entered into a contract agreement with Clean Valley Council (CVC), Inc., since August 2006 to help fulfill most of the Best Management Practices (BMPs) within the MCM 1 and MCM 2. The MCM 1 is intended to implement a public education program to distribute and make available educational materials to the community and conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

As indicated in the last reporting period, the **three selected high-priority water quality issues were bacteria, sediments, and nutrients**. The rationale for these selected water quality issues is because the Town has been assigned a total maximum daily load (TMDL) for these impairments, which means the Town has been put on a "Pollution Diet" to limit these pollutants from entering its waterways. Nutrients (phosphorus and nitrogen, in particular) were selected as the third water quality issue on which to focus, because they have such negative impacts on receiving waters when in large quantities. Excess nutrients wash off from lawns, other managed turf areas, and gardens and are transported via stormwater runoff to the area's local creeks, streams, and the Roanoke River. In these water bodies, they cause algae overgrowth, which in turn decreases the oxygen that marine life needs to survive. This often results in fish kills, fish illnesses, and the tainting of human food. Groundwater supplies may also be affected by nutrient pollution, thus making it an important topic on which to focus education efforts.

The education and outreach on these three water quality issues was designed to target a minimum of 20% of the Town's population each year. The Town of Vinton and County of Roanoke, through mutual aid agreement, continue to use various means to conduct public education, including spots on the local cable channel (RVTV-3), posting of educational material on the Town's website and Facebook pages, outreach activities with other organizations, the publication of newsletters and brochures, and the Town's annual calendar distributed to every household in early December. The Town will also continue to collaborate with the Clean Valley Council on education initiatives within the schools, and it will collaborate with neighboring localities such as the County of Roanoke and City of Roanoke, to conduct some education initiatives on a more regional scale.

A mix of best management practices (BMPs) has been chosen to target school children through outreach programs in the Roanoke County School System which include the Town of Vinton. Homeowners, restaurateurs, industries and the general public have been also be targeted through wastewater education, public forums, and Save Our Streams (SOS) field days. A list of programs or BMPs to meet these educational, and outreach measures is:

BMP 1-1. Stormwater Educational Resources, Publications, Links, and Programs Review

Update and distribute a comprehensive review of existing stormwater educational programs available to Town of Vinton and the Roanoke Valley area.

BMP 1-2. Development and Distribution of Stormwater Educational Materials

Develop and distribute a Roanoke County Stormwater Informational Mailer to Town of Vinton Residents and Businesses.

BMP 1-3. Stream School Seminars – Stream Monitoring and Education

On behalf of Town of Vinton, Clean Valley Council will provide stream monitoring and informational stream seminars for Town of Vinton residents.

BMP 1-4. Stormwater Educational Programs and Activities

Develop and implement a stormwater educational program for Town of Vinton/Roanoke County school age children. Different programs will target appropriate grade levels.

BMP 1-5. Stormwater Public Awareness Programs

Develop and implement a Stormwater Public Awareness Program that includes the distribution of stormwater merchandise, public service announcements, and other high visibility educational media.

This program has been revised by identifying at least three (3) high-priority water quality issues: **sediment, bacteria, and nutrients**; and their respective Target Audiences; and development of appropriate messages and media to target these issues and audiences.

BMP 1-6. Town of Vinton Stormwater Webpage where Citizens Can Obtain Information Concerning the Town's Stormwater Management Program, Ordinances, Design Guidelines, Contact Information, Educational Programs, and Links to Other Organizations and Web Sites

Maintain and expand the Town's Stormwater webpage that informs the public about water quality, community-based outreach and local projects.

BMP 1-7. Targeted Education Program

Develop and maintain a stormwater quality education program for specific targeted audiences within the Town.

Included in this document is a detailed description of the objective and measurable goal of each BMP; the strategies to ensure consistency with the identified local TMDLs; the responsible parties, the applicable supporting documents that include contract agreements, policies, ordinances, inspection forms, written procedures; the status of the Town's compliance with each BMP, and an evaluation of the BMP and any proposed modifications needed to better achieve the goals of the stormwater program. The TMDL compliance is broken down by the identified impairment type: E. coli, fecal coliform (EC/FC) and sediment (SED). Beginning July 1, 2015, the stormwater public education and outreach program has been enhanced to incorporate the local TMDLs.

BMP 1-1. Stormwater Educational Resources, Publications, Links, and Programs Review

Goal: To continue to update and distribute a list of current publications, educational programs, websites, videos, maps, links, and training opportunities that directly address stormwater issues such as stormwater management, stormwater quality, impaired water bodies, floodplain management, pollution prevention, conservation practices, and riparian habitat protection. The target audiences and messages shall be coordinated with BMP 1-5.

Measurable Goal: The Town of Vinton has created and maintained this education programs review in the form of a stormwater programs database. The database documents educational programs, brochures, pamphlets, videos, maps, and training opportunities related to stormwater quality, stormwater management, pollution prevention, conservation practices and riparian habitat. The database is accessible through Town's website and includes instructions on accessing the variety of educational materials located on the site. The Town along with Roanoke County is planning to form target groups based on website usage to distribute specific program lists to libraries, schools and/or public organizations.

Table 6 lists the stormwater education resources that can be accessed through the Town's website and/or through other links; CVC, County of Roanoke, and City of Roanoke. Table 7 is the stormwater page report that tracked how many times these sites were accessed from July 1, 2016 through June 30, 2017. Additionally, CVC maintains and updates a collection of handouts and web resources. These materials are available to all citizens across the region, and handout materials are distributed at various events, as described in later sections of this report.

TMDL Consistency: The sources available on the Town's, Roanoke County's, and CVC's websites provide extensive educational material concerning the damage pet waste and sediment can do to the waterways (EC/FC, SED). The website provides links to the Roanoke County, CVC, state, and federal erosion and sediment control regulations for developers that are interested in ways to stabilize a construction site.

Evaluation and Modification: The Town was able to get the number of times that the database was viewed. Please see Table 7. The number of visits illustrates that while the website is an effective format to distribute the information concerning educational programs, the usage has been minimal. Modifications to this BMP may include new locations where this database is accessible to increase the amount and variety of information distributed.

