

Annual Report

**Northern Virginia
Coastal Resources
Technical Assistance Program**

October 1, 2012 – September 30, 2013

NOAA Grant #NA12NOS4190168

Fiscal Year 2012, Task 46





Virginia Coastal Zone
MANAGEMENT PROGRAM

In Grant Year 2012, the Northern Virginia Coastal Resources Technical Assistance Program was funded in part by the Virginia Coastal Zone Management Program at the Department of Environmental Quality, through Grant #NA12NOS4190168 of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, under the Coastal Zone Management Act of 1972, as amended.

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www.novaregion.org

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Executive Summary

This report was produced, in part, through financial assistance from the Virginia Coastal Zone Management Program (CZM) in the Virginia Department of Environmental Quality through Grant No. NA10NOS4190205 from the National Oceanic and Atmospheric Administration (NOAA). This report describes the technical assistance program conducted by the Northern Virginia Regional Commission (NVRC) through its Coastal Resources Management Program. The Coastal Resources Management Program at NVRC includes; coordination of regional programs that advance VA CZM's interests in coastal resource management, public outreach, education and training, environmental impact and permit reviews, and technical assistance on coastal issues relevant to Northern Virginia localities.

This report fulfills the product requirements set forth in the FY 2012 Virginia Coastal Zone Management Program Grant, Task 46 (NOAA Grant #NA10NOS4190205) for:

- Product #1 – Annual Report – NoVA Coastal Resources TA Program; and
- Product #2 – Summary of Regional Stormwater Education Campaign
- Product #3 - Benefits accrued from prior CZM grants

Annual Report of Northern Virginia's Coastal Resources Technical Assistance Program

The Technical Assistance grant from CZM allows NVRC's Coastal Resources Program to conduct public outreach and education, coordinate regional programs that advance VA CZM's interests in coastal resource management and serve as a point of technical information exchange for local planning. The Technical Assistance grant also allows NVRC to participate in the quarterly Coastal PDC meetings, Potomac Watershed Roundtable and the Northern Virginia Urban Forestry Roundtable. These meetings help to identify appropriate special projects and technical studies that would benefit the region as well as ensuring that local efforts may take advantage of or leverage other related initiatives.

The grant also allows NVRC's Coastal Program Manager to provide assistance to local governments, non-profit groups and private entities on coastal resource issues such as management of urban stormwater runoff, habitat restoration, climate change, the Chesapeake Bay Program and shoreline erosion control. Specific requests typically include assistance on grant proposals, disseminating information about legislation or regulations, and identifying and sharing data that may be useful in local planning initiatives. During FY12, NVRC provided technical assistance to the Friends of Dyke Marsh and National Park Service for wetland habitat restoration, to Leesylvania State Park for a Living Shoreline project and to Virginia Association of Counties for a coastal insurance study.

NVRC also continues to participate in the EA/EIS and permit intergovernmental review process. Over the fiscal year, NVRC responded to 19 EA/EIS requests throughout the region as part of the intergovernmental review process.

Special Project Summary Northern Virginia Clean Water Partners – Regional Stormwater Education Campaign

The Regional Stormwater Education Campaign was initiated in 2003 to assist localities in leveraging funds to achieve common goals regarding stormwater education and outreach and promote consistent messages for fertilizer and pesticide use, pet waste disposal, and motor oil recycling. The campaign satisfies MS4 (Municipal Separate Storm Sewer System) Phase I and Phase II permit requirements for stormwater education and documenting changes in behavior.

The Northern Virginia Clean Water Partners enables Northern Virginia jurisdictions to pool outreach funds to conduct a regional stormwater education campaign. NVRC received financial and in-kind contributions from 15 partners this year, for a total budget of \$150,000. The Partners met three times between October 2012 and September 2013 to plan and implement campaign activities. Meeting summaries are provided in Appendix A.

While the use of radio advertising has been effective in the early years of the campaign, the audience for traditional media outlets has decreased in recent years. This year the partners decided to air Public Service Announcements (PSA's) on cable television. On behalf of the partners, NVRC secured the

services of Comcast Television to air the PSA's. Four ads that feature rubber duckies were selected to illustrate the importance of picking up pet waste, reducing fertilizer application and implementing other general household stormwater pollution reduction measures. The rubber ducky was chosen because it has been a long-time symbol of non-point source pollution. The ads were borrowed (with permission) from various sources across the country so modification was necessary for them to be Northern Virginia specific. Reproduction was also necessary for the PSA's to meet Comcast specifications for broadcast. One ad was selected for translation into Spanish.

Production was completed in March 2013 and the ads began airing on several major channels on April 1, 2013. From April 1 thru October 31 four different ads aired on 12 channels a total of 2,275 times. These TV ads reached approximately 3,768,412 Northern Virginia residents and resulted in over 400 visits to the www.onlyrain.org website. Additionally, campaign banner ads appeared on the Comcast website. The ads fulfill the outreach and education requirements of the jurisdictions' MS4 permits. In addition, the Northern Virginia Clean Water Partners welcomed a new member, George Mason University.

An online survey of 500 Northern Virginia residents was conducted to determine the effectiveness of the ads, reveal any changes in behavior, and aid in directing the future efforts of the campaign. Survey results are included as Appendix C.

NVRC staff prepared a summary report for the campaign and distributed it to the Partners in September 2013 for inclusion in their annual MS4 reports. The report is included as Appendix B.

20 percent of the respondents recalled hearing or seeing advertisements on the internet or on TV about reducing water pollution. Of those who recalled the ads, three percent state they now pick up their pet waste more often, four percent state that they are more careful with motor oil, and 13 percent state they fertilize fewer times per year.

Other interesting findings in the 2013 survey include:

- Respondents selected fertilizers and pesticides and runoff as the main causes of pollution in the Potomac River and Chesapeake Bay for the third year in a row.
- The number of respondents choosing litter or industrial pollution as the number one source of pollution decreased as compared with previous surveys.
- 43 percent of respondents knew they live in Potomac River watershed, up from 39 percent in 2011.
- Interestingly, almost 80 percent of people surveyed reported that they always pick up after their pet, as compared with 30 percent in previous surveys.
- Over 90 percent of residents surveyed stated that stormwater goes into the Potomac River or the Chesapeake Bay, or to local streams and rivers.

- 87 percent of respondents were familiar with rain barrels, and 69 percent stated they already have a rain barrel or are interested in getting one.
- 36 percent of respondents were familiar with rain gardens, with 62 percent already having a rain garden or interested in installing one.
- More than half of the respondents (54%) prefer to receive information from online sources. Newspaper (19%) and television (18%) were the next two information sources.
- 75 percent would be more likely to take actions to reduce the amounts of pollutants they personally put into storm drains, after learning that polluted water runoff is the number one cause of local water pollution.

In addition to capturing responses to questions regarding the effectiveness of the campaign, this year's survey honed in on the current behaviors of Northern Virginia residents as they relate to pet waste management, lawn care, and motor oil disposal. Responses to these questions support the development of future messages and targeted promotion.

The most important reason dog owners are motivated to pick up their pet's waste is because "It's what good neighbors do". Approximately one-in-eight (14%) selected "It causes water pollution" as the most important reason to pick up. 70 percent believe that dog waste disposal stations would be useful. A third of the lawn and garden owners fertilize their lawns two or more times per year; an equal number never fertilize their lawns. Among those who fertilize once a year, the same percentage reported doing so in the spring as in the fall. This suggests that there is room to educate more residents of Northern Virginia that fertilizing in the fall is better for local waterways than fertilizing in the spring. About half of the respondents reported using an herbicide to treat weeds in their lawn or garden. To better understand behavior related to the application of fertilizer, three new questions about fertilizer were added to the 2013 survey. Among those who fertilize their lawn, 73 percent have never had or were not sure if their soil had been tested for fertility or pH and one third reported using a slow release N fertilizer. When asked where they get information to decide when and how much fertilizer to apply the top three most commonly selected responses were "Follow directions on the bag" (52%), followed by "Lawn service conducts the applications" (27%), and then "Follow soil test results / recommendations" (7%).

The majority of respondents take their vehicle to a service station to change their oil (85%) or take used oil to a gas station or hazmat facility for recycling (11%). Only one percent of Northern Virginians store used motor oil in their garage, place it in the trash or dump it down the storm drain. Responses to the survey suggest that public support remains strong for local government programs that improve the quality of water in local and regional streams and rivers and the Chesapeake Bay.

Coordination and Training

A fundamental component of NVRC's Coastal Resources Program is the provision of education and public outreach on environmental issues in the Northern Virginia region. Past examples include: onsite wastewater systems operations and maintenance, blue/green infrastructure planning, factors affecting the delivery of pollutants to downstream waterways, and Chesapeake Bay Local Assistance trainings. During the grant year NVRC collaborated with several partners to host a variety of workshops and training opportunities for public and private planners, engineers, conservation professionals, homeowners and watershed non-profits. Summaries of the three workshops hosted in fiscal year 2012 are below. Their corresponding agendas are provided in Appendix D.

Residential Rain Gardens - Beautifying Your Yard for Clean Water (November 17, 2012)

NVRC co-hosted one Beautifying Your Yard for Clean Water workshop on building a small-scale rain garden. Through the workshop, 25 participants learned how to design, build, landscape, and maintain



small-scale residential rain gardens. The workshop was held at the Fairlington Community Center in Arlington, VA. These workshops have proven to be instrumental in providing technical expertise and resources to support the application of innovative stormwater management practices on private properties. Additionally, the workshops serve to educate local government staff on designing residential rain gardens. Local educators, land use planners, master gardeners, master naturalists and other local staff participated in the workshop that occurred during this reporting period. Over three-quarters of all participants who provided feedback stated that they will move forward with

placing a rain garden on their properties. These workshops support efforts to improve habitat and reduce stormwater-related pollution. www.novaregion.org/raingardens

Stormwater Retrofit Workshop (April 29-30, 2013)

NVRC partnered with Chesapeake Stormwater Network and the Northern Virginia Soil and Water Conservation District to offer a technical training opportunity on stormwater retrofitting. The Chesapeake Bay TMDL and MS4 permit requirements are increasing the demand for stormwater retrofitting as a tool for reducing urban runoff and pollution. Stormwater retrofitting has emerged as one of the solutions to mitigate the impact of un-managed runoff from developed areas as well as to provide better water quality treatment in older stormwater structures, such as detention ponds. The two-day workshop included a mix of lecture, discussion, small group exercises, and field activities. The focus of the training was on how to locate and prioritize retrofit opportunities in developed areas, through field investigations and concept drawings. Retrofitting streets, existing stormwater basins, public lands, and other topics were covered. The workshop was filled to capacity at 65 participants coming from all NVRC jurisdictions. <http://www.novaregion.org/index.aspx?NID=1255>

Fieldscope Tool Training: Citizen Water Quality and Litter Clean-up Monitoring in Chesapeake Bay Watershed (September 27, 2013)

NVRC partnered with the Alice Ferguson Foundation and National Geographic to host a FieldScope training on the Trash Free Potomac FieldScope and Chesapeake Bay Water Quality Programs. FieldScope is a web-based mapping, analysis, and collaboration tool designed to support geographic investigations and engage citizen scientists in investigations of real-world issues. The presentation was attended by 16 participants. <http://www.novaregion.org/index.aspx?nid=409>

NVRC staff also facilitated a meeting between the Friends of Dyke Marsh and the National Park Service. The purpose of the meeting was to evaluate options for invasive plant removal and funding the restoration of Dyke Marsh. The marsh is managed by the National Park Service and is the largest remaining freshwater tidal wetlands left in the northern Virginia area. Due to historic dredging, the marsh is rapidly eroding six to eight feet or 1.5 to 2 acres per year on average.

Additional Coordination

NVRC continues to support state and local groups engaged in watershed planning initiatives, tributary strategies, and other Chesapeake Bay-related efforts including the following projects:

- *Coastal Planning District Commissions Planning Meetings*
 - March 5, 2013
 - July 22, 2013
- *Virginia Coastal Policy Team Meetings*
 - August 19, 2013

NVRC staff participates in and supports the implementation of meetings and conferences for the following organizations that meet quarterly:

- *Potomac Watershed Roundtable*

A regional government – citizen forum whose purpose is to promote collaboration and cooperation on environmental concerns, especially water quality issues, among the various local governments and stakeholder interest groups residing within the Virginia side of the middle and lower Potomac River watershed. Meeting attended took place on July 12, 2013.
- *Northern Virginia Urban Forestry Roundtable*

Citizen members of tree boards and commissions, elected officials, urban foresters and arborists, landscape architects, builders, developers, and planners desiring to enhance and protect Virginia's urban forest. Meeting attended took place on May 23, 2013.

