

Public Education and Outreach Plan

(Effective July 1, 2014; Revised June, 2017)

The City of Salem (Salem) operates a Stormwater Management Program in compliance with the Virginia General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4 General Permit). In accordance with Section II.B.1 of the permit, Salem implements a Public Education and Outreach Program (PEOP) on stormwater impacts.



Consistent with the MS4 General Permit, the PEOP incorporates the following goals:

- Increase the knowledge of Salem’s target audiences 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;
- Increase the knowledge of Salem’s target audience about hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications; and
- Implement a diverse program with strategies that are targeted towards audiences most likely to have significant stormwater impacts.

These goals are intended to be met as part of an iterative program that will assess effectiveness of the PEOP by measuring the level of knowledge over time of the City’s public. The PEOP is designed consistent with the MS4 General Permit to:

- Identify 3 high-priority water quality issues and provide rationale for the selection of each issue;
- Identify and estimate the population size of the target audience who is most likely to have significant impacts on each water quality issue;
- Identify the relevant message and associated educational and outreach materials for distribution to the target audiences.

Public participation during the development of the PEOP included the distribution of a survey through mail and email that incorporated questions regarding stormwater runoff and surface water quality. Results are provided in Appendix A. The survey was intended to gauge Salem’s public on their knowledge of stormwater impacts. Response to the survey included 2,053 residents and 106 businesses. Insightful results towards the development of the Program include:

- 90% of respondents indicate they know little or nothing about stormwater pollution.
- 66% of respondents do not know where the storm drain empties or think that it empties into the treatment plant.
- The #1 concern by respondents was bacteria in the waterways. The #2 concern was not enough education on stormwater.
- 21% of dog owners indicate they do not pick up after their pets. Per the dog license database, there are approximately 3,198 dog owners in the City. Only 744 dog owners responded to the survey.

- 80% of respondents do not know if Salem has any projects that deal with stormwater pollution.
- The most frequent way respondents learned about water projects that deal with stormwater pollution was by information pamphlets released and distributed by the City.

Selection of high-priority water quality issues were selected based on results disseminated from the survey and applicable Total Maximum Daily Loads (TMDLs). Salem's high-priority water quality issues for the PEOP are provided below. Based on measures of effectiveness for each, any may be replaced or refined from time to time. Modifications will be reflected in annual reporting with rationale for the modification.

Water Quality Issue No. 1: Improve public education on stormwater impacts

Rationale: This issue was selected based on the results of the public survey that indicate a strong need for increased effectiveness of public education efforts. This rationale is supported with the survey results summarized above and in Attachment A.

Target Audience: Survey results indicate that the entirety of Salem's public audience needs increased education since all could have a positive impact in the improvement of stormwater runoff with knowledge of steps to reduce stormwater pollution. This audience generally includes:

- Population of ±25,000 people

Relevant Message: To address goals of the Program and concerns stemming from the survey results, the relevant message will include:

- General information about stormwater runoff (where it drains, pollutants, etc.)
- Steps that can be taken to reduce stormwater pollution
- Information regarding Salem's Stormwater Program, including information regarding the hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications
- Contact information for reporting issues that could negatively impact environmental water quality
- Information regarding TMDL pollutants of concern, specifically polychlorinated biphenyls (PCBs) and sediment
- Methods to identify, eliminate, and reduce potential discharges of PCBs into the MS4.

Outreach Materials to Convey the Relevant Message: A brochure will be distributed by the City with the relevant messages and a link to the Salem stormwater webpage. Brochure distribution was selected as the appropriate mechanism based on survey respondents where informational pamphlets released and distributed by Salem was selected as the most frequent way people learned about stormwater projects.

Schedule: Outreach material will be distributed a minimum of once a year to at least 20% of each target audience.

Method to Determine Effectiveness: The stormwater survey will be re-distributed at the end of the Permit cycle to determine the effectiveness of the water quality issue. Results will be disseminated to determine if the public's knowledge of stormwater runoff and its impacts have increased.

Water Quality Issue No. 2: Education on dog waste impacts and pick-up

Rationale: Salem is in the Upper Roanoke River Watershed TMDL and has been assigned a waste load allocation for bacteria (E. coli). Selection of this issue is also consistent with survey respondents who ranked “too much bacteria in waterways” as their top stormwater pollution concern.

Target Audience: ±3,200 licensed dog owners (licensed pet databased sorted for dog owners)

Relevant Message: Inform dog owners about the effects of pet waste on water quality and encourage dog owners to pick up and properly dispose of pet waste.

Outreach Materials to Convey the Relevant Message: The message will be conveyed using brochures that will be mailed to pet owners. The City maintains a database of licensed pet owners.

Schedule: Brochures will be mailed on a yearly basis to at least 20% of the target audience.

Method to Determine Effectiveness: The stormwater survey will be re-distributed at the end of the Permit cycle to determine the effectiveness of the water quality issue. Results will be disseminated to determine if more pet owners are picking up after their pets.