Title of Resources	Date Added/Updated	Comment
Video: Illicit Discharge, Detection, and Elimination, A Great Concern in English or Spanish (30 and 60 seconds; 2, 5, and 10 minutes version): EC/FC, SED	2016	To learn about illicit discharges and how they can cause damage to our local waterways.
March 2016 Roanoke County Community Development Bulletin – Yard Management 101: BMPS to Protect Local Waters – Nutrients	2016	Protecting Stormwater from Fertilizer Pollution
Flyer: Storm Drain, Facts for Landscapers – EC/FC, SED	2015	Information on Garden and Backyard Practices
Flyer: Illicit Discharge Facts – Only Rain Down the Storm Drain	2015	Information Regarding Discharges
Flyer: Storm Drain, Facts for Plumbers	2015	Information on Illegal Discharges for Plumbers
Flyer: Tips for Homeowners, Stormwater Best Practices: EC/FC, SED	2015	BMPs for Residential Lot
Map: Roanoke Valley Pet Waste Stations – EC/FC	2015	Map of All Pet Waste Stations in the Roanoke Valley
Handout: Illicit Discharge Facts – Only Rain Down the Storm Drain	2015	Information on Illegal Discharges and How to Report It?
Brochure: After the Storm , A Citizen’s Guide to Understanding Stormwater Runoff and Its Effects on Water Quality in the Roanoke Valley – EC/FC, SED	2015	4 Pages Brochure on Stormwater Runoff and Its Effects on Water Quality
Flyer: Fall Foliage Facts – EC/FC	2015	Bagged Leaf Collection Information
Poster: “No, I am NOT the Poop Fairy” – EC/FC	2015	Poster for Pet Owners and Business
Brochure: It’s Just Dirt (Roanoke County Community Development Department/Town of Vinton Planning and Zoning Department): EC/FC, SED	2015	Construction Site Erosion Control and Permitting.
http://www.cleanvalley.org/stormwaterbusinesses	2014	Web Resources Targeted at Businesses: Carwash, Restaurant, Auto Shops
Flyer: Pool Maintenance Facts	2014	Flyer on Impacts of chemically-treated
Postcard: Only Rain Down the Drain – Car Wash (CVC)	2014	5 Keys for Protecting Stormwater when Washing a Car
Postcard: Only Rain Down the Drain – Restaurant (CVC)	2014	5 Keys for Protecting Stormwater at Restaurants
Brochure: Native Plants for Conservation, Restoration and Landscaping (DCR publication)	2014	Gardening Information for reducing stormwater impacts
Flyer: Stormwater and the Construction Industry – SED	2014	Maintain your BMPs during Construction

Table 2. Stormwater Educational Resources, Publications, and Programs

Webpage Name	Unique Page Views	Page Views
Vinton, VA - Official Website - Publication & Resources	31	57
Vinton, VA - Official Website - Public Outreach and Education	35	44
Vinton, VA - Official Website - Quick Facts	24	25
Vinton, VA - Official Website - Rain Barrels	15	21
Vinton, VA - Official Website - Stormwater Public Education Videos	26	35
Vinton, VA - Official Website - Stormwater Quality Information	70	99
Vinton, VA - Official Website - VSMP Permit	82	108
TOTALS FOR YEAR -- July 1, 2016 through June 30, 2017	283	389

Table 3. Stormwater Web Pages Report, July 1, 2016 through June 30, 2017

BMP 1-2. Development and Distribution of Stormwater Educational Materials

Stormwater educational materials were given out to students and adults through school outreach programs and Earth Summit for high school students and teachers; and community special events such as Roanoke Valley Home Show, Roanoke Valley Fall Waterways Clean-up After Event Picnic, Vinton Fall Festival, Earth Day Celebration, Energy Expo, and select locations including the Vinton Municipal Building and Roanoke County Vinton Branch Library.

The Town provides its citizens an annual calendar in early December of each year. The 2017 calendar, which was distributed in December 2016 to every household in the Town's limits, provides information on stormwater, special refuse pick-ups, household hazardous waste collection, fall leaf collection, adopt a truck program, clean-up week, and recycling collections. The calendar also lists environmental events in the Town and Roanoke Valley.

Goal: The Town along with Roanoke County will continue to develop stormwater educational mailer for general public and for specific commercial businesses. The material will contain the stormwater program, general stormwater quality education, updates of local impaired water bodies, and TMDL's. It will be based on the unique issues and concerns for the Roanoke River Watershed. Specific businesses will be targeted in an effort to increase business owners' awareness of the impacts of illicit discharges into the Town's storm sewer systems. The messages for the mailer will be coordinated with the high-priority water quality issues identified in BMP 1-5. The Town will post a version of the materials on its website for additional outreach, in addition in making these educational materials available at special events and the Information Center located in the lobby of the Town Municipal building.

Measurable Goal: For year four report, Town's calendar which contains stormwater information was distributed to more than **3,500** households. Other stormwater educational materials for year four reporting period were:

1. Vinton Treasurer/Finance Department continue to hand-out the Pick It Up....Its' Your "Doodie"! Don't Let Your Pet's Waste Pollute" brochure and the "No, I am NOT the Poop Fairy" poster to pet owners that come in to obtain and/or renew their dog/cat tag- EC/FC.
2. The "It's just Dirt..."What more do I need to know?" brochure that was developed in June 2015, continued to be made available at the Vinton Planning and Zoning Department and Roanoke