Benefits Accrued from Prior CZM Grants

The Technical Assistance grant from CZM has served as a foundation for the Northern Virginia Clean Water Partners project.

To reduce the impacts of stormwater pollution, the Northern Virginia Clean Water Partners aims to change human behaviors in our cities and neighborhoods through a public awareness and education campaign. The partnership is comprised of a multi-disciplinary group of local governments, drinking water and sanitation authorities, and individual businesses working together to address the common issues surrounding pollution prevention, stormwater management, and source water protection. “Only Rain Down the Storm Drain” is the motto of the partnership. By participating in the program, local jurisdictions have an unprecedented opportunity to pool local outreach dollars to collectively target pollution-causing behaviors for greater impact at less cost and effort. In addition to taking advantage of mass media, the strategy provides for community engagement and the production of outreach materials that can be customized and used by each locality again and again. The primary goal of the partnership is to reduce stormwater-related pollution from entering local waterways.

To meet this goal, the Partners work together to:

- Educate the region’s residents on simple ways to reduce pollution around their homes;
- Monitor changes in behavior through surveys and other data collection techniques; and
- Pilot new cost-effective opportunities for public outreach and education.

Members include stormwater program managers, Municipal Separate Storm Sewer System (MS4) Permit managers, communication directors, public information officers, water quality compliance specialists, and environmental planners. Membership is voluntary. However, the partnership provides a cost-effective means to meet mandatory state and federal stormwater requirements. By working together the partners are able to leverage their available funds to develop and place bi-lingual products with common messages and themes, thereby extending their individual reach.

The Annual Regional Stormwater Education Campaign was initiated in 2003 to assist localities in leveraging funds to achieve common goals regarding stormwater education and outreach and promote consistent messages for fertilizer and pesticide use, pet waste disposal, and motor oil recycling.

The 2013 campaign satisfied MS4 (Municipal Separate Storm Sewer System) Phase I and Phase II permit requirements for stormwater education and documenting changes in behavior.

For more information visit www.onlyrain.org

Funds Leveraged since 2007: \$584,225

Appendix A

Northern Virginia Clean Water Partners Meeting Summaries Summary of Regional Stormwater Education Campaign

Northern Virginia Clean Water Partners

SPRING 2013 PLANNING MEETING

Wednesday, March 13, 2013

1:00 – 3:00 p.m.

Room 450.4

Fairfax County Government Center
12000 Government Center Parkway 22035

The purpose of this meeting is to discuss and plan for the 2013 campaign, website and promotional items

AGENDA

1. **1:00 – 1:15** **Welcome & Introductions**

2. **1:15 - 2:00** **2013 Campaign**
 - a. Cable TV ads
 - b. Banner ads
 - c. Survey
 - d. Only Rain Website

3. **2:00 – 2:15** **MS4 Public Outreach Requirements**

4. **2:15 – 2:30** **Promotional Items**
 - a. Dog waste bag dispensers
 - b. Dog bandanas

5. **2:30 – 2:45** **Updates/Other Opportunities**
 - a. Return on Investment Study

6. **2:45 – 3:00** **Next Steps**

Northern Virginia Clean Water Partners

PLANNING MEETING

March 13, 2013

1:00 – 3:00 pm

In Attendance:

Chris Stone	Loudoun County	chris.stone@loudoun.gov
Jeremy Hassan	City of Alexandria	Jeremy.hassan@alexandria.gov
Jen McDonnell	Arlington County	jmcdonnell@arlingtonva.us
Paul Santay	Stafford County	psantay@co.stafford.va.us
Douglas Day	Town of Herndon	doug.day@herndon-va.gov
Richard West	Town of Dumfries	rwest@dumfriesva.gov
David Jensen	Doody Calls	djensen@doodycalls.com
Aileen Winquist	Arlington County	awinquist@arlingtonva.us
Irene Haske	Fairfax County	Irene.haske@fairfaxcounty.gov
Aimee Vosper	NVRC	avosper@novaregion.org
Corey Miles	NVRC	cmiles@novaregion.org
Jeanne Bailey	Fairfax Water	jbailey@fairfaxwater.org

The purpose of this meeting was to discuss and plan for the 2013 campaign elements and review the schedule for the remainder of the fiscal year.

Partner News:

- ♦ Laura Grape has left NVRC. Corey Miles is the new Clean Water Partners lead for NVRC.
- ♦ Aileen Winquist will be on maternity leave until July.

2013 Campaign Plan

Public Service Announcements

The group has decided to air Public Service Advertisements on Comcast this year for education and outreach. Four rubber ducky themed, anti-pollution ads and one pet waste cleanup ad were selected. Clean Water Partners obtained permission from the developers of these ads to use them for our campaign in Northern Virginia. Aileen and Jen provided a background and history of the rubber duck ads. The rubber ducky has been a long-time symbol of non-point source pollution. These ads with the rubber ducky have been successfully used in several locations across the country. The Rubber Ducky is an easily recognized visual message that is scalable. The “ducky” could be featured in appearances on bus ads, metro ads, websites etc. in each of the jurisdictions making it a good regional and cohesive message among all the partners. The message has been evaluated and deemed successful by other clean water education groups.

Jen has been working with a production consultant to get the ads ready for Comcast to air. At this point, two ads have been finalized. It won't take long to get the other three ads ready. Once production is complete, Comcast can begin airing the ads almost immediately.

Corey talked about how the Comcast ads will satisfy the individual MS4 permit requirements. The regulations state that permittees may fulfill all or part of their education and outreach requirements through regional outreach programs involving two or more MS4 localities. Permittees must annually conduct sufficient education and outreach activities designed to reach an equivalent 20% of each high-priority issue target audience. In Northern Virginia, that is approximately 440,000 people. By pooling together individual resources in the region through the Clean Water Partners we can more effectively reach the target audience and fulfill the public education requirements of the MS4 permits.

Survey

An online survey will be used again this year to evaluate the effectiveness of the campaign. Aileen and Jen will edit the survey questions to reflect this year's campaign. Corey will get the survey consultant under contract by July so that we will have the results and a final report ready for inclusion in the September Annual MS4 Reports.

Website and Other Promotional Tools

The group discussed the Only Rain Website. It needs to be updated with current campaign information. Some ideas to update that were discussed are:

- Regularly post local upcoming events on the events page. Keep it up to date.
- Link to individual jurisdictions stormwater websites.
- Post the radio ads and the tv ads.
- Post more basic information about stormwater and the impact it has on local waterways.
- Post new pictures. Take off the picture of the kid swimming because it looks like the Bay.
- Post the commercial BMP fact sheets that Arlington County developed.
- Post the PSAs that Fairfax County developed.
- Simplify the design.

Some other ideas to increase our presence on the web were:

- Create a Facebook page featuring Duckman
- Create a YouTube channel to post the PSAs (there might be an issue with posting them on YouTube because we were not the originators and we may need permission from the original producers)

The group also discussed the other promotional tools that we have available for the partners to use. These include the Commercial BMP fact sheets and the pet waste postcard.

Promotional Items

The group discussed ordering promotional items for this year's campaign. Dogwaste bag dispensers and doggie bandanas were identified as preferred items. Aileen received several quotes to order up to 10,000 dogwaste bag dispensers with our logo printed on them. The price ranged from \$1.30-\$1.70 per dispenser. David Jensen said Doody Calls recently ordered some directly from China at a price of \$0.78 per dispenser. He offered to coordinate an order for us through his supplier if we would place

the Doody Calls logo on the dispenser as well. The group agreed that this is a good idea and would like to move forward with the order.

Invoices

Aimee will follow up with those partners who would like to receive another invoice.

Return on Investment Study

Corey will be brainstorming ideas and developing a Scope of Work to conduct a Return on Investment Study to compare the effectiveness of the different types of media that have been used in the campaign to date and calculate the benefits of the campaign in reducing nutrients and bacteria in local and regionally-significant waterbodies. If possible, it would be valuable to answer these questions:

- ◆ How much nitrogen, phosphorus, and bacteria were prevented from entering waterways due to the efforts of the campaign?
- ◆ How much did it cost the campaign to get people to change their behavior and prevent these pollutants from entering waterways?
- ◆ How does this compare to the cost of cleaning up an equivalent amount of those pollutants in waterways?
- ◆ How does this compare to the ecological and economic damage caused by allowing those pollutants to continue to enter waterways?
- ◆ Can this be somehow tied into TMDL requirements?

Action Items:

Cable TV ads

- ◆ Jen McDonnell will continue to work with the producers to get the PSAs ready for airing.

Survey

- ◆ Jen and Aileen to edit survey questions for this year's campaign
 - More detailed questions regarding fertilizer use.

PSA Schedule

- ◆ Run ads on Comcast beginning April 1

Promotional Materials

- ◆ Dave Jensen will coordinate with Corey to pursue the purchase of doggie bandanas and pet waste bag dispensers.

Contributions

- ◆ Aimee will directly invoice those jurisdictions that would like another invoice, as soon as possible.

Websites

- ♦ All partners will review the Only Rain website and write up some suggestions for updating it. Please send all comments and edit suggestions to Corey. Also send Corey any links that you would like to have posted on there.

Return on Investment Study

- ♦ Aileen to forward Corey some links to Nancy Lee, a ROI consultant based out of WA

Next Meeting

- ♦ Corey to schedule next planning meeting for June or July.

Northern Virginia Clean Water Partners

Conference Call

May 30, 2013

2:00 – 3:00 pm

In Attendance:

Chris Stone	Loudoun County	chris.stone@loudoun.gov
Jen McDonnell	Arlington County	jmcdonnell@arlingtonva.us
Paul Santay	Stafford County	psantay@co.stafford.va.us
Douglas Day	Town of Herndon	doug.day@herndon-va.gov
Richard West	Town of Dumfries	rwest@dumfriesva.gov
Michael Peterson	Loudoun County Water	mpeterson@loudounwater.org
Corey Miles	NVRC	cmiles@novaregion.org

The purpose of this meeting was to discuss the process by which local businesses might become part of the Northern Virginia Clean Water Partners, updates to the website and the status of the dog waste bag dispenser order.

Updates

The PSA's have been running on Comcast channels since April 1, 2013. There is also a rubber ducky banner ad that is up on the Comcast website. The PSA's are also posted on the Only Rain website.

Private Sector Partners

Corey explained that she has recently been approached by a few local businesses who are interested in becoming affiliated with the Only Rain Down the Drain Campaign. Corey wanted to get everyone's opinion on how to best manage the potential of involving additional local businesses and environmental advocacy groups in the region. One of the businesses conducts DNA testing of dog waste on the ground in an HOA to identify the responsible pet owners. The group discussed setting up some guidelines for new members from the private sector and thought a simple MOU might be the best way to ensure new members agree with the Partner's mission and understand that being affiliated with the group does not constitute an endorsement. That way we have some agreed upon language that guides our public-private partnerships as we continue to expand. Corey will draft the MOU language and circulate it for everyone to comment on. Corey will also delay her response to these businesses until we have finalized the MOU. George Mason University has also expressed an interest in becoming a partner since they have an MS4 permit.

Updating the website

Corey informed the group that she has renewed the domain name for another year. She has also posted the PSA's on the Only Rain website. Other improvements to the website were discussed. The group decided that the individual jurisdiction links in the drop-down menus at the top should be removed and instead those links should just go to general information about that topic. Instead, the sponsor links on the right should link to the individual jurisdictions stormwater management website or pages. Everyone agreed to send Corey their most current website addresses so that she can update the 'Sponsor' links.

Status of dog waste bag dispenser order

Corey explained that she has been coordinating with Dave Jensen from Doody Calls on designing and ordering the dog waste bag dispensers from a vendor that Doody Calls does business with in China. The order has not been placed yet because communicating directly with the vendor in China is slow. The quote that Dave Jensen has received is \$0.82 per item. Since we are ordering 10,000 this is a significant savings over local vendors who quoted \$1.30-\$1.70 per dispenser. The order will be ready to be placed this week (June 3-7) and will take about 30 days to arrive. Since this is much later than originally anticipated, Corey asked if the Partners would instead like to place the order with a local vendor now who could deliver the bag dispensers in about 2-3 weeks or stick with the original plan to order through Doody Call's vendor and maybe just place a small order with a local vendor to have some of the items sooner. Jen from Arlington County indicated that she has several events coming up where she would like to hand out the dispensers so she would like to place a small order placed now with a local vendor. Corey will check the budget to see if it can support the two orders.