Water Quality Issue No. 3: Prevention of Non-stormwater Discharges

Rationale: This issue was selected based on the results of the public survey that indicate 67% of respondents do not know that stormwater runoff is discharged directly to surface waters, as indicated in results in Appendix A.

Target Audience: This target audience includes those that may cause non-stormwater discharges into the City’s MS4.

Relevant Message: Information defining non-stormwater discharges and pathways to surface waters, as described in the City’s Illicit Discharge Detection and Elimination (IDDE) Manual and the City’s Ordinance that eliminates illicit discharges.

Outreach Materials to Convey the Relevant Message: Two types of materials will be utilized, including brochures and storm drain markers. Brochures that discuss the relevant message will be distributed to the target audience, notably those types of individuals where illicit discharges are most commonly seen, such as commercial business. At a minimum, twenty storm drain markers will be installed annually as a supplemental outreach tool, with markers installed in “high potential” areas, as illustrated in the mapping generated in the City’s “Outfall Prioritization” report or where illicit discharges have previous occurred.

Schedule: Annually.

Method to Determine Effectiveness: The stormwater survey will be re-distributed at the end of the Permit cycle to determine the effectiveness of the water quality issue. Results will be disseminated to determine if the public’s knowledge of stormwater runoff and its impacts have increased. Effectiveness will also be based on achieving the targeted number of storm markers.

CITY OF SALEM - STORMWATER
SURVEY 2014

Are you a resident of Salem or a business?

Resident - 2,053 Business - 106

Do you live in a house or an apartment?

House - 1,893 Apartment - 280
I am not a Salem resident
(if so, disregard all of the following)

Your age:

<18 18-35 35-60 60 or older
(217) (708) (1,297)

Your gender:

Female - 1,164 Male - 703 Both - 37

How much do you know about stormwater pollution?

Nothing A little A lot
(575) (1,411) (232)

Do you think the City of Salem has a problem with storm water pollution?

Yes No Maybe:
(225) (648) (1,144)

Do you know if the City of Salem has any projects that deal with storm water pollution?

Yes (419) No (1636)

If yes, how did you learn about these projects? (Check all that apply)

Information pamphlets released and distributed by the City of Salem (246)
From the Website (57) Heard from a friend (74)
Television (106) Non-applicable (208)
Other (8=3)

Do you know where storm drains empty?

Treatment Plant, then river (353)
Straight into river (740) Don't know (1,099)

Please rank the following stormwater pollution concerns in importance with 1 being the most important and 7 being the least important:

Sediment in waterways Leaves in gutters

How often do you dispose of unused fertilizers or pesticides by pouring them out on the ground?

Usually(?) Sometimes(65) Never(1,941)
Dispose of them in the garbage (113)
Dispose of them at Hazardous Waste Day (232)

How many times a year do you fertilize your lawn?

1-2 (726) 2-6 (309) Monthly (12)
Non-Applicable (1,148)

Do you have any rain barrels for downspouts on your home for watering your lawn or garden?

Yes - 157 No - 2,023

Do you pick up your dog's feces and dispose of it?

Yes (585) No (159) NIA (don't have a dog) (1,446)

Do you have a rain garden?

Yes - 65 No - 2,092

Where do you wash your car?

Home Commercial Both Non-applicable
(334) (1,143) (489) (241)

Bacteria in waterways People washing cars
Dumped motor oil Too much fertilizers Not
enough education on stormwater

How many times a month do you wash your car?

0-1 (1,662) 2 (292) 3(185) More (32)

Do you change your own motor oil?

Yes (262) No(1,765) N/A (don't have a car) (181)

If yes, what do you do with the oil?

Transfer to a container, seal and dispose with other household trash; (12)

Pour it on grass, dirt or

gravel; (3) Pour it into a

storm drain; (0) Take it to a

recycling facility (239)

Pour it into an indoor sink, toilet or drain

(0) Take it to the City's Street

Department (4) Other (2)

| Survey Concerns | Ranked #1 | Ranked #2 | Ranked #3 | Ranked #4 | Ranked #5 | Ranked #6 | Ranked #7 |
|------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Sediment in Waterways | 244 | 240 | 284 | 345 | 293 | 176 | 91 |
| Bacteria in Waterways | 713 | 353 | 243 | 155 | 119 | 56 | 50 |
| Dumped Motor Oil | 516 | 369 | 323 | 210 | 137 | 65 | 63 |
| Leaves in Gutters | 86 | 40 | 75 | 85 | 181 | 382 | 789 |
| People Washing Cars | 72 | 44 | 122 | 200 | 392 | 473 | 328 |
| Too much fertilizers | 297 | 386 | 350 | 350 | 210 | 72 | 56 |
| Not enough Education on Stormwater | 690 | 113 | 140 | 191 | 183 | 173 | 331 |