- County Community Development counters; given out to Responsible Land Disturber; property owner and/or developer at all pre-construction meeting – SED.
3. The "No, I am NOT the Poop Fairy" poster was developed in June 2015, along with the "Pick It Up...Its' Your Doodie" brochure were mailed to one veterinary hospital, one dog trainer/dog day care, and two pet groomer businesses located in the Town Limits–EC/FC.
 4. The "Reduce, Reuse, Recycle and Properly Dispose of Hazardous Wastes in and around Your Home – A Guide for Town of Vinton Residents" brochure that was developed in June 2015, continue to be made available at the Planning and Zoning Department counter, the Town Information Center and distributed during environmental events.
 5. On June 14, 2016, "A Stormwater Guide for Homeowners", April 2016 mailer was mailed to 3,678 Vinton's residential households. The mailer covers the following topics: What is an MS4 Permit?; What Programs in Roanoke County Relate to Stormwater? – Total Maximum Daily Loads (TMDLs), Floodplain Management Program, Virginia Erosion and Sediment Control Program, Virginia Stormwater Management Program (VSMP; Why Regulate Stormwater?; Minimizing Mosquitoes Around the Home; Clean Stormwater Starts At Home graphic; Kids Corner: The A-MACE-ING Journey of Stormwater; Before you Blow, You Should Know; Report Illicit Discharges; The World is Not Your Ashtray. This mailer is also made available at the Town Information Center Counter – EC/FC, SED, Nutrient.
 6. On June 14, 2016, the revised June 2015 car postcard "**Do not discharge any car wash water to storm drains, ditches, or streams, as it is polluted with sediment, oil, and heavy metals**". This postcard was mailed to 45 car wash operators/automotive businesses – EC/FC, SED.
 7. On June 14, 2016, the revised June 2015, restaurant brochure "Stormwater Best Management Practices for Restaurants – A Guide for Town of Vinton Restaurant and Eateries was mailed to 22 restaurants/eateries in the Town Limits – EC/FC, SED.

TMDL Consistency: The calendar, stormwater related articles, educational flyers, brochure, pamphlet, and mailer provided information on pet waste/bacteria (EC/FC), sediment (SED), nutrients, hazardous waste, and other applicable stormwater outreach programs. The "No, I am NOT the Poop Fairy" poster along with the "Pick It Up...Its' Your Doodie" brochure emphasized the importance of picking up after your pet and the pet waste pollutes the waterways. The car wash postcard targets local businesses that may have uncontrolled discharges from vehicle washing operations, which could increase sediment and bacteria discharges into local receiving waters. Therefore, this postcard would address the TMDL for sediment (SED) and bacteria (EC/FC). Similarly, the restaurant brochure addresses rinsing of kitchen equipment and accessories and washing down the parking areas, which may contribute bacteria to receiving waters. Thus, the restaurant brochure helps address the Town's TMDL for bacteria (EC/FC).

Evaluation and Modification: The Town in cooperation with Roanoke County has and continues to develop the brochures, postcards, flyers, and pamphlets with stormwater messages. The Town finds this BMP to be effective and intends to continue to publicize the stormwater message through a variety of media sources to continue to meet the goals of the Town's permit. No modifications are planned for this BMP due to the large number of citizens reached through these distributions of calendar, brochures and postcard. The Town will continue to educate its residents and businesses on its stormwater program through these educational mailers. Additionally, these educational mailers are posted on the website for additional outreach.

Year	Type Educational Material	Target Group	Number Reached
2013 – 2014 (Year One)	- Car Wash Postcard - Restaurant Postcard - A Guide for County of Roanoke/Town of Vinton Businesses Brochure	- Car Wash/Automotive Businesses - Restaurants - Every Business Owner in the Town of Vinton and County of Roanoke	45 22 1,208
2014 – 2015 (Year Two)	- Town's Annual Calendar - Pet Waste Brochure & Poop Fairy Poster - Green & Clean – SWM Lawn Care Tips - It's Just Dirt - Restaurant BMPs - Reduce, Reuse, Recycle and Proper Disposal of HHW - A Stormwater Guide for Homeowners - Revised Car Wash Postcard	- Residential Households - Pet Related Businesses/Pet Owners - Residents and Lawn Care Businesses - Contractors/Homeowners/RLD - Restaurants, Grocery Stores - General Public - Residential Households - Car Wash/Automotive Businesses	3,040 >30 >100 >100 22 >300 3,730 45
2015 – 2016 (Year Three)	- Town 2016 Annual Calendar: EC/FC, Sediment, Nutrient - Pet Waste Brochure & Poop Fairy Poster: EC/FC - It's Just Dirt: EC/FC, Sediment, Nutrient - Restaurant BMPs: EC/FC, SED - Reduce, Reuse, Recycle and Proper Disposal of HHW - A Stormwater Guide for Homeowners, April 2016: EC/FC, Sediment, Nutrient - Car Wash Postcard: EC/FC, Sediment	- Residential Households - Pet Related Businesses/Pet Owners - Contractors/Homeowners/RLD /Lawn Care Businesses - Restaurants/Eateries/Gas Station - General Public - Residential Households - Car Wash/Automotive Businesses	>3,494 >50 >100 >30 >100 >3,494 >45
2016 – 2017 (Year Four)	- Town 2016 Annual Calendar: EC/FC, Sediment, Nutrient - Pet Waste Brochure & Poop Fairy Poster: EC/FC - It's Just Dirt: EC/FC, Sediment, Nutrient - Restaurant BMPs: EC/FC, SED - Reduce, Reuse, Recycle and Proper Disposal of HHW - A Stormwater Guide for Homeowners, April 2016: EC/FC, Sediment, Nutrient - Car Wash Postcard: EC/FC, Sediment	- Residential Households - Pet Related Businesses/Pet Owners - Contractors/Homeowners/RLD /Lawn Care Businesses - Restaurants/Eateries/Gas Station - General Public - Residential Households - Car Wash/Automotive Businesses	>3,500 >70 >100 >35 >100 >3,500 >45

BMP 1-3. Stream School Seminars – Stream Monitoring and Education

The Town of Vinton in cooperation with Clean Valley Council and the local chapter of the Virginia Save Our Streams will coordinate and conduct "Stream School Seminar" with school students, teachers and interested citizens during school year and at local environmental events such as the annual Fall Waterways Clean-up.

Goal: The goal of this BMP is to educate students, teachers, and citizens on the field procedures that have been established to determine water quality, in addition to motivating citizens to monitor waterways in their neighborhood and enhance grassroots cooperation to promote the importance of stream monitoring within the Town and East Roanoke County. These seminars and monitoring sessions will provide some field exposure to aquatic habitats, update citizens on local, state, and federal water quality regulations, and keep citizens updated on local stream health.

Measurable Goal: For Year Four reporting period, July 1, 2016 to June 30, 2017, Clean Valley Council provided 28 stream school seminars/programs at 15 locations with 1019 in attendance in Roanoke Valley.