Survey

An online survey will be used again this year to evaluate the effectiveness of the campaign. Corey explained that we are still on schedule to get the survey consultant under contract by July so that we will have the results and an annual report ready for inclusion in the September Annual MS4 Reports. Jen is also working with Comcast to get the viewership statistics for inclusion in the annual report.

Next Meeting

- ♦ Corey to schedule next planning meeting for August

Northern Virginia Clean Water Partners

SUMMER 2013 CAMPAIGN RECAP MEETING

Tuesday, August 20, 2013

9:00 a.m.– 11:00 a.m.

Main Conference Room

Northern Virginia Regional Commission

3060 Williams Drive – Suite 510

Fairfax, VA 22031

The purpose of this meeting is to review the results of the 2013 campaign and survey and develop a general plan for 2014

AGENDA

- 1. Welcome & Introductions**
- 2. 2013 Campaign Review**
 - a. Cable TV ads
 - b. Banner ads
 - c. Survey
 - d. Only Rain Website
- 3. MS4 Public Outreach Requirements**
- 4. Promotional Items**
 - a. Dog waste bag dispensers
- 5. 2014 Campaign Plan**
 - a. 3 Priority Issues
- 6. Next Steps**

Appendix B

Northern Virginia Clean Water Partners Summary of Regional Stormwater Education Campaign



WORKING TOGETHER FOR HEALTHY STREAMS AND RIVERS

Northern Virginia Clean Water Partners

2013 Summary

About the Partnership

Polluted stormwater runoff is the number one cause of poor water quality in streams and rivers in Northern Virginia. As stormwater runs off city streets, suburban yards and parking lots, it picks up pesticides and fertilizer from lawns, bacteria from pet waste, as well as petroleum and oil from driveways and parking lots. Don't forget about the sediment from construction sites or the litter and cigarette butts from the sidewalk.

To reduce the impacts of stormwater pollution, the Northern Virginia Clean Water Partners aims to change human behaviors in our cities and neighborhoods through a public awareness and education campaign.

The Northern Virginia Clean Water Partners is comprised of a multi-disciplinary group of local governments, drinking water and sanitation authorities, and individual businesses working together to address the common issues surrounding pollution prevention, stormwater management, and source water protection. "Only Rain Down the Storm Drain" is the motto of the partnership.

The primary goal of the partnership is to reduce stormwater-related pollution from entering local waterways.

To meet this goal, the Partners work together to:

-  Educate the region's residents on simple ways to reduce pollution around their homes;
-  Monitor changes in behavior through surveys and other data collection techniques; and
-  Pilot new cost-effective opportunities for public outreach and education.

Members include stormwater program managers, Municipal Separate Storm Sewer System (MS₄) Permit managers, communication directors, public information officers, water quality compliance specialists, and environmental planners.

Membership is voluntary. However, the partnership provides a cost-effective means to meet mandatory state and federal stormwater requirements. By working together the partners are able to leverage their available funds to develop and place bilingual products with common messages and

themes, thereby extending their individual reach.

Regional Stormwater Education Campaign

The Annual Regional Stormwater Education Campaign was initiated in 2003 to assist localities in leveraging funds to achieve common goals regarding stormwater education and outreach and promote consistent messages for fertilizer and pesticide use, pet waste disposal, and motor oil recycling.

The 2013 campaign satisfied MS₄ (Municipal Separate Storm Sewer System) Phase I and Phase II permit requirements for stormwater education and documenting changes in behavior.

For more information visit www.onlyrain.org



Partners

The Northern Virginia Clean Water Partners is open to any municipal government in and around Northern Virginia. A full list of the organizations participating in the 2013 campaign year is provided on the back of this summary.



2013 Northern Virginia Clean Water Partners

Fairfax County | Arlington County | Loudoun County | Stafford County | Fairfax Water | City of Alexandria | Loudoun Water | Alexandria Sanitation Authority | City of Fairfax | Town of Herndon | City of Falls Church | Town of Leesburg | Town of Vienna | Town of Dumfries | Doody Calls | Northern Virginia Regional Commission | Virginia Coastal Zone Management Program | George Mason University |



2013 Campaign Overview

In 2013, the Northern Virginia Clean Water Partners used television, print, internet advertising and the Only Rain Down the Storm Drain website to distribute messages linked to specific stormwater problems, such as proper pet waste disposal, over fertilization of lawns and gardens and proper disposal of motor oil. In addition to the multi-channel media campaign, educational events hosted throughout the Northern Virginia region also raised awareness and encouraged positive behavior change in residents. The television and internet ads featured the well known national symbol of non-point source pollution; the rubber ducky.



Throughout the campaign year, the Partners made the following efforts to educate the public and promote awareness of stormwater pollution:

- 🦆 From April 2013 through August 2013, four commercials featuring messages on the importance of picking up pet waste and general household stormwater pollution reduction measures aired on twelve cable TV channels, including three Spanish speaking channels a total of 1530 times.
- 🦆 These TV ads reached approximately 3,768,412 Northern Virginia residents and resulted in over 400 visits to the www.onlyrain.org website
- 🦆 The campaign also featured banner ads on the Comcast website that promote the same messages as the cable TV ads.
- 🦆 An online survey of 500 Northern Virginia residents helped determine the effectiveness of the ads, reveal any changes in behavior, and aid in directing the future efforts of the campaign.



3,768,412	Cable TV Advertising Impressions*
2000	Dog waste bag dispensers distributed
1,530	Number of times the ads aired from April – July
427,872	Number of banner ads aired
500	Online Annual Survey Responses



Main cause of water pollution...

For the third year in a row, the majority of survey respondents stated fertilizers and pesticides as the main cause of pollution in the Potomac River and Chesapeake Bay.



Where stormwater goes...

Over 90 percent of Northern Virginia residents surveyed stated that stormwater goes to the Potomac River, the Chesapeake Bay, or to local streams and rivers.



97%

Stated the actions of individuals are important in protecting water quality in local streams, the Potomac River, and the Chesapeake Bay is important.



75%

Would be more likely to take actions to reduce the amounts of pollutants they personally put into storm drains, after learning that polluted water runoff is the number one cause of local water pollution.



95%

Believe it is important for local governments to spend more money on protecting water quality.

Annual Survey Highlights

To assist in determining the effectiveness of the campaign at increasing awareness and changing behaviors, after each campaign year, the Partners conduct an online annual survey of 500 Northern Virginia residents.

Findings in the 2013 survey include:

- 20 percent of the respondents recalled hearing or seeing advertisements on the internet or on TV about reducing water pollution.
- Of those who recalled the ads, three percent state they now pick up their pet waste more often, four percent state that they are more careful with motor oil, and 13 percent state they fertilize fewer times per year.
- The number of respondents choosing litter or industrial pollution as the number one source of pollution has decreased over the past three years.
- 43 percent of respondents knew they live in the Potomac River watershed, up from 38 percent in 2011.
- Interestingly, almost 80 percent of people surveyed reported that they always pick up after their pet, as compared with 30 percent in previous surveys.
- When shown the Only Rain Down the Storm Drain logo, over half of the respondents recognized the logo.
- 87 percent of respondents were familiar with rain barrels, and 69 percent stated they already have a rain barrel or are interested in getting one
- 36 percent of respondents were familiar with rain gardens, with 62 percent already having a rain garden or interested in installing one.
- More than half of the respondents (54%) prefer to receive information from online sources. Newspaper (19%) and television (18%) were the next two information sources.

Understanding Behaviors

In addition to capturing responses to questions regarding the effectiveness of the campaign, this year's survey honed in on the current behaviors of Northern Virginia residents as they relate to pet waste management, lawn care, and motor oil disposal. Responses to these questions support the development of future messages and targeted promotion.

The most important reason dog owners are motivated to pick up their pet's waste is because "It's what good neighbors do". Approximately one-in-eight (14%) selected "It causes water pollution" as the most important reason to pick up. 70 percent believe that dog waste disposal stations would be useful.

A third of the lawn and garden owners fertilize their lawns two or more times per year; an equal number never fertilize their lawns. Among those who fertilize once a year, the same percentage reported doing so in the spring as in the fall. This suggests that there is room to educate more residents of Northern Virginia that fertilizing in the fall is better for local waterways than fertilizing in the spring.

About half of the respondents reported using an herbicide to treat weeds in their lawn or garden.

To better understand behavior related to the application of fertilizer, three new questions about fertilizer were added to the 2013 survey. Among those who fertilize their lawn, 73 percent have never had or were not sure if their soil had been tested for fertility or pH and one third reported using a slow release N fertilizer. When asked where they get information to decide when and how much fertilizer to apply the top three most commonly selected responses were "Follow directions on the bag" (52%), followed by "Lawn service conducts the applications" (27%), and then "Follow soil test results / recommendations" (7%).

The majority of respondents take their vehicle to a service station to change their oil (85%) or take used oil to a gas station or hazmat facility for recycling (11%). Only one percent of Northern Virginians store used motor oil in their garage, place it in the trash or dump it down the storm drain.

Only Rain
Down the
Drain

www.onlyrain.org

2012 Northern Virginia Clean Water Partners

Fairfax County | Arlington County | Loudoun County | Stafford County | Fairfax Water |
City of Alexandria | Loudoun Water | Alexandria Sanitation Authority | City of Fairfax |
Town of Herndon | City of Falls Church | Town of Leesburg | Town of Vienna |
Town of Dumfries | Doody Calls | Northern Virginia Regional Commission | George Mason
University | Virginia Coastal Zone Management Program

Summary prepared by NVRC on behalf of the Partners

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Appendix C

Regional Stormwater Education Campaign Survey Results

Northern Virginia Regional Commission 2013 Only Rain NVRC Survey

Summary Report of Findings

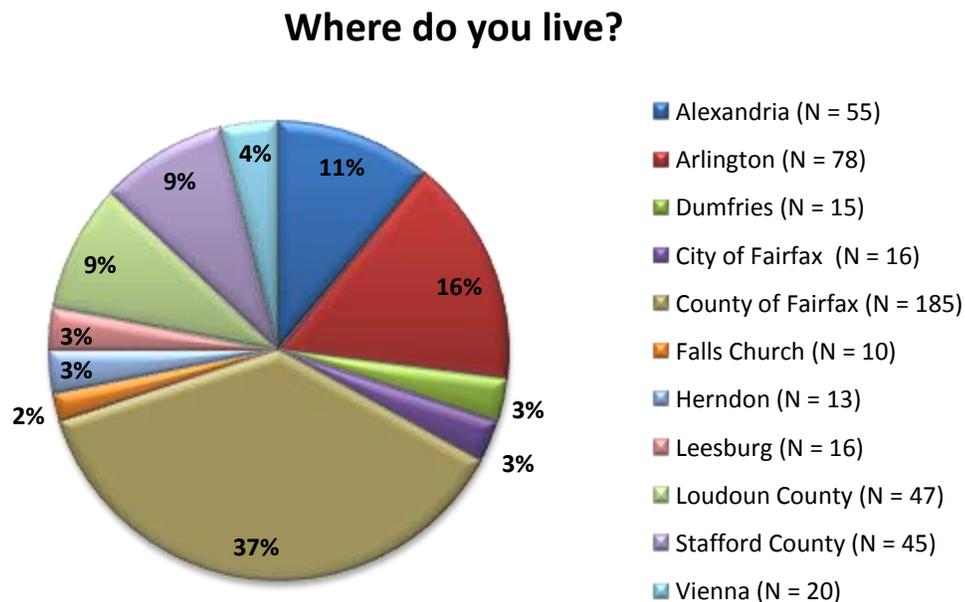
8/13/2013

Amplitude Research, Inc.

Study Methodology & Respondent Characteristics

The Northern Virginia Regional Commission (NVRC) hired Amplitude Research, Inc. to conduct a survey of residents of northern Virginia to measure beliefs and attitudes related to pollution of the Potomac River and Chesapeake Bay.

Amplitude Research administered the 2013 study online between July 29 and August 2, 2013. In the end, 500 surveys were completed by web panelists who live in one of the areas of Virginia shown in the chart below. (In the legend, "N =" indicates the number of respondents in each city, county, or town.)



