MCM1 – Public Education and Outreach
Draft Public Education and Outreach Program

1. Background - Coordinating efforts amongst local MS4 operators

Educating, reaching out to, and involving the public in stormwater issues is accomplished primarily through participation in the Rivanna Regional Stormwater Education Partnership (RRSEP). The RRSEP is a collaborative effort among local public entities in the City of Charlottesville and the surrounding County of Albemarle that hold small MS4 permits under the National Pollutant Discharge Elimination System program. The RRSEP is dedicated to helping its members achieve the MS4 permit requirements related to education, outreach, and public participation in stormwater management.

The MS4 permit holders that comprise the RRSEP are Albemarle County, the City of Charlottesville, Piedmont Virginia Community College, the University of Virginia, and the Virginia Department of Transportation. Other members of RRSEP are Albemarle County Public Schools, the Albemarle County Service Authority, and the Rivanna Water and Sewer Authority. The Thomas Jefferson Soil and Water Conservation District (TJSWCD) provides support to the RRSEP and serves as its coordinating body.

Founded in March 2003, the RRSEP meets a minimum of six times a year to plan and implement stormwater education initiatives and share information about each partner's stormwater programs. Education initiatives are undertaken by the RRSEP to help make citizens aware of stormwater issues, while also equipping them with practical knowledge and actions to help improve local water quality. RRSEP utilizes a multi-faceted approach to educate and provide outreach across targeted urban areas (Figure 1). Campaign materials, including print ads, movie theatre ads, posters on public transit buses, magnets, radio spots, and utility bill inserts are written in simple, easy to understand language and often utilize cartoons to help the message come across to all generations and all education levels. RRSEP also provides some campaigns in Spanish. Education and outreach materials are available at www.rivanna-stormwater.org. Each partner pays an annual membership fee to help fund RRSEP projects. In addition, the RRSEP has successfully applied for and partnered on grants to supplement education efforts.

The RRSEP has produced effective and far-reaching education programs that have benefited from the variety of expertise and resources each partner offers. Planning and implementing education initiatives through the RRSEP has resulted in Rivanna River watershed-focused projects and has avoided the over-exposure and redundancy that might result if each partner were carrying out projects on their own.

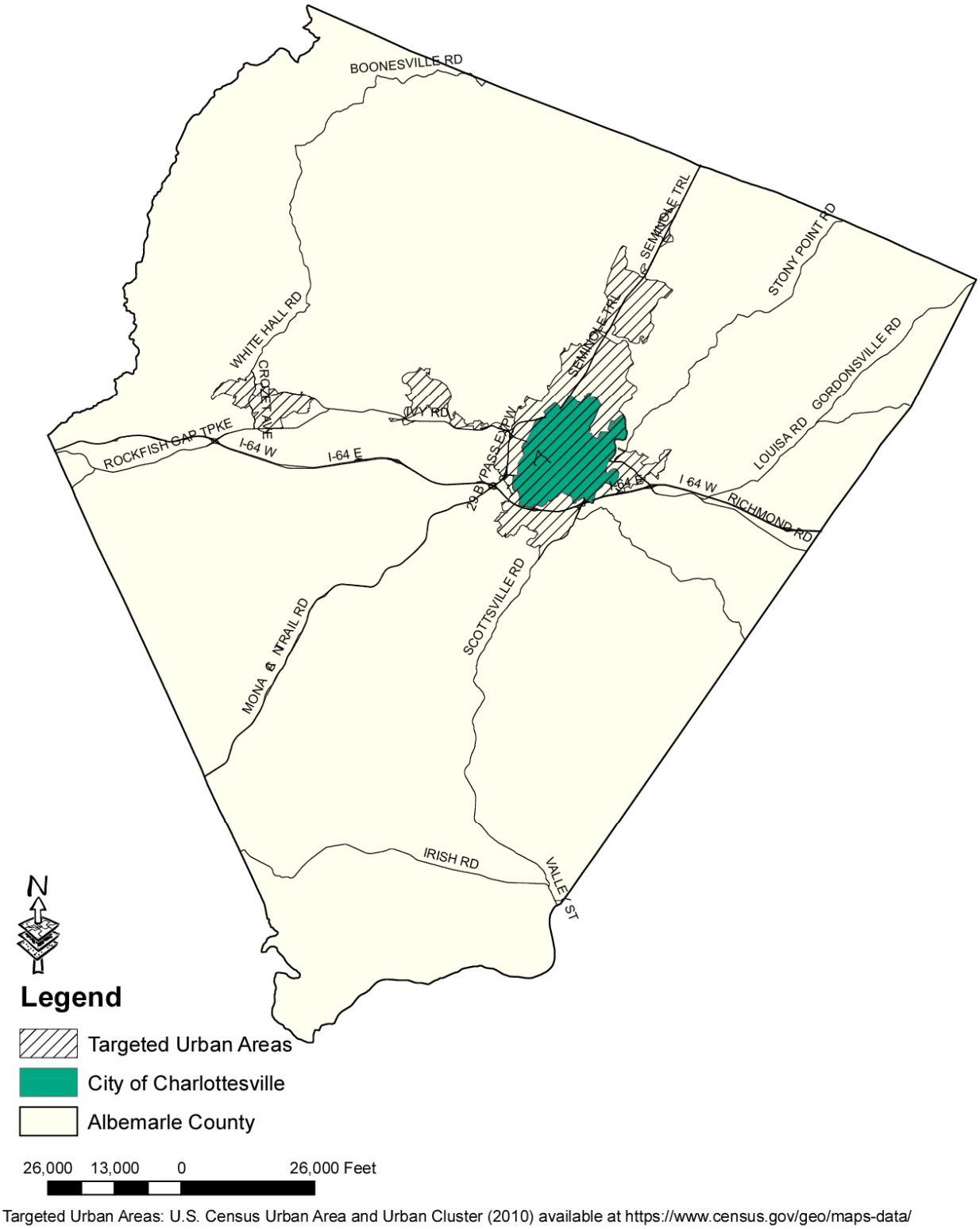
2. Identification of high-priority water quality issues; identification and estimation of population size of target audiences; relevant messages and associated materials for message distribution