TMDL Consistency: Stream school activity allows citizens to have an understanding of the many factors that can affect the life in a stream. The effects of pet waste, stream bank erosion, nutrients, and agricultural runoff are discussed during the monitoring sessions as being likely contributors to degraded water quality in receiving streams (EC/FC and SED).

Evaluation and Modification: The number of seminars, monitoring events, and participating citizens show that this Stream School Seminars BMP is an effective method to educate young people and citizens and enhance the grass-roots monitoring effort throughout the Town and East Roanoke County. The Town's goal is to continue to provide stream seminars and monitoring sessions as a means to educate citizens and encourage their cooperation in regional water quality health.

Year	Number of Stream School Seminars	Attendance
2013 – 2014 (Year One)	7 (85 Valley-wide)	492 (1,941 Valley-wide)
2014 – 2015 (Year Two)	2 (7 Valley-wide, 47 Total)	52 (806 Valley-wide)
2015 – 2016 (Year Three)	9 (76 Valley-wide)	300 Youth/4 Adults (1,445 Youth/56 Adults – Valley-wide)
2016 – 2017 (Year Four)	13 (15 Valley-wide, 28 total)	308 youth/ 8 adult (466 youth/237 adult Valley-wide)

BMP 1-4. Stormwater Educational Programs and Activities

Clean Valley Council (CVC) educators under the direction of the Town, County of Roanoke, and City of Roanoke, have been and will continue developing and providing programs addressing stormwater quality issues at public and private schools, and environmental events. Town residents are served by Roanoke County Public School in addition to a number of private and parochial schools. Additionally, the Western Virginia Water Authority has also developed outreach programs for elementary, middle, and high schools in the Roanoke Valley. Stormwater educational giveaways such as pencils, stormwater chip clips, stormwater pamphlets, lanyards, rain gauges and funnel with stormwater messages were also given to the students that participated in these programs. In conjunction with these school programs, the CVC also holds an annual Earth Summit in November, in which select seniors and juniors from area high schools attend

environmental workshops and lectures. The Town believes that this program is successful in teaching school children about stormwater issues and the benefits of healthy water bodies.

Goal: The Town will continue to work with CVC, County of Roanoke, and City of Roanoke, in developing and providing programs addressing stormwater and related water quality issues. Different programs will target appropriate grade levels and will be SOL correlated.

Measurable Goal: For year four, CVC has continued to provide stormwater education programs to public/private school age children and the general public at environmental events. 64 education programs were held in Valley-wide, with 1,387 students between Kindergarten and Grade 12, and 98 adults/teachers were reached. The 41 educational programs given within the Roanoke County Vinton District schools reached 1119 students between Kindergarten and Grade 12, and 48 adults/teachers.

TMDL Consistency: The educational programs that have been and continued to be presented target sources of bacteria/E. Coli, sediment, and/or nutrients, such as “Indoor and Outdoor Stream Schools”, “Soil Who Need It”, “The Water Game”, “Drains to Rivers”, “Who Polluted the River”, “Groundwater”, (EC/FC, Nutrients), “Watershed to Oceans”, “Oceans of Trash”, “All About Natural Resources”, “Green Game”, “Land Use”, “Lorax”, “Environmental Science”, “Think Earth”, and Stormdrain Stenciling.– (EC/FC, SED, and Nutrients).

Evaluation and Modification: The number of school programs and students reached shows that the stormwater educational programs are an effective method to address stormwater and related water quality issues in the school system. The Town will continue to provide the funding to CVC for these educational programs that are grade levels appropriate and SOL applicable. The educational programs will continue to be evaluated and new program may be incorporated to address new issues that impact the community.

Year	Number of Stormwater Educational Programs	Students/Teachers Reached
2013 – 2014 (Year One)	135(379 – Valley-wide)	3,410 (9,650 – Valley-wide)
2014 – 2015 (Year Two)	28 (314 – Valley-wide)	701 (7,229- Valley-wide)
2015 – 2016 (Year Three)	33 (338 Valley-wide)	717 (7,604 Valley-wide)
2016 – 2017 (Year Four)	41 (64 Valley-wide)	1167 (1485 Valley-wide)

BMP 1-5. Stormwater Public Awareness Programs

The Town of Vinton, City of Roanoke, and Roanoke County have partnered with Roanoke Valley Television (RVTV) Channel 3 and Clean Valley Council (CVC) in the development of a Stormwater Public Awareness Program including the distribution of stormwater merchandise, public service announcements, and other high visibility educational media to utilize social mass marketing methods to bring stormwater quality issues to the attention of the Town’s and Roanoke Valley’s citizens.

The Town has combined the promotional merchandise BMP with the public service announcement BMP to create a Public Awareness Program that will incorporate the distribution of stormwater merchandise, the creation of public service announcements, and working with local TV news networks to cover stormwater issues in the news media, as well as other high-visibility educational media to bring stormwater quality issues to the attention of Town citizens.

Goal: The Town, in conjunction with Roanoke County, City of Roanoke, and CVC, will develop a stormwater public awareness program that includes stormwater public service announcements (PSAs); distribution of stormwater merchandise, flyers, fact sheets, and other educational media to promote the importance of stormwater quality to the citizens.

Measurable Goal: The Town and CVC distributed book bag tags, bookmarks, lanyards, litter bags, pencils, highlighters, funnels, chip clips, rain gauges, ashtrays, rulers, stickers, tattoos, crayons, and magnets, with stormwater message to promote the importance of protecting the water quality of our local waterways.

The Vinton Messenger, local main street newspaper published a five-series of stormwater management articles pertaining to the Municipal Separate Storm Sewer System (MS4) Permit program requirements; Virginia Stormwater Management Program (VSMP); Total Maximum Daily Loads (TMDLs) Action Plans; and three identified water quality issues; bacteria, sediments, and nutrients that have to be addressed by the Roanoke Valley Governments, specifically the Town of Vinton and Roanoke County. The articles were published on the following dates. Additionally, these articles were also posted on the Town's social media.