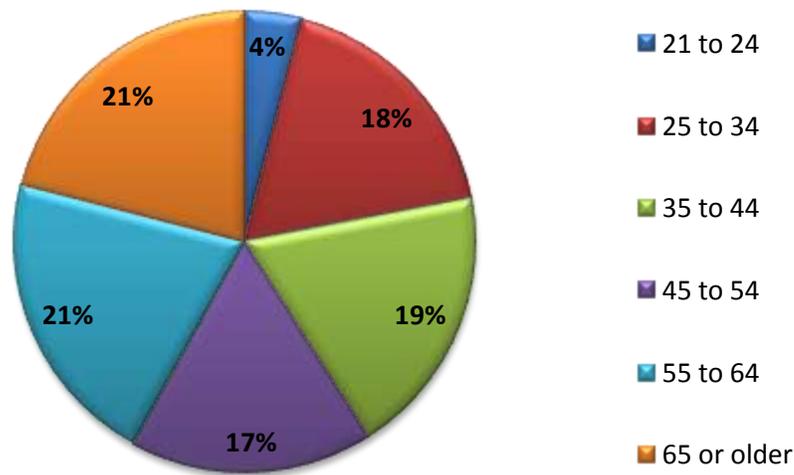
Later in this report, the results for some of the questions are “broken out” by area, in addition to presenting the results for the total sample. However, the specific areas listed above were grouped together into larger areas so that each larger area used for analysis had a reasonable number of respondents.

Residents from Leesburg and Loudoun County were combined into a single category labeled “**Leesburg / Loudoun**,” since the town of Leesburg lies within Loudoun County. Another category used for analysis was “**Dumfries / Stafford**,” since Dumfries lies just north of Stafford County. Although Dumfries is not located within Stafford County, it is closer to Stafford than to the other counties covered in the survey. (There were too few survey respondents living in Dumfries to examine the results for Dumfries separately.) The City of Fairfax, Falls Church, Herndon, and Vienna were combined with Fairfax County to create the category “**Fairfax Inclusive**,” since these cities and towns lie within the Fairfax County area. Although the City of Fairfax and City of Falls Church are distinct areas, their location falls within the larger area circumscribed by Fairfax County.

Alexandria and Arlington each had more than 50 respondents and therefore each of these areas can be examined separately.

The minimum age to participate in the survey was 21. As shown in the chart below, each age group was well represented in the survey. Although a small proportion were age 21 to 24, this category has fewer years than the other categories shown. For analysis purposes later in this report, the categories “21 to 24” and “25 to 34” were combined into the broader category of “21 to 34.”

Which category includes your age?

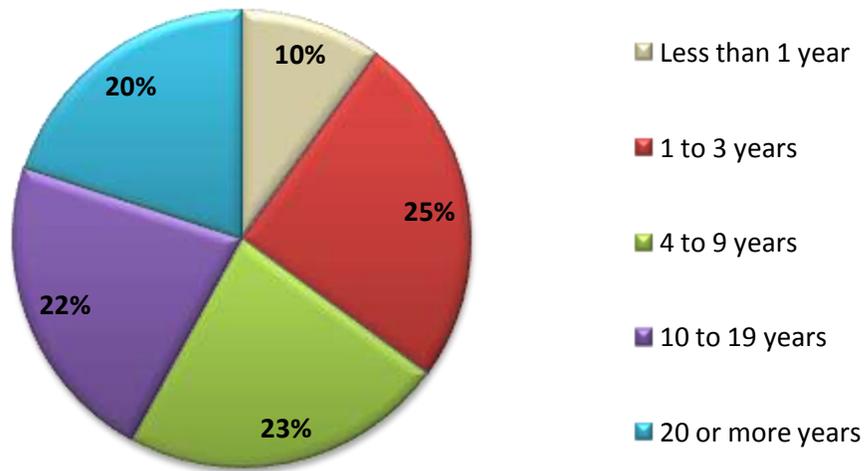


The survey respondents were split between males (47%) and females (53%), while approximately three-fourths (76%) indicated that they own their residence, and 24% reported renting.

The chart on the next page shows how long respondents have lived in their current residence. Some had been living in their current homes for a fairly short period of time (e.g., less than one year – 10%, one to three years – 25%).

A survey was conducted in 2012 and 2011 that included many of the same questions, targeted the same geographic area, and had a similar demographic mix as in this 2013 study. Later in this report, comparisons between years are shown where appropriate. In previous years, the title used for the study was “NVRC Resident Survey.” This year, the study title is “Only Rain NVRC Survey,” since a new question was added this year about awareness of the “Only Rain” logo.

For how many years have you lived in your current residence?



Sampling Variability

While examining the survey findings, it is helpful to keep in mind that the results are based on a sample and are therefore subject to sampling variability, often referred to as "sampling error." The degree of uncertainty for an estimate (e.g., a particular percentage from the survey) arising from sampling variability is represented through the use of a margin of error. A sampling margin of error at the "95% confidence level" can be interpreted as providing a 95% probability that the interval created by the estimate plus and minus the margin of error contains the true value. (The "true" value would be known only if everyone in the target market was surveyed rather than just a sample.) In addition to sampling variability, results may be subject to various sources of non-sampling error (e.g., non-response bias, respondent misinterpretation of question wording, etc.). The degree of non-sampling error is not represented by the sampling margin of error and is usually unknown.

For a "sample size" of 500 survey respondents, the "maximum" margin of sampling error for percentages from the survey is +/- 4.4 percentage points at the 95% confidence level. Here, "maximum" refers to the margin of error being highest for proportions from the survey near 50%, while the margin of error declines as percentages get further from 50%. For example, given the same sample size of 500 respondents, a result from the survey near 10% or 90% would have a margin of sampling error of +/- 2.6 percentage points.

The margin of sampling error increases as the sample size decreases. Thus, when a question is asked of only a subset of the total sample, the associated margin of sampling error is larger than that quoted above. Also, even if a question is asked of all respondents, when examining results for a particular subgroup, the margin of sampling error depends on the number of respondents in that subgroup. For example, the "maximum" margin of sampling error would be +/- 9.8 percentage points at the "95% confidence level" when based on a subgroup of 100 survey respondents. In some parts of this report, results are shown for subgroups that include a fairly small number of respondents, and caution is recommended when thinking about these findings.

This suggests that results for different subgroups can be considered "similar" when the differences are small (i.e., small enough to be within the range of sampling error).

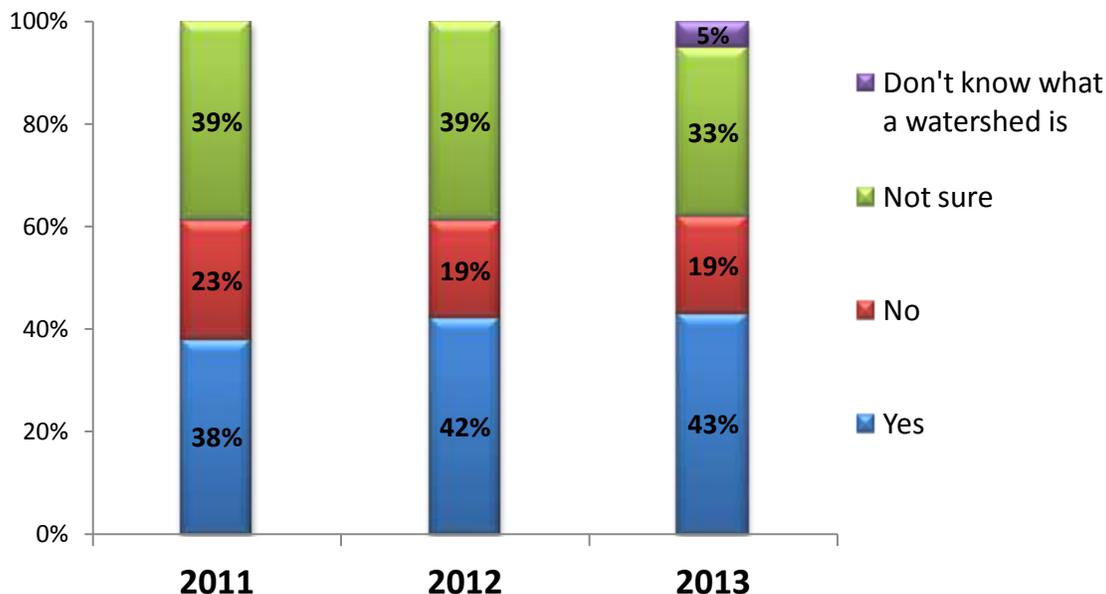
Results from different years can be considered similar when differences between the years are small. If the difference between two years is referred to as "statistically significant" in this report, this essentially means that the difference in the survey results is large enough to be highly confident (i.e., at the "95% confidence level") that there has been a real change. That is, a "statistically significant" difference in the survey results from one year to the next is larger than what would usually be expected from sampling error alone.

In this report, when a result from 2013 is described as "significantly" higher (or lower) than the result from a previous year, this means that the difference between these years is "statistically significant." Also, when one subgroup is described as "significantly more likely" (or "significantly less likely") than another subgroup to answer in a particular way, this is based on a statistically significant difference.

Potomac River Watershed

- Early in the survey, respondents were asked if they lived within the "Potomac River Watershed." As shown in the chart below, slightly more than four-in-ten in 2013 (43%) and 2012 (42%) indicated that they believed that they did in fact live within the Potomac River Watershed. The corresponding 2011 result was slightly lower (38%), but the change from 2011 to 2013 was not large enough to be statistically significant.

Do you live within the Potomac River Watershed?



- Interestingly, nearly four-in-ten each year were not sure if they lived within the Potomac River Watershed or did not know what a watershed is. (However, the response option "I do not know what a watershed is" was first added in the 2013 survey.)
- When breaking the results out by area, as shown in the table below, respondents living in Alexandria and Arlington were significantly more likely than others to say they live in the Potomac River Watershed.

Live Within Potomac River Watershed	Alexandria	Arlington	Fairfax Inclusive	Leesburg / Loudoun	Dumfries / Stafford
Yes	53%	53%	39%	43%	35%
No	14%	9%	23%	21%	18%
Not sure	29%	34%	33%	33%	37%
Don't know what a watershed is	4%	4%	5%	3%	10%

N = number of respondents 55 78 244 63 60

- As shown in the next table, those who have lived in their residence for 10 or more years were significantly more likely than others to say they live in the Potomac River Watershed.

Live Within Potomac River Watershed	Have Lived in Current Residence < 1 Year	1 to 3 Years	4 to 9 Years	10 to 19 Years	20 or More Years
Yes	39%	33%	28%	58%	57%
No	22%	19%	25%	15%	15%
Not sure	35%	41%	39%	25%	25%
Don't know what a watershed is	4%	7%	8%	2%	3%
<i>N</i> = number of respondents	49	123	117	111	100

- Generally, younger residents were significantly less likely than older residents to say they live in the Potomac River Watershed, except that a higher proportion of respondents age 55 to 64 held this view compared to those age 65 or older (58% vs. 48%, respectively).

Live Within Potomac River Watershed	Age 21 to 34	35 to 44	45 to 54	55 to 64	65 +
Yes	28%	38%	42%	58%	48%
No	19%	21%	21%	15%	19%
Not sure	43%	36%	30%	25%	32%
Don't know what a watershed is	10%	5%	7%	2%	1%
<i>N</i> = number of respondents	111	95	86	105	103

- When examining the results by other subgroups, males were significantly more likely than females and homeowners were significantly more likely than renters to say they live in the Potomac River Watershed.