RRSEP held several meetings to discuss and determine the high priority water quality issues for the region, which will be the focus of their education and outreach campaigns for the current MS4 permit cycle. Local and regional water quality impairments were the primary criteria used to determine the issues. The three high priority water quality issues identified by RRSEP are bacteria, sediment, and

nutrients (nitrogen and phosphorus). Through campaigns conducted over the course of the MS4 permit cycle, target audiences will have multiple opportunities to learn about the high-priority water quality issues of the region in several different ways.

The reasoning behind choosing each of these issues and the proposed campaigns to target each issue are further described below.

Figure 1. Urban Areas Targeted by RRSEP Education and Outreach



Targeted Urban Areas: U.S. Census Urban Area and Urban Cluster (2010) available at https://www.census.gov/geo/maps-data/

a. Bacteria

Over a quarter (26%) of streams assessed within the targeted urban areas are considered impaired by excessive amounts of bacteria[1]. Bacteria impairments in these streams can be caused by urban stormwater, pet waste, leaking sewer pipes, wildlife excrement, and agricultural uses. However, due to the very urban nature of the MS4 jurisdiction, RRSEP will focus outreach and education efforts towards dog owners to reduce the impacts of pet waste. RRSEP acquired the database of dog licenses for the City of Charlottesville and Albemarle County to estimate the number of pet owners in the targeted urban areas. RRSEP estimates there are approximately 4,000 dog owners within the targeted urban areas and outreach and education activities are designed to reach 20 percent of this target audience (800). Dog owners are most likely to have significant impact on the reduction of pet waste from entering local waterways. Fecal coliform from the intestinal tract of dogs has the opportunity to enter waterways as it combines with stormwater runoff. VA DEQ and StreamWatch both test the waters for bacteria as identified through *E. coli*. The *Bacteria TMDL Development for the Rivanna River Mainstem, North Fork Rivanna River, Preddy Creek and Tributaries, Meadow Creek, Mechums River, and Beaver Creek Watersheds* submitted to VDEQ (2008) requires reductions in *E. coli* from urban stormwater runoff.