1. Stormwater Management and You, Part 1 – July 23, 2015.
2. Stormwater Management and You, Part 2 – July 30, 2015.
3. Stormwater Management, You and Your Pet, Part 3 – August 6, 2015.
4. Stormwater Management and Your Lawn, Part 4 – September 10, 2015.
5. Stormwater Management and You, Illicit Discharge, Part 5 – September 17, 2015.

Other public awareness/marketing outreach programs last year were:

1. Rain Barrel, Lawn Care, and Car Wash PSAs that were produced in June 2015 by Roanoke Valley Television (RVTV) and continued to be promoted by RVTV Channel 3 Station, Town's website, RVTV and Town social media/Facebooks – EC/FC, SED, Nutrients.
2. July 2015 – Scoop the Poop PSA was produced RVTV. The PSA has and continued to be promoted by RVTV Channel 3 Station, Town's website, RVTV and Town social media/Facebooks – EC/FC.
3. July 2015 – Oil and Grease PSA was produced RVTV. The PSA has and continued to be promoted by RVTV Channel 3 Station, Town's website, RVTV and Town social media/Facebook.
4. July 5, 2015 – Outreach and Information Booth at Explore Park: 35 attendees and 40 stormwater educational merchandise – EC/FC, SED, Nutrients
5. September 4, 2015 – Outreach and Information Booth, and Documentary Screening at Taubman Museum: 50 attendees – EC/FC, SED, Nutrients.
6. September 16, 2015 – Radical Reels Outdoor Activity and Living Expo/Outreach and Information Booth at Jefferson Center: 900 attendees.
7. October 10, 2015 – Vinton Fall Festival/Outreach and Information Booth: >700 attendees and 173 stormwater educational merchandise – EC/FC, SED, Nutrients.
8. October 16, October 17, and October 18, 2015 – GoFest Event/Outreach and Information Booth at Rivers Edge: 845 attendees and 665 stormwater educational merchandise – EC/FC, SED, Nutrients.
9. February 6, 2016 – Tons of Fun at Tanglewood Mall: Indoor Stream School, Stormwater Outreach and Information Booth: 900 attendees and 872 stormwater educational merchandise – EC/FC, SED, Nutrients.
10. March 22, 2016 – Senior Expo/Outreach and Information Booth at the Vinton War Memorial: > 600 attendees and 311 stormwater educational merchandise – EC/FC, SED, Nutrients.

11. April 22, 2016 – Paddle Fest/Paddling Film Festival at Hollins University: 150 attendees and 40 stormwater educational merchandise – EC/FC, SED, Nutrients.
12. April 23, 2016 – Earth Day Event at Rivers Edge/General Outreach and Information Booth: 1,200 attendees and 120 stormwater educational merchandise – EC/FC, SED.
13. April 30, 2016 – Vinton Dogwood Festival Event/Outreach and Information Booth: >500 attendees and 176 stormwater educational merchandise – EC/FC, SED, Nutrients.

Other public awareness/marketing outreach programs this year were:

1. September 11, 2016 – Radical Reels Outdoor Activity and Living Expo/Outreach and Information Booth at Jefferson Center: 450 attendees and 95 stormwater educational merchandise
2. October 10, 2015 – Vinton Fall Festival/Outreach and Information Booth: 500 attendees and 70 stormwater educational merchandise – EC/FC, SED, Nutrients.
3. October 14 - 16, 2016 – GoFest Event/Outreach and Information Booth at Rivers Edge: 5000 attendees and 900 stormwater educational merchandise – EC/FC, SED, Nutrients.
4. February 7, 2017 – Tons of Fun at Tanglewood Mall: Indoor Stream School, Stormwater Outreach and Information Booth: 1200 attendees and 150 stormwater educational merchandise – EC/FC, SED, Nutrients.

To supplement this effort, the Town's website continue to post the video programs that were designed for educating the general public on Illicit Discharge Detection and Elimination (IDDE) to the storm drainage system; such discharges include the selected three high-priority water quality issues: excess bacteria, sediment, and nutrients in stormwater. The five videos of varying run times, are designed to be used in specific medium/media and/or to reach a specific audience have been posted since June 2015. These videos can also be viewed in Spanish.

Additionally, Roanoke County, in conjunction with RVTV3, developed a new Public Service Announcement (PSA) entitled "Granny Says" to share information with the public as part of its stormwater public awareness/education program. This PSA primarily focuses on illicit discharges, encouraging folks to "do the right things," such as not littering, picking up after pets, bagging leaves and grass clippings, and pouring nothing down the storm drain. As with the County's earlier PSAs, the overarching goal was to address the three high priority water quality issues: bacteria, nutrients, and sediments. The Town's website provides a link to this PSA.

TMDL Consistency: The thousand pieces of stormwater promotional merchandise that were given out at special events and public buildings have reminder slogan on them to be conscious of day to day activities such as picking up after their pets (EC/FC) and filling bare spots or leaving riparian buffer on the stream banks to prevent erosion (SED). The Stormwater Public Service Announcements (PSAs) that were developed and posted, and the posted stormwater video programs incorporate the applicable TMDLs (EC/FC and SED) and the three high-priority water quality issues, the excess of sediment, bacteria, and nutrients.

Evaluation and Modification: The Town in cooperation with Roanoke County, RVTV, and CVC distributed a variety of media bringing stormwater quality issues to the attention of the public through merchandise and informational sessions. The Town finds this BMP to be effective and intends to continue to publicize the stormwater message through a variety of media sources to continue to meet the goals of the Town's permit.

Beginning the reporting period of July 1, 2014 to June 30, 2015, to better align with the MS4 permit requirements, this BMP has continued to focus on three high-priority water quality issues (excess bacteria, sediment, and nutrients) that contribute to the discharge and degradation of stormwater. Relevant messages and outreach materials that target these issues and the audiences likely to have the most impact on minimizing them have been and continued to be developed. The BMP focuses on (1) ways to increase the target audience's knowledge about ways to prevent these pollutants from getting into stormwater runoff and (2) the hazards and legal implications of illegal discharges and improper disposal of wastes.

The developed materials include public service announcements, printed brochures and newsletters, signage at select locations, radio advertisements, television advertisements, and use of websites and social media. The Town will track the number and types of materials that are distributed and posted on websites/social media and the size of audiences exposed to such materials, as appropriate.