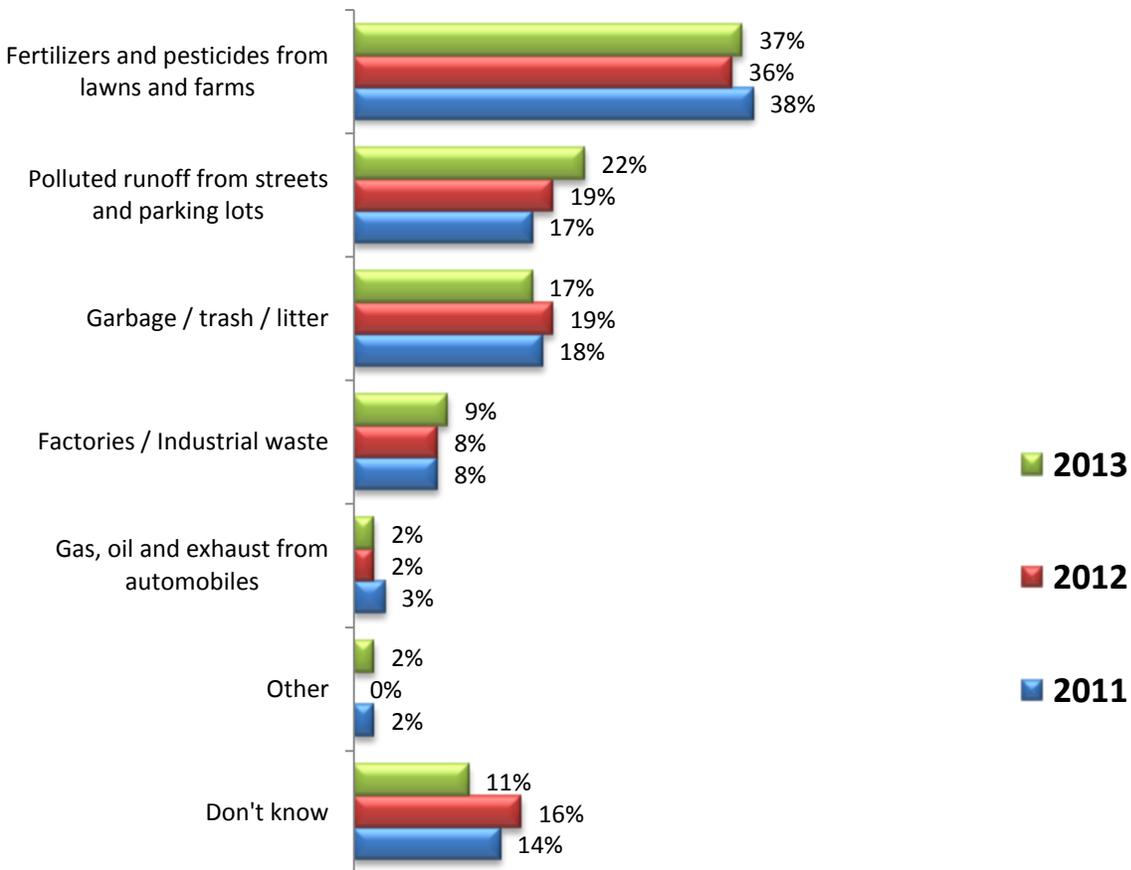
Live Within Potomac River Watershed	Male	Female	Homeowners	Renters
Yes	50%	36%	46%	33%
No	18%	20%	19%	20%
Not sure	28%	38%	32%	37%

Don't know what a watershed is	4%	6%	3%	10%
<i>N = number of respondents</i>	234	266	380	120

Beliefs About Local Water Pollution

- When asked what they thought was the "Number one" cause of pollution in local streams, the Potomac River, and the Chesapeake Bay, the most frequently selected response option was "Fertilizers and pesticides from lawns and farms." As shown in the chart below, this was selected by 37% of the respondents in 2013, 36% in 2012, and 38% in 2011.

What do you think is the number one cause of pollution in local streams, the Potomac River, and the Chesapeake Bay?



- The second most often selected cause in 2013 was "Polluted runoff from streets and parking lots." The difference between the proportions selecting this cause in 2013 vs. 2011 was statistically significant (22% vs. 17%, respectively).

- Tables on the next two pages show the 2013 results broken out by various subgroups of the total sample for the question above. For example, older respondents, those who have lived in their residence for a longer period of time, males, and homeowners were significantly more likely than others to select fertilizers and pesticides from lawns and farms.

Believed #1 Cause of Local Water Pollution	Alexandria	Arlington	Fairfax Inclusive	Leesburg / Loudoun	Dumfries / Stafford
Fertilizers and pesticides from lawns and farms	38%	26%	40%	43%	38%
Polluted runoff from streets and parking lots	31%	31%	21%	17%	13%
Garbage / trash / litter	16%	18%	16%	8%	25%
Factories / Industrial waste	4%	11%	9%	14%	7%
Gas, oil and exhaust from automobiles	0%	5%	1%	3%	0%
Other	0%	1%	2%	2%	7%
Don't know / not sure	11%	8%	11%	13%	10%
<i>N = number of respondents</i>	55	78	244	63	60

Believed #1 Cause of Local Water Pollution	Have Lived in Current Residence < 1 Year	1 to 3 Years	4 to 9 Years	10 to 19 Years	20 or More Years
Fertilizers and pesticides from lawns and farms	16%	27%	28%	49%	59%
Polluted runoff from streets and parking lots	37%	24%	19%	20%	19%
Garbage / trash / litter	10%	18%	26%	14%	10%
Factories / Industrial waste	10%	15%	11%	6%	2%
Gas, oil and exhaust from automobiles	6%	2%	1%	2%	0%
Other	6%	2%	2%	3%	0%
Don't know / not sure	15%	12%	13%	6%	10%
<i>N = number of respondents</i>	49	123	117	111	100

**Believed #1 Cause
of Local Water
Pollution**

	Age 21 to 34	35 to 44	45 to 54	55 to 64	65 +
Fertilizers and pesticides from lawns and farms	17%	26%	34%	54%	56%
Polluted runoff from streets and parking lots	26%	28%	20%	17%	19%
Garbage / trash / litter	23%	20%	21%	9%	11%
Factories / Industrial waste	15%	7%	12%	5%	6%
Gas, oil and exhaust from automobiles	4%	3%	2%	0%	0%
Other	3%	3%	1%	3%	1%
Don't know / not sure	12%	13%	10%	12%	7%

N = number of respondents 111 95 86 105 103

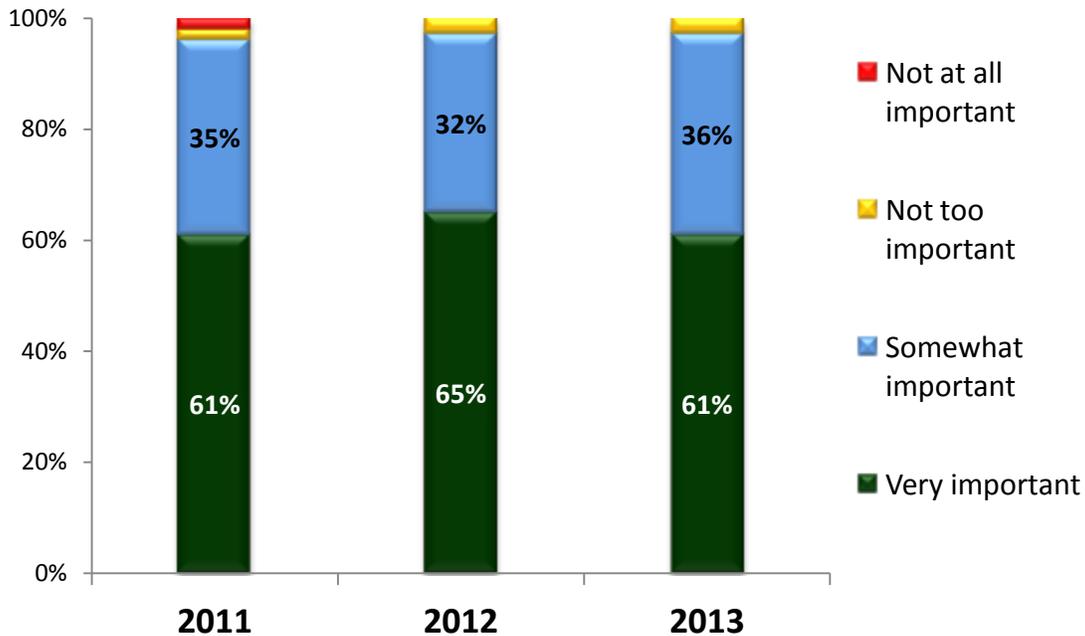
**Believed #1 Cause
of Local Water
Pollution**

	Male	Female	Homeowners	Renters
Fertilizers and pesticides from lawns and farms	47%	29%	44%	19%
Polluted runoff from streets and parking lots	23%	21%	20%	27%
Garbage / trash / litter	13%	20%	17%	16%
Factories / Industrial waste	8%	10%	6%	18%
Gas, oil and exhaust from automobiles	1%	3%	1%	4%
Other	2%	2%	2%	3%
Don't know / not sure	6%	15%	10%	13%

N = number of respondents 234 266 380 120

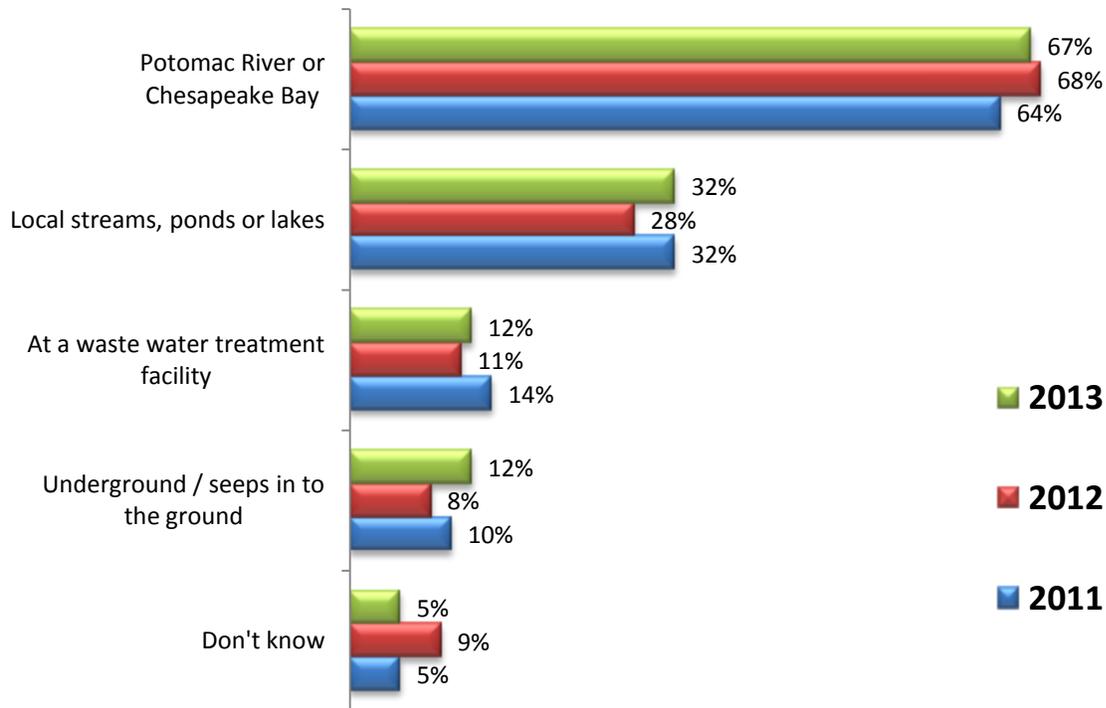
- Most gave a rating of *at least* “Somewhat important” for the importance of actions of individuals in protecting local water quality. As shown below, more than half gave a rating of “Very important” in 2013 (61%), 2012 (65%), and 2011 (61%).

How important do you feel the actions of individuals are in protecting water quality in local streams, the Potomac River and the Chesapeake Bay?



- The majority among each of the subgroups examined for previous questions gave a rating of “Very important” for the question above, and most of those who did not rate “Very important” gave a “Somewhat important” rating.
- In another question designed to assess beliefs about local water pollution, as shown on the next page, two-thirds (67%) in 2013 correctly indicated that stormwater ultimately ends up in the Potomac River or Chesapeake Bay. This was similar to the corresponding 2012 result (68%) and 2011 result (64%).
- However, this leaves approximately one-third who did not select the Potomac River or Chesapeake Bay. Interestingly, the respondent was allowed to select multiple options for this question. For example, those who selected “Local streams, ponds or lakes” could have also selected “Potomac River or Chesapeake Bay” if they wanted to. Also, as part of the question, respondents were told that stormwater is rain or other water that flows into the street, along the gutter and into the storm drain.

To the best of your knowledge, where do you believe stormwater eventually ends up?



- The table below shows that "Potomac River or Chesapeake Bay" was selected more often than other options among respondents in each area, especially among residents of Alexandria and Arlington.