The illicit discharge and elimination (IDDE) programs run by the various MS4 permit holders will also help to identify and eliminate possible sewage leaks caused by failing cross connections. IDDE outreach and education efforts provided by RRSEP have warned against storm drain dumping and encouraged use of the RRSEP Water Pollution Hot Line to report suspected illegal discharges. Albemarle County, which has the greater number of properties not served by a public sewer system, specifically developed a targeted message to persons with septic systems, encouraging them to pump out their system every five years as recommended by the Virginia Department of Health.

Relevant messages on bacteria-related outreach and education items within the community are:

Media Employed (Time Frame)	Extent of Message Distribution	Relevant Message
Charlottesville Area Transit Bus Ad (March, April, May)	622,354 individual bus trips taken	Pick up after your pet. Pet waste left outside washes into stormdrains and waterways.
C-ville Weekly print ad (1 week during March)	20,000 papers distributed per week	While being good to your pet, don't be bad to the river. Every time it rains, runoff from your lawn carries bacteria and other organisms from your pet's waste into local streams. Dispose of your pet's waste properly by bagging it and throwing it away.
Utility Bill Mailing Insert (April)	42,000 bills distributed	Pick up After Your Pets: Animal waste that is washed off of lawns and sidewalks sends

[1] *Final 2012 305(b)/303(d) Water Quality Assessment Integrated Report*, VA DEQ, 2014

		harmful bacteria into the storm drain system and into streams and rivers, creating problems for swimmers and fish.
Regal Cinemas Movie ad (March 28, 2014 – May 28, 2014)	99,666 movie attendees	We all prefer healthy streams and lakes…but most of our local waters are somewhat polluted. When it rains, pollution is carried directly into streams by runoff from parking lots, streets, and lawns. Here's what YOU can do to reduce pollution: (one) pick up after your pet, (two) don't over-fertilize your lawn, and (three) capture the water from your rooftop in a rain barrel ... or in a rain garden. Do your part to keep our streams clean and healthy. Visit Rivanna-stormwater.org.

b. Sediment

Sediment enters our waterways as stormwater rushes across impervious surfaces such as roads, parking lots, and driveways and pervious surfaces such as lawns. High volumes and velocities of stormwater runoff cause excessive land and stream bank erosion. Implementation of best management practices (BMPs) by homeowners helps to reduce the runoff volume and velocity, and contribute to healthier streams. RRSEP intends to provide education and outreach to 20 percent of the estimated 38,500 households[2] (7,700) within the targeted urban areas to encourage BMP implementation. Of the stream miles assessed within the targeted urban areas, almost 30% have an impaired benthic macro-invertebrate community, as a result of too much sediment in our waterways[3]. The *Final Report of the Benthic TMDL Development for the Rivanna River Watershed* submitted to VA DEQ (2008) identifies an existing sediment load from land-based and in-stream erosion from the MS4 point source. The allocated load to the MS4 permit holders requires an aggregated 59.3% reduction in sediment from this source to achieve the TMDL. Non-point sources, other general permits outside the MS4 area, other point sources, and a margin of safety also are allocated loads through the TMDL process.

The TJSWCD (of which Albemarle County and Charlottesville are members) partnered with the Culpeper, Hanover-Caroline, and Piedmont SWCDs to promote a pilot project for non-agricultural landowners to engage in stormwater management activities through a voluntary cost share program called the Virginia Conservation Assistance Program (VCAP). The partnership was established under the Virginia Association of Soil and Water Conservation Districts' Urban Committee. This innovative pilot project received a total of $75,680 in grant funds through the National Fish and Wildlife Foundation, Virginia Environmental Endowment, and Chesapeake Bay Restoration Fund, and from a private donor for the

[2] U.S. Census 2010 for Virginia based on an average household size of 2.54 people.

[3] *Final 2012 305(b)/303(d) Water Quality Assessment Integrated Report*, VA DEQ, 2014

installation four categories of best management practices (BMP): (1) pet waste stations, (2) rain gardens, (3) rain water harvesting, and (4) turf conversion to native plants (TCN)..