Year	Media/Merchandise Distributed	Type/Sources of Media/Merchandise
2013 – 2014 (Year One)	4,719 (Valley-wide)	Students & general public merchandise; interviews/segments on radio and TV stations; and newspaper articles.
2014 – 2015 (Year Two)	- 1,473 (Valley-wide) - PSAs & Stormwater Education Videos	- Chip clips, pamphlets, bookmarks, magnets, funnel, rain gauge; rain barrel pamphlets. - Car Washing, Restaurant/Homeowners, Lawn Care, and Rain Barrel PSAs; Educational Videos.
2015 – 2016 (Year Three)	958 (7,052: Valley-wide) - PSAs & Stormwater Education Videos	- Pencils, lanyards, rain gauges, funnels, chip clips, bookmarks, magnets. - Car Washing, Restaurant/Oil/Grease, Lawn Care, Rain Barrel, Scoop the Poop, PSAs; and educational videos.
2016 – 2017 (Year Four)	7,150 (Valley-wide) - PSAs & Stormwater Education Videos	- Pencils, lanyards, rain gauges, funnels, chip clips, magnets. - Car Washing, Restaurant/Oil/Grease, Lawn Care, Rain Barrel, Scoop the Poop, PSAs; and educational videos.

BMP 1-6. Town of Vinton Webpage of Town's Stormwater Management Program

Goal: The Town will continue to maintain and monitor the Town's Stormwater webpage (<http://www.vintonva.gov/index.aspx?NID=209>), where citizens and visitors can obtain information concerning the Town's Stormwater Management Program; Illicit Discharge Reporting Form, Public Outreach and Education; Publications & Resources; Quick facts; Rain Barrels; Stormwater Agency Links; Stormwater Public Education Videos; and VSMP General Permit. Additionally, the Town's website calendar and Facebook also inform citizens of regional clean-up events, drug take-back event, household hazardous waste and E-Cycling collection events, and other local water quality educational programs, in addition of having the capability of receiving citizens' requests and/or complaints on stormwater issues.

Measurable Goal: The Town was able to maintain and monitor the Town's stormwater webpage beginning November 2010, in addition of having the capability of receiving citizens' requests and/or complaints on stormwater issues. The stormwater website is continued to be updated to meet current needs of the stormwater program – EC/FC, SED, Nutrients.

TMDL Consistency: The Town's stormwater webpage, website and Facebook posting inform and educate the general public, citizens, and visitors the overall pollution problem (EC/FC, SED) and how a citizen can prevent nonpoint source pollution through the pamphlets, brochures, flyers, PSAs. Additionally, the illicit discharge reporting form that can accessed from the Town's stormwater webpage and/or the request tracker that can be accessed from the Town's website are capable of receiving citizens' requests and/or complaints on stormwater issues.

Evaluation and Modification: The Town continues to maintain, evaluate and design the stormwater webpage to make it easier to find frequently requested items and make this BMP a more effective method of information distribution and outreach.

Year	Webpage Views
2013 – 2014 (Year One)	154
2014 – 2015 (Year Two)	201
2015 – 2016 (Year Three)	138
2016 – 2017 (Year Four)	389

BMP 1-7. Targeted Education Program

*** This BMP is a joint project with the County of Roanoke. The annual mailing and/or distribution of the educational materials for this targeted education program by the County of Roanoke included the Town of Vinton households, businesses, and contractors involved in land-disturbing activities.**

Goal: The goal of this BMP is to develop a stormwater quality education program for specific target audiences, as shown in Table 13 below. This BMP will provide information to these audiences in an effort to increase awareness of the impact of illicit discharges into the Town's storm sewer system from activities around the home or in connection with various business operations, and it is focused on the aforementioned three high-priority water quality issues: sediment, bacteria, and nutrients. The program is directed toward residents and certain groups of commercial, industrial, and institutional organizations that are most likely to have significant impacts to local stormwater quality. County of Roanoke included the Town's household and business owners when they do their annual mailing of these education mailers.

Measurable Goal: The County of Roanoke distributed previously revised postcards to two targeted audiences in the County and Town: auto car wash/detailing operations and restaurants in the County and Town of Vinton. These business types were chosen because car washing operations can have an adverse impact on local water quality through direct discharges of polluted wash waters; restaurants often rinse greasy range hoods and kitchen mats into the storm drainage system. In addition, a new brochure was also developed, Fact Sheet, and a poster to target certain audiences. As mentioned in BMP 1-5, the County, in conjunction with RVTV, developed a new Public Service Announcement (PSA) [along with a complementary poster] entitled "Granny Says" to share information with the public as part of its stormwater public awareness/ education program. This PSA primarily focuses on illicit discharges, encouraging folks to "do the right things," such as not littering, picking up after pets, bagging leaves and grass clippings, and

pouring nothing down the storm drain. As with the earlier PSAs, the overarching goal was to address the three high priority water quality issues: bacteria, nutrients, and sediments. Please see the following Table 4, 4-A, 4-B, 4-C, and 4-D.

TMDL Consistency: The car wash postcard targets local businesses that may have uncontrolled discharges from vehicle washing operations, which could increase sediment discharges into local receiving waters. Therefore, these postcards address the TMDL for sediment (SED). Similarly, the restaurant postcard addresses rinsing of kitchen equipment and accessories, which may contribute bacteria to receiving waters. Thus, the restaurant postcard helps address the Town's TMDL for bacteria (EC/FC). The materials developed exclusively by the County/Town also address the TMDLs, as shown in the table.

Evaluation and Modification: Town Staff received phone calls following the mail-out of the various materials by the County. Additionally, according to Roanoke County Staff, they received numerous calls from local veterinary offices requesting additional copies of the "Poop Fairy" posters and brochures; also, several residents called to thank the County for the annual newsletter. The County and Town believe this program is an effective BMP to raise awareness about the impact of illicit discharges into the County's storm sewer system.