<i>Believed Destination of Stormwater</i>	Alexandria	Arlington	Fairfax Inclusive	Leesburg / Loudoun	Dumfries / Stafford
Potomac River or Chesapeake Bay	75%	74%	66%	57%	65%
Local streams, ponds or lakes	42%	28%	30%	40%	28%
At a waste water treatment facility	2%	13%	15%	8%	12%
Underground / seeps in to the ground	15%	10%	10%	14%	15%
Don't know	2%	3%	6%	6%	3%
<i>N = number of respondents</i>	55	78	244	63	60

- The majority of those in other subgroups selected "Potomac River or Chesapeake Bay," as shown in the following tables.

<i>Believed Destination of Stormwater</i>	Have Lived in Current Residence < 1 Year	1 to 3 Years	4 to 9 Years	10 to 19 Years	20 or More Years
Potomac River or Chesapeake Bay	63%	61%	61%	74%	76%
Local streams, ponds or lakes	53%	38%	32%	25%	21%
At a waste water treatment facility	24%	14%	14%	9%	5%
Underground / seeps in to the ground	24%	11%	17%	8%	4%
Don't know	4%	8%	6%	2%	3%
<i>N = number of respondents</i>	49	123	117	111	100

<i>Believed Destination of Stormwater</i>	Age 21 to 34	35 to 44	45 to 54	55 to 64	65 +
Potomac River or Chesapeake Bay	55%	62%	65%	75%	78%
Local streams, ponds or lakes	52%	36%	31%	21%	18%
At a waste water treatment facility	21%	12%	13%	9%	6%
Underground / seeps in to the ground	27%	9%	13%	6%	3%
Don't know	8%	7%	0%	4%	4%
<i>N = number of respondents</i>	111	95	86	105	103

- However, respondents under age 35 were significantly more likely than older respondents to select "Local streams, ponds, or lakes" as the ultimate destination for stormwater.
- As shown on the next page, males were significantly more likely than females and homeowners were significantly more likely than renters to select "Potomac River or Chesapeake Bay."

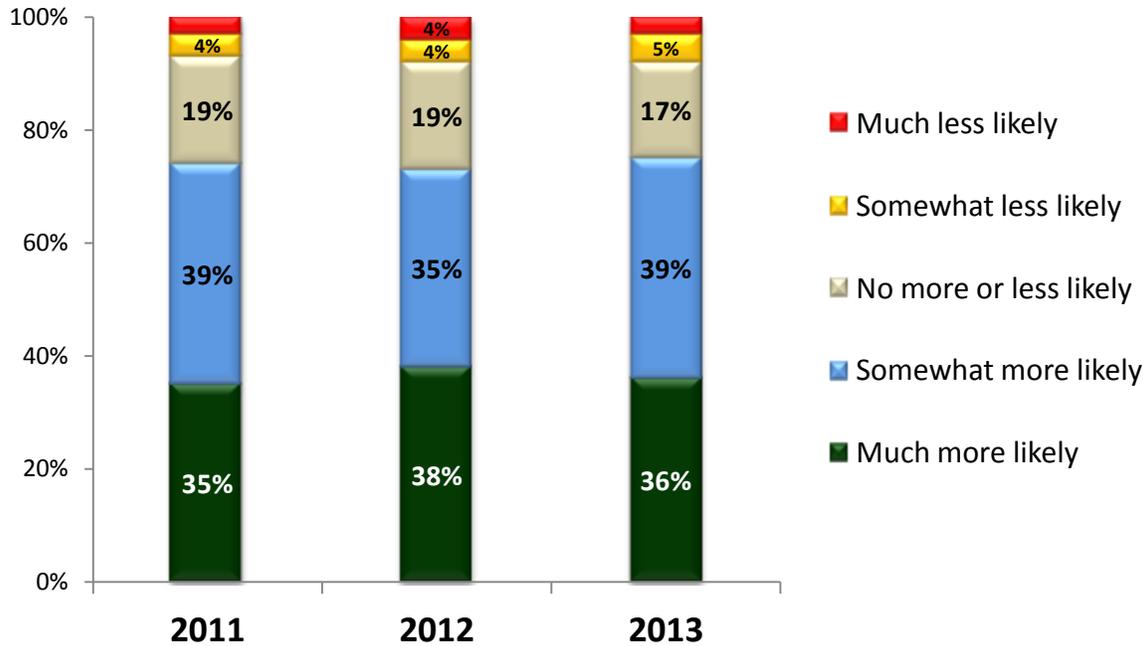
<i>Believed Destination of Stormwater</i>	Male	Female	Homeowners	Renters
Potomac River or Chesapeake Bay	77%	58%	69%	59%
Local streams, ponds or lakes	28%	35%	28%	45%
At a waste water treatment facility	7%	16%	11%	16%
Underground / seeps in to the ground	9%	14%	9%	20%
Don't know	2%	7%	4%	8%
<i>N = number of respondents</i>	234	266	380	120

- After being asked the questions covered up to this point in the report, respondents were asked to read the following information and then indicate their future intentions.

Many people are surprised to learn that polluted water runoff is the number one cause of pollution in the Potomac River and Chesapeake Bay. When it rains and when snow melts, the water picks up pollutants on the land and washes them into local waterways. Knowing this, would you be more likely or less likely to take actions to reduce the amount of pollutants that you personally put into storm drains?

- The chart on the next page shows the results for this question. For example, slightly more than one-third each year indicated that they would be "Much more likely" to take actions to reduce the amount of pollutants they personally put into storm drains after reading the information above. Also, slightly more than one-third each year would be "Somewhat more likely." As a result, the majority would be *at least* somewhat more likely to take corrective actions when given this information. However, there were still some who would not change (17% to 19%, depending on the year) or would be *less* likely to act.

[AFTER READING STATEMENT] Would you be more or less likely to take actions to reduce the amount of pollutants that you personally put into storm drains?



- When examining the results by area, the proportion “Much more likely” ranged from a low of 32% in Arlington to a high of 43% in Leesburg / Loudoun. However, in light of the number of respondents from each area, the difference between 32% and 43% here is not large enough to be statistically significant.

Likelihood Act to Reduce Storm Drain Pollutants	Alexandria	Arlington	Fairfax Inclusive	Leesburg / Loudoun	Dumfries / Stafford
Much less likely	4%	3%	2%	2%	3%
Somewhat less likely	4%	5%	5%	5%	5%
No more or less likely	12%	22%	20%	9%	12%
Somewhat more likely	42%	38%	37%	41%	45%
Much more likely	38%	32%	36%	43%	35%
<i>N = number of respondents</i>	55	78	244	63	60

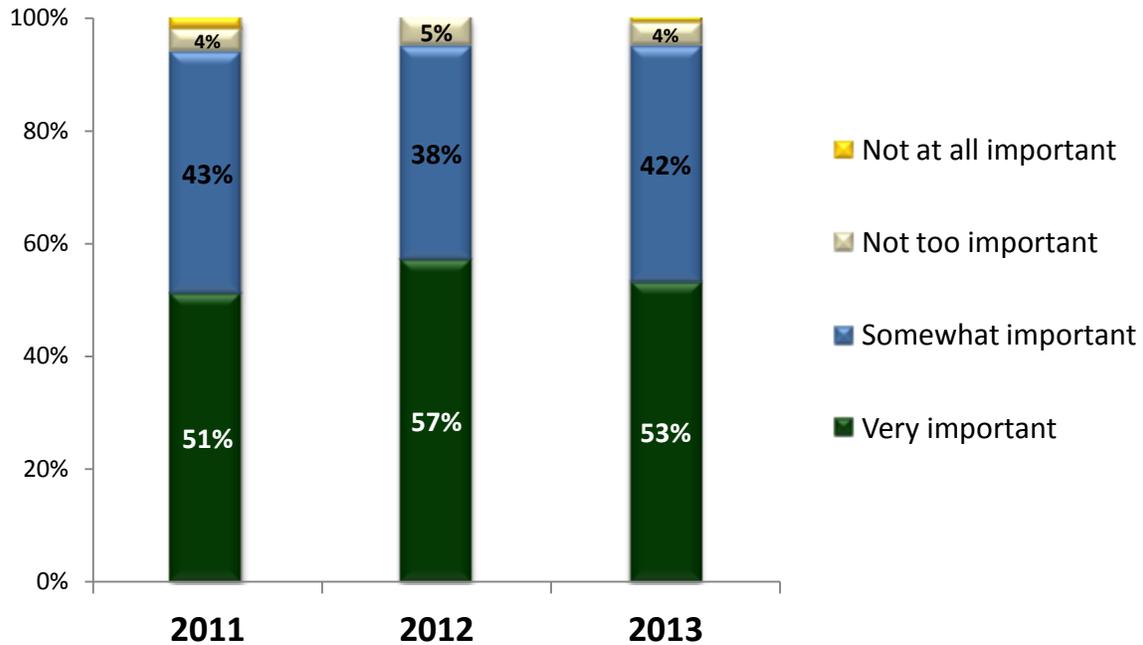
Likelihood Act to Reduce Storm Drain Pollutants	Have Lived in Current Residence				
	< 1 Year	1 to 3 Years	4 to 9 Years	10 to 19 Years	20 or More Years
Much less likely	2%	3%	5%	1%	1%
Somewhat less likely	4%	5%	5%	6%	2%
No more or less likely	20%	19%	21%	13%	14%
Somewhat more likely	43%	37%	35%	45%	40%
Much more likely	31%	36%	34%	35%	43%
<i>N = number of respondents</i>	49	123	117	111	100

Likelihood Act to Reduce Storm Drain Pollutants	Age				
	21 to 34	35 to 44	45 to 54	55 to 64	65 +
Much less likely	5%	3%	2%	0%	3%
Somewhat less likely	6%	5%	2%	4%	5%
No more or less likely	24%	13%	13%	19%	15%
Somewhat more likely	33%	48%	47%	39%	32%
Much more likely	32%	31%	36%	38%	45%
<i>N = number of respondents</i>	111	95	86	105	103

Likelihood Act to Reduce Storm Drain Pollutants	Gender		Homeownership	
	Male	Female	Homeowners	Renters
Much less likely	3%	2%	2%	3%
Somewhat less likely	6%	3%	5%	4%
No more or less likely	19%	16%	16%	21%
Somewhat more likely	39%	40%	41%	34%
Much more likely	33%	39%	36%	38%
<i>N = number of respondents</i>	234	266	380	120

- Slightly more than half each year felt that it was “Very important” for local governments to spend more money on protecting water quality.

How important do you think it is for local governments to spend more money on protecting water quality?



- Slightly more than half from each area felt it was “Very important” for local governments to spend more money on protecting water quality.

Importance of Local Water Quality Spending	Alexandria	Arlington	Fairfax Inclusive	Leesburg / Loudoun	Dumfries / Stafford
Not at all important	4%	0%	2%	0%	2%
Not too important	4%	1%	5%	2%	3%
Somewhat important	34%	42%	42%	46%	42%
Very important	58%	57%	51%	52%	53%
<i>N = number of respondents</i>	55	78	244	63	60

- Only small proportions in each subgroup gave a rating of “Not too important” or “Not at all important.”