Media Employed (Time Frame)	Extent of Message Distribution	Relevant Message
Charlottesville Area Transit Bus Ad (March, April, May)	622,354 individual bus trips taken	Install a rain barrel or two. Collecting the rainwater that runs off your roof saves water and helps manage the impact of stormwater runoff on water quality and stream health.
Regal Cinemas Movie ad (March 28, 2014 – May 28, 2014)	99,666 movie attendees	We all prefer healthy streams and lakes … but most of our local waters are somewhat polluted. When it rains, pollution is carried directly into streams by runoff from parking lots, streets, and lawns. Here's what YOU can do to reduce pollution: (one) pick up after your pet, (two) don't over-fertilize your lawn, and (three) capture the water from your rooftop in a rain barrel ... or in a rain garden. Do your part to keep our streams clean and healthy. Visit Rivanna dash stormwater dot org.

c. Nutrients

The Chesapeake Bay TMDL requires reductions in phosphorus, nitrogen, and sediment. The MS4 general permit provides for specific allocations and reduction requirements based on total regulated impervious and pervious acres within the permitted jurisdiction. RRSEP partners have selected reduction of nutrient inputs to local waterways, specifically phosphorus and nitrogen, for targeted outreach and education. RRSEP intends to provide education and outreach to 20 percent of the estimated 38,500 households[4] (7,700) within the targeted urban areas to encourage BMPs that reduce nutrients in runoff..

Media Employed (Time Frame)	Extent of Message Distribution	Relevant Message
Charlottesville Area Transit Bus Ad (September, October, November 2013)	646,734 trips taken	Don’t over-fertilize your lawn. Excess nutrients from fertilizer are a major source of water pollution when they are carried by rain runoff into stormdrains and local waterways. Apply fertilizer based on a soil test. Don’t rake leaves down storm drains or into streams. When leaves are washed into streams they decompose there and
Cville Weekly print ad (1 week during March)	20,000 papers distributed	

[4] U.S. Census 2010 for Virginia based on an average household size of 2.54 people.

		degrade water quality. Compost them or bag for proper disposal. When you mow your lawn, don't dispose of grass clippings down a storm drain. Like decomposing leaves, grass clippings degrade water quality. Leave them on your lawn.
Utility Bill Mailing Insert (April)	42,000 customers	Use moderation when applying lawn products such as fertilizers, pesticides or herbicides. Better yet, get your soil tested, fertilize only in the fall, and look into non-chemical products to protect your lawn. Call the Cooperative Extension Service in Albemarle County at 872-4580 to find out how to get your soil tested.
Regal Cinemas Movie ad (March 28, 2014 – May 28, 2014)	99,666 movie attendees	We all prefer healthy streams and lakes…but most of our local waters are somewhat polluted. When it rains, pollution is carried directly into streams by runoff from parking lots, streets, and lawns. Here's what YOU can do to reduce pollution: (one) pick up after your pet, (two) don't over-fertilize your lawn, and (three) capture the water from your rooftop in a rain barrel...or in a rain garden. Do your part to keep our streams clean and healthy. Visit Rivanna-stormwater.org.

3. Providing public participation during program development

RRSEP has invited local area non-profit organizations with a focus on water quality to attend our April 2014 meeting. This meeting will provide for public participation during public education and outreach development. Public comment from the entire community will be solicited from May 1, 2014 – May 31, 2014. The draft public education and outreach plan will be posted to the RRSEP website, the City of Charlottesville website, Albemarle County's website, and UVA's website. Email comments and suggestions to Martin Johnson, TJSWCD, by May 31, 2014. Comments must be in writing. RRSEP, through its member localities, will make every effort to address any concerns on the plan. For VDEQ's MS4 permit requirements pertaining to education and outreach, visit http://lis.virginia.gov/cgi-bin/legp604.exe?000+reg+9VAC25-890-40.

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4. Adjusting target audience and messages to address any observed weaknesses or shortcomings

As necessary, RRSEP will adjust target audiences and messages to address any observed weaknesses or shortcomings in the public education and outreach program. Additional educational materials have already been developed and are available for use by the RRSEP in future years. For example, RRSEP has utilized radio ads and targeted mailings in past years to provide outreach and education to pet owners within a specific bacteria-impaired watershed, Moores Creek. RRSEP has distributed flyers to veterinarian's offices and pet stores throughout the area. Additionally, the RRSEP will purchase the advertisement video created for the Regal Cinemas movie theater to be used on Charlottesville's public access channel, websites, and made available on YouTube. A short stormwater public service announcement may be created by RRSEP to reach target audiences in the future.