High-Priority Water Quality Issue	Target Audiences	Means to Determine Audience Size	Estimated Audience Size	Overall Messages	Means to Deliver Messages	Rationale
#1 Sediment	Car Washing/Detail Facilities	Business Licenses/Google	7	<ul style="list-style-type: none"> All wash water to sanitary sewer. Potential damage caused to streams by wash water. 	<ul style="list-style-type: none"> Mailer, annually PSAs on local cable station 	Commercial car wash facilities can contribute significant sediment if wash water is discharged into the Town's MS4.
	Car Dealers	Business Licenses/Google	3	<ul style="list-style-type: none"> All wash water to sanitary sewer. Potential damage caused to streams by wash water. 	<ul style="list-style-type: none"> Mailer, annually PSAs on local cable station 	Vehicle washing/detailing can contribute significant sediment if wash water is discharged into the Town's MS4, which drains, untreated, to local streams. Residential car washing is specifically allowed; but, it still may contribute significant sediment if wash water is not properly handled.
	Auto Body Shops	Business Licenses/Google	16	<ul style="list-style-type: none"> All wash water to sanitary sewer. Potential damage caused to streams by wash water. 	<ul style="list-style-type: none"> Mailer, annually PSAs on local cable station 	
	Homeowners	Tax Records	3,500	<ul style="list-style-type: none"> Potential damage caused to streams by wash water. Direct wash water to grass area for filtration and infiltration. Never allow wash water to flow into street or storm drains. 	<ul style="list-style-type: none"> Publication sent annually to ROCCO/TOV homeowners PSAs on local cable station Handouts at local environmental events, 4 per year minimum 	
Contractors Involved in Land-Disturbing Activities	Business Licenses	19	<ul style="list-style-type: none"> Damage caused to streams by sediments. Healthy fish populations require clear stream bottoms. Silt fence is not enough. Limit disturbed areas. Stabilize as quickly as possible. 	<ul style="list-style-type: none"> Brochure given to land-disturbance permittee when permit is issued Brochure given with enforcement actions 	Erosion and sediment control is required by regulations; however, more effective implementation may occur with additional education.	

High-Priority Water Quality Issue	Target Audiences	Means to Determine Audience Size	Estimated Audience Size	Overall Messages	Means to Deliver Messages	Rationale
#2 Bacteria	Restaurants	Business Licenses/ Yellow Pages	22	<ul style="list-style-type: none"> Excessive bacteria hinder stream usage and contribute to algae overgrowth, which hurts aquatic life. All wastewater to sanitary sewers. Keep exterior trash receptacles and dumpsters covered and do not wash out into storm drain. Clean kitchen hoods and floor mats; properly dispose of wastewater. 	<ul style="list-style-type: none"> Mailer, annually PSAs on local cable station 	Uncovered dumpsters containing garbage and greasy floor mats that are rinsed out onto the pavement can contribute bacteria to our MS4, which discharges directly to our streams.
	Pet Owners (dogs/cats)	Pet Licenses	393	<ul style="list-style-type: none"> Excessive bacteria hinder stream usage. Dog waste ends up in streams. Pick up after your pet and properly dispose of waste. 	<ul style="list-style-type: none"> Publication sent annually to ROCCO & TOV Homeowners PSAs on local cable station 	Dog waste is a major source of bacteria in our streams.
	Veterinarian Offices	Business Licenses/ Yellow Pages	1	<ul style="list-style-type: none"> Excessive bacteria hinder stream usage. Dog waste ends up in streams. Pick up after your pet and properly dispose of waste. 	<ul style="list-style-type: none"> Brochures placed in Veterinarian offices, annually PSAs on local cable station 	Dog waste is a major source of bacteria in our streams.
	Pet Stores/Pet Boarding/ Grooming	Business Licenses/ Yellow Pages	3	<ul style="list-style-type: none"> Excessive bacteria hinder stream usage. Dog waste ends up in streams. Pick up after your pet and properly dispose of waste. 	<ul style="list-style-type: none"> Brochures placed in pet stores, annually PSAs on local cable station 	Dog waste is a major source of bacteria in our streams.
	Town Police and Firemen; Animal Control Officer	Town Records	30	<ul style="list-style-type: none"> Excessive bacteria hinder stream usage. Dog waste ends up in streams. Pick up after your pet and properly dispose of waste. 	<ul style="list-style-type: none"> In-house training 	Dog waste is a major source of bacteria in our streams; these County employees own or handle dogs as part of their work.

Table 4-A. Targeted Education Program: Sediment, Bacteria, and Nutrients

High-Priority Water Quality Issue	Target Audiences	Means to Determine Audience Size	Estimated Audience Size	Overall Messages	Means to Deliver Messages	Rationale
#3 NUTRIENTS	Homeowners	Tax Records	3,500	<ul style="list-style-type: none"> How nutrients damage streams. Do not over-fertilize. Use soil tests. Keep fertilizer off of pavements. Do not over-water lawns. 	<ul style="list-style-type: none"> County Publication sent annually to ROCO/TOV HO PSAs on local cable station 	Excessive nutrients are carried off lawns and other managed turf areas to the County's MS4 and then to local streams; this leads to algae overgrowth in the streams, which adversely impacts fish and other marine life.
	Nurseries/ Greenhouses	Business Licenses/ Yellow Pages	1	<ul style="list-style-type: none"> How nutrients damage streams. Do not over-fertilize. Use soil tests. Keep fertilizer off of pavements. 	<ul style="list-style-type: none"> Mailer, annually PSAs on local cable station 	
	Lawn Care Services	Business Licenses/ Yellow Pages	9	<ul style="list-style-type: none"> How nutrients damage streams. Do not over-fertilize. Use soil tests. Keep fertilizer off of pavements. Encourage use of organic products. 	<ul style="list-style-type: none"> Mailer, annually PSAs on local cable station 	

Table 4-B. New and Previously-Developed Print Materials to Address Specific TMDLs