Importance of Local Water Quality Spending	Have Lived in Current Residence < 1 Year				
		1 to 3 Years	4 to 9 Years	10 to 19 Years	20 or More Years
Not at all important	0%	2%	2%	0%	3%
Not too important	4%	3%	3%	3%	4%
Somewhat important	43%	45%	40%	41%	39%
Very important	53%	50%	55%	56%	54%
<i>N = number of respondents</i>	49	123	117	111	100

Importance of Local Water Quality Spending	Age				
	21 to 34	35 to 44	45 to 54	55 to 64	65 +
Not at all important	1%	1%	0%	2%	3%
Not too important	3%	3%	3%	2%	6%
Somewhat important	48%	43%	41%	49%	27%
Very important	48%	53%	56%	47%	64%
<i>N = number of respondents</i>	111	95	86	105	103

Importance of Local Water Quality Spending	Gender		Homeownership	
	Male	Female	Homeowners	Renters
Not at all important	2%	1%	1%	3%
Not too important	7%	1%	3%	3%
Somewhat important	46%	38%	42%	42%
Very important	45%	60%	54%	52%
<i>N = number of respondents</i>	234	266	380	120

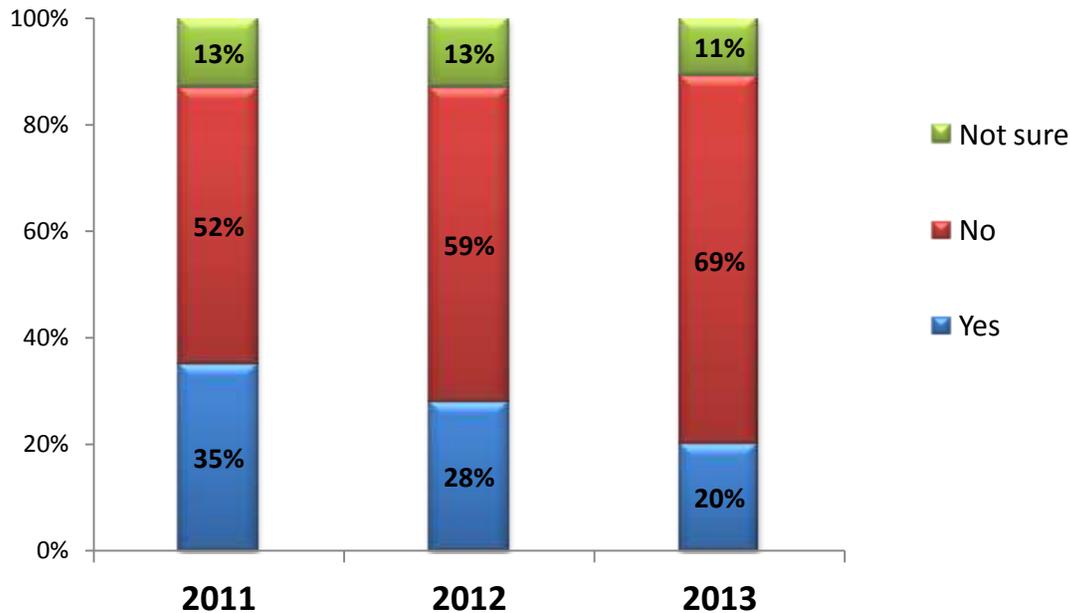
- However, women were significantly more likely than men to give a rating of “Very important.”

Advertising

- One-in-five (20%) in 2013 indicated that they have seen ads on TV or the Internet about fertilizing less often and/or reducing water pollution. This was significantly lower than the proportion aware of related advertising last year. However, the question wording last year was different, including references to radio advertising and pet waste. The full wording last year was as follows: "Have you heard any ads on the radio, or have you seen any ads on websites or blogs about picking up pet waste, fertilizing less often, and/or reducing water pollution?"

ADVERTISING AWARENESS

(2013 Question Wording: *Have you seen any ads on TV or the Internet about fertilizing less often and/or reducing water pollution?*)



- A lower proportion of those in Arlington (11%) were aware of the advertising in 2013 compared to other areas. (However, the difference between Arlington vs. other areas was statistically significant only in comparison to Leesburg / Loudoun and Dumfries / Stafford.)

Saw TV / Internet Ads on Reducing Water Pollution	Alexandria	Arlington	Fairfax Inclusive	Leesburg / Loudoun	Dumfries / Stafford
Yes	18%	11%	21%	25%	25%
No	71%	86%	68%	54%	63%
Not sure	11%	3%	11%	21%	12%
<i>N = number of respondents</i>	55	78	244	63	60

- Awareness was significantly higher among those who have lived in their residence for 10 to 19 years, but it is not clear why awareness peaked for this category while being lower among those who have lived in their current residence for 20 or more years.

Saw TV / Internet Ads on Reducing Water Pollution	Have Lived in Current Residence				
	< 1 Year	1 to 3 Years	4 to 9 Years	10 to 19 Years	20 or More Years
Yes	10%	20%	15%	32%	19%
No	80%	72%	72%	57%	69%
Not sure	10%	8%	13%	11%	12%
<i>N = number of respondents</i>	49	123	117	111	100

- Those age 45 or older were significantly more likely than those under age 35 to be aware of the advertising.

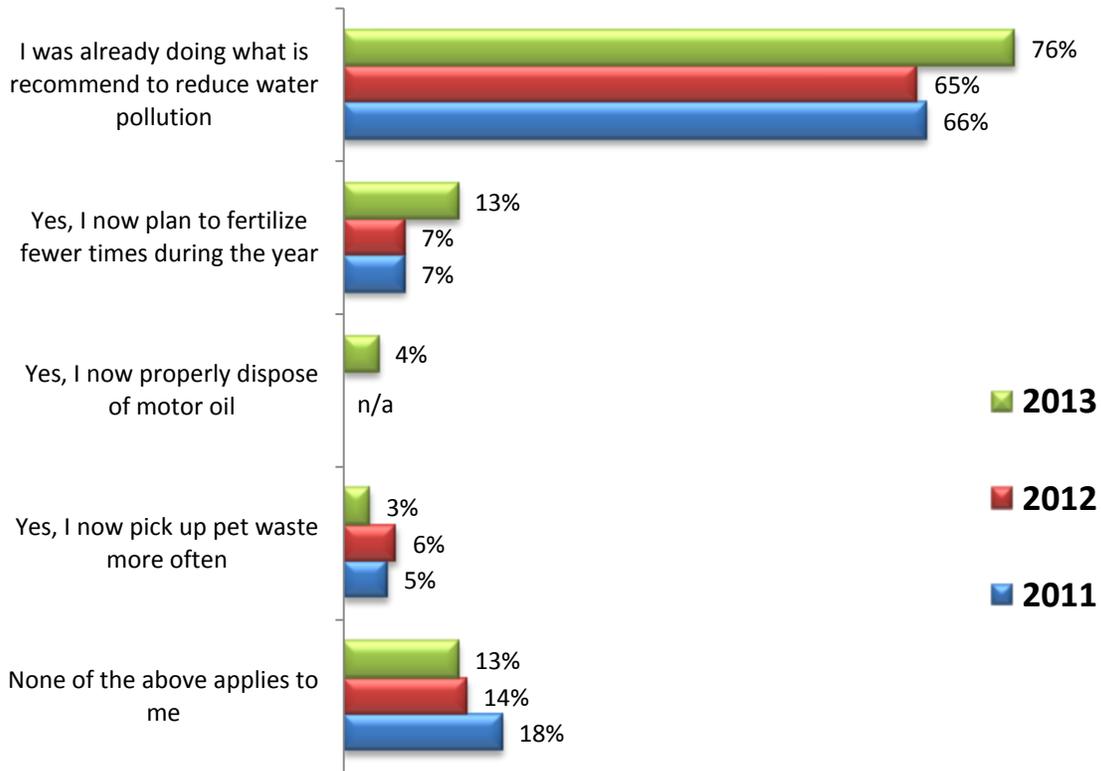
Saw TV / Internet Ads on Reducing Water Pollution	Age				
	21 to 34	35 to 44	45 to 54	55 to 64	65 +
Yes	11%	17%	23%	26%	26%
No	80%	74%	68%	61%	61%
Not sure	9%	9%	9%	13%	13%
<i>N = number of respondents</i>	111	95	86	105	103

- Men were significantly more likely than women to report seeing the ads. The proportion of homeowners aware of the ads was higher compared to renters, but the difference below between 22% and 14% was not quite large enough to be statistically significant.

Saw TV / Internet Ads on Reducing Water Pollution	Gender		Homeownership	
	Male	Female	Homeowners	Renters
Yes	26%	15%	22%	14%
No	63%	74%	65%	81%
Not sure	11%	11%	13%	5%
<i>N = number of respondents</i>	234	266	380	120

- The question covered in the chart on the next page was asked only of those who reported awareness of the ads.

Did seeing those ads make you change any of your behaviors related to fertilizing less often and/or reducing water pollution?

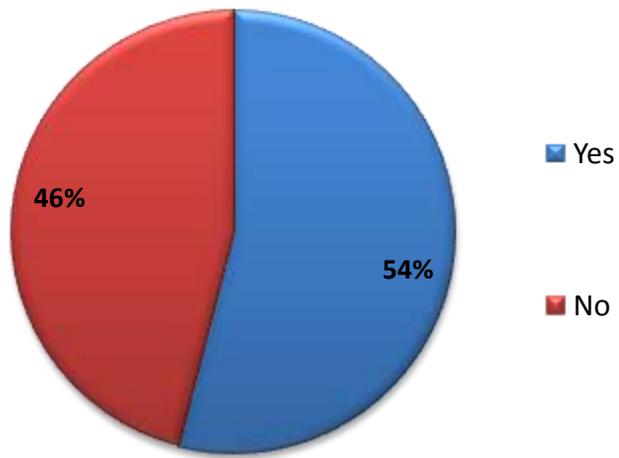


- A noteworthy proportion (13% in 2013) of those aware of the advertising indicated that they now plan to fertilize fewer times during the year. (However, the difference between 13% vs. 7% selecting this response in previous years was not large enough to be statistically significant.)
- The wording of the question above in 2013 was not exactly the same as in 2012, since the mix of advertising was not the same both years, and the wording in the 2013 questionnaire was adjusted to be consistent with current advertising.

- The logo below was shown to all respondents, regardless of whether they had seen advertising or not, and more than half of the total sample recognized the logo.



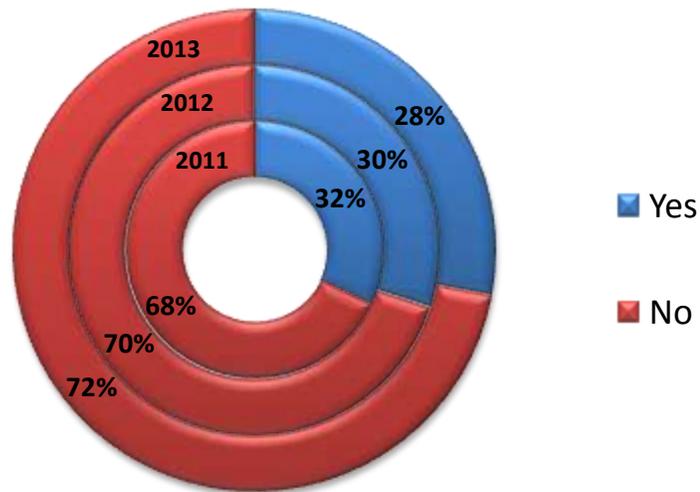
Have you ever seen the logo above anywhere?



Behavior Among Dog Owners

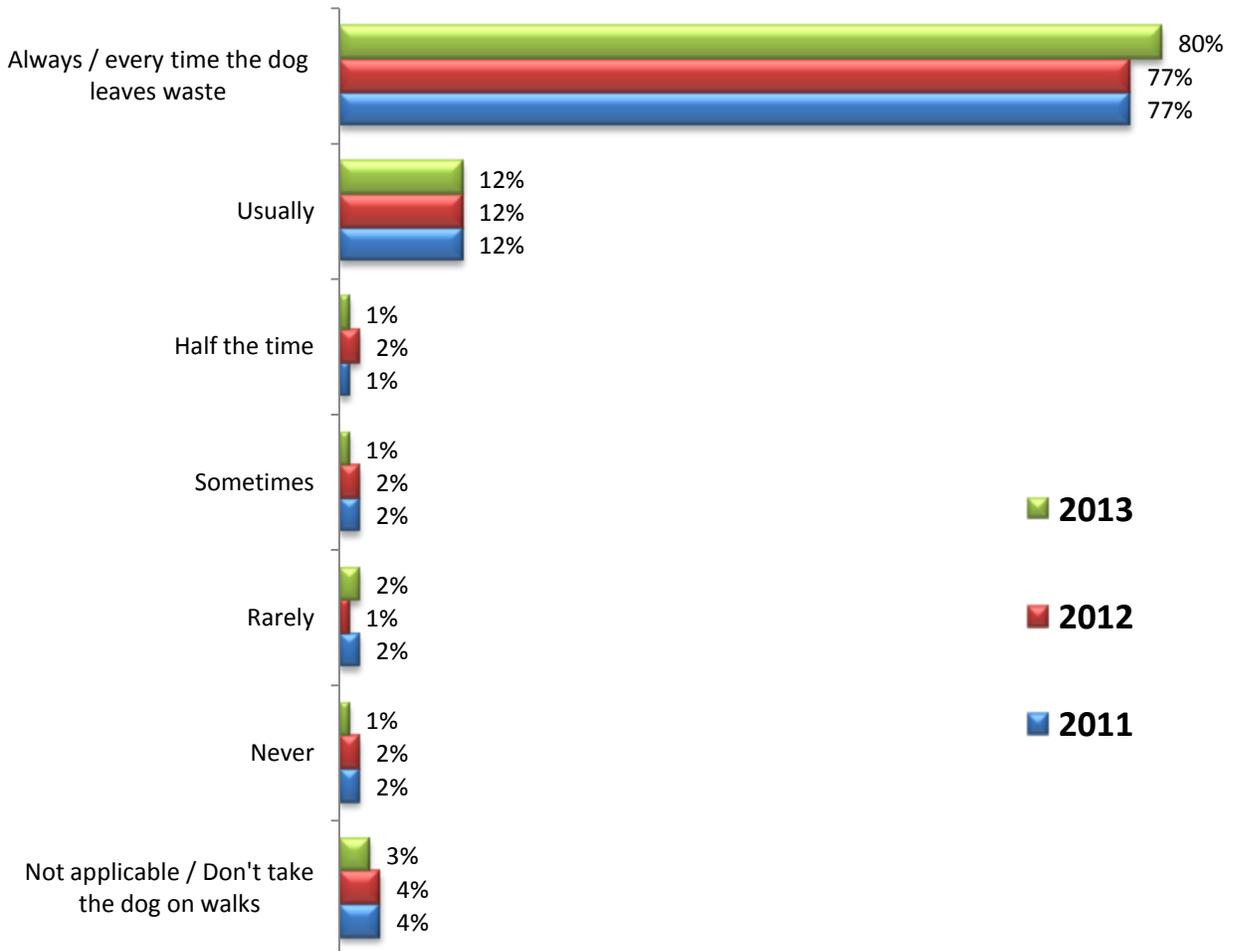
- More than one-fourth indicated that they have a dog (or someone else in their household has a dog) in 2013 (28%), 2012 (30%), and 2011 (32%). Several questions were asked of these dog owners. (However, since a subset of the total sample reported having a dog, the results for the questions applicable only to dog owners are not broken out by area or demographic subgroups.)