Type	Name	TMDLs Addressed
Poster	"There's No Such Thing as the Poop Fairy"	Bacteria
	"Who Left the Dogs' Poop?"	Bacteria
	"Granny Says. . ."	Bacteria, Sediment, PCBs, and more
Newsletter	"A Stormwater Guide for Homeowners" April 2017	Bacteria, Sediment, PCBs, and more
	"It's Just Dirt, A newsletter for contractors" April 2017	Sediment, PCBs, Minimum ESC Standards
	"It's Just Dirt"	Sediment
Brochure	Stormwater Best Management Practices for Proper Pet Waste Disposal	Bacteria
	"Stormwater Best Management Practices for Restaurants"	Bacteria
	"Reduce, Reuse, Recycle and Properly Dispose of Hazardous Household Wastes"	Bacteria, Sediment, PCBs, and more
Fact Sheet	"Illicit Discharge Facts"	Bacteria, Sediment, PCBs, and more
	"Facts for Plumbers"	Bacteria, Sediment, PCBs, and more
	"Facts for Landscapers"	Sediment
	"Fall Foliage Facts"	Bacteria, Sediment, and more
	"Fact Sheet for Mosquito Control"	None - published as a Public Health issue
	"Tips for Homeowners - Stormwater Best Practices"	Bacteria, Sediment

TABLE 4-C. Program Materials and Targeted Audiences for BMP 1-7

Target Audience	Product Type	Delivery Method	# of Recipients	Nature of Message
Restaurants	Letter and Brochure	Mailed	22	Stormwater Management BMPs for Restaurants; MS4 permit requirements.
	Postcard	Mailed	22	Only rain down the storm drain; no solid or liquid waste; do not rinse out dumpsters.
Car Washes, Auto Repair Shops, New & Used Car Dealers, Auto Detailers, etc.	Postcard	Mailed	17	Wash water carries sediment, oil, and heavy metals to receiving waters.
Vets, Groomers, Pet Daycare and Boarding, etc.	Letter, Brochure, and Poster (TOV only)	Mailed	4	Pet waste pollutes receiving streams; owners are encouraged to pick up after their pets.
Landscaping Professionals	Letter and Fact Sheet (TOV only)	Mailed	10	Grass/shrub clippings, leaves, sediment, fertilizers, etc. cause pollution to receiving waters; use BMPs to minimize lawn debris, reuse stormwater, install erosion controls, and employ alternative lawn care practices.
Violators of Illicit Discharge Ordinance	Fact Sheet(s) applicable to the discharge	Mailed at time of violation	10 (TOV & ROCO)	It is illegal to discharge anything into the MS4 system except for the allowable non-stormwater discharges listed in the permit.
Plumbers	Fact Sheet	Provided on the Counter	unknown	It is illegal to discharge anything into the MS4 system except for the allowable non-stormwater discharges listed in the permit
Contractors involved in Land Disturbing Projects	Brochure	Distributed with Permits	44 (ROCO & TOV)	"It's Just Dirt" – brochure describes the harm to receiving waters from excess sediment from construction sites, explains permit requirements, provides techniques to "keep dirt on the project."
	Newsletter	Mailed	187 (ROCO & TOV)	
Residents	Brochure	Provided in Lobby; sent to schools; mailed with Illicit Discharge notices	>30 (ROCO & TOV)	"Reduce, Reuse, Recycle and properly dispose of hazardous household wastes" brochure.
Residences	Newsletter	Mailed	32,963 (ROCO & TOV)	VSMP Program; proper methods for yard management, car washing, and disposal of hazardous household wastes; reasons to pick up pet waste; avoiding illicit discharges to the MS4.

Table 4-D. Summary of Targeted Mailings and % Reach in Roanoke County & Town of Vinton

Annual Period	Type of Educational Material	Target Group	# Sent /Total # in Target Group	% of Target Audience Reached
2013 - 2014 (YEAR 1)	Car Wash Postcard	Businesses with Car Washes	107 / 107	100%
	Restaurant Postcard	Restaurants	115 / 115	100%
	MS4 Permit Brochure for Businesses	All Town Businesses	1,209 / 1,209	100%
2014 - 2015 (YEAR 2)	Car Wash Postcard	Businesses with Car Washes	196 / 196	100%
	It's Just Dirt Brochure	Land-disturbing Contractors	12 / 51	23.5%
	Stormwater Newsletter	Residences	32,599 / 32,599	100%
	Restaurant Postcard + Brochure	Restaurants	125 / 125	100%
	Landscaping Fact Sheet	Professional Landscapers, Nurseries, Greenhouses	88 / 88	100%
	Pet Waste Poster + Brochure	Veterinarians, Groomers, Stables, Pet Daycare, Pet Boarding, etc.	34 / 34	100%
2015 - 2016 (YEAR 3)	Car Wash Postcard	Businesses with Car Washes	103 / 103	100%
	Restaurant Postcard, Letter, and Brochure	Restaurants	127 / 127	100%
	It's Just Dirt Brochure	Land-disturbing Contractors	162 / 97*	>100%
	Stormwater Newsletter	Residences	32,493	100%
	Landscaping Fact Sheet	Professional Landscapers, Nurseries, Greenhouses	117	100%
	Pet Waste Poster, Letter, and Brochure	Veterinarians, Groomers, Stables, Pet Daycare, Pet Boarding, etc.	34	100%
	"Tips for Homeowners - Stormwater Best Practices"	Residential lots using individual stormwater control measures without maintenance agreements	66 / 66 (32 new this year)	100%
2016 - 2017 (YEAR 4)	Car Wash Postcard and Letter	Businesses with Car Washes	78/78	100%
	Restaurant Postcard, Letter, and Brochure	Restaurants	76/76	100%
	It's Just Dirt Newsletter	Land-disturbing Contractors	187/187	>100%
	It's Just Dirt Brochure	Land-disturbing Contractors	162 / 32**	>100%
	Pool Maintenance Facts & Illicit Discharge factsheet	Residences having a pool and pool related businesses	1,551	100%
	Storm Drain Fact Sheet for Landscapers	Professional Landscapers, Nurseries, Greenhouses	106/106	100%
	Pet Waste Poster, Letter, and Brochure "Who Left the Poop"	Veterinarians, Groomers, Stables, Pet Daycare, Pet Boarding, etc.	50/50	100%
	"Tips for Homeowners - Stormwater Best Practices"	Residential lots using individual stormwater control measures without maintenance agreements	66 / 66 (No new ones this Permit year)	100%

* Total # of RLDs entered into County's LDO tracking system since July 1, 2015; each RLD may obtain multiple permits

** Total # of RLDs entered into County's LDO tracking system since July 1, 2016; each RLD may obtain multiple permits