Do you (or does another person in your household) have a dog?



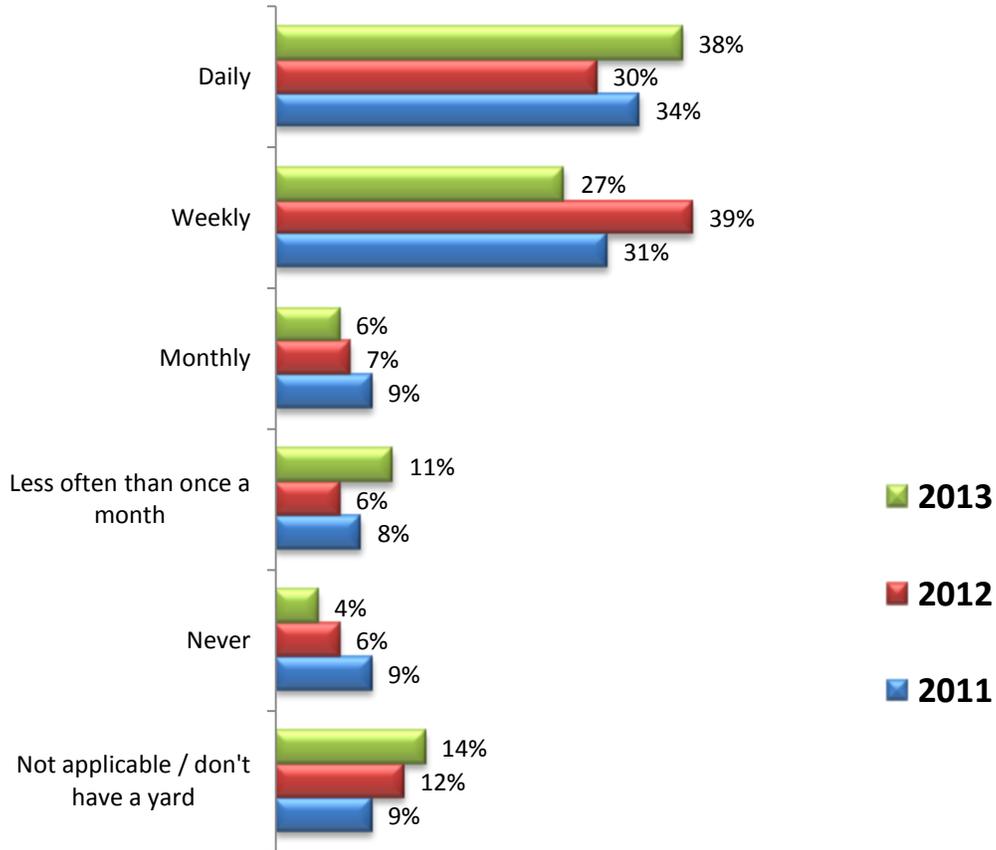
- On the following pages, results are shown for questions about how often dog owners pick up after their dogs and what motivates them to do so.

When taking your dog(s) for a walk, how often do you pick up after your dog(s)?



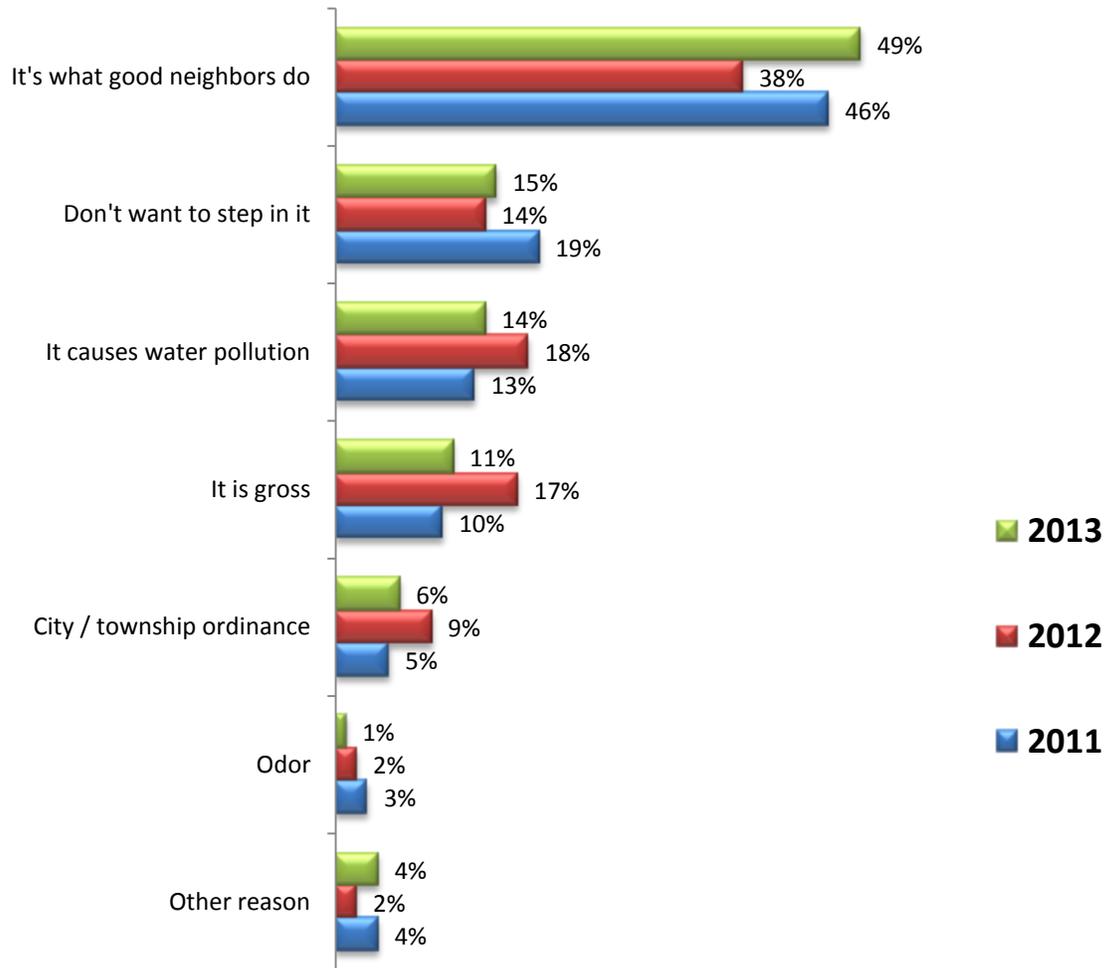
- More than three-fourths each year indicated that they always pick up after their dog(s) when taking the dog(s) for a walk. Many others usually do so.

How often do you (or does someone else from your household) remove dog waste from your yard?



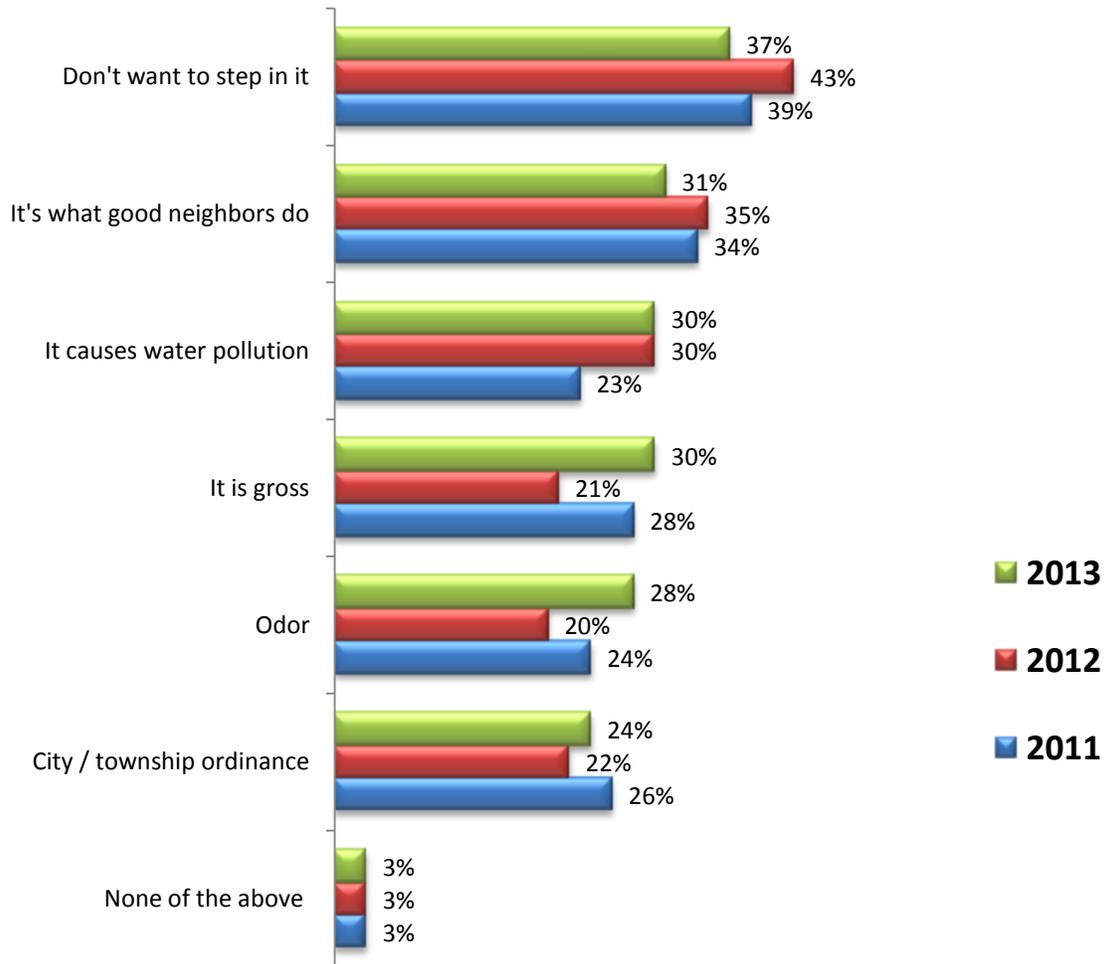
- In their own yard, more than one-third in 2013 reported removing dog waste daily, while slightly more than one-fourth do so weekly.
- The difference between 2013 and 2012 in the proportion removing dog waste daily (38% vs. 30%) was not statistically significant, but the difference removing dog waste weekly (27% vs. 39%) was statistically significant. However, the proportions removing dog waste from their yard daily and weekly in 2013 were similar to 2011.

What is the most important reason to pick up after your dog(s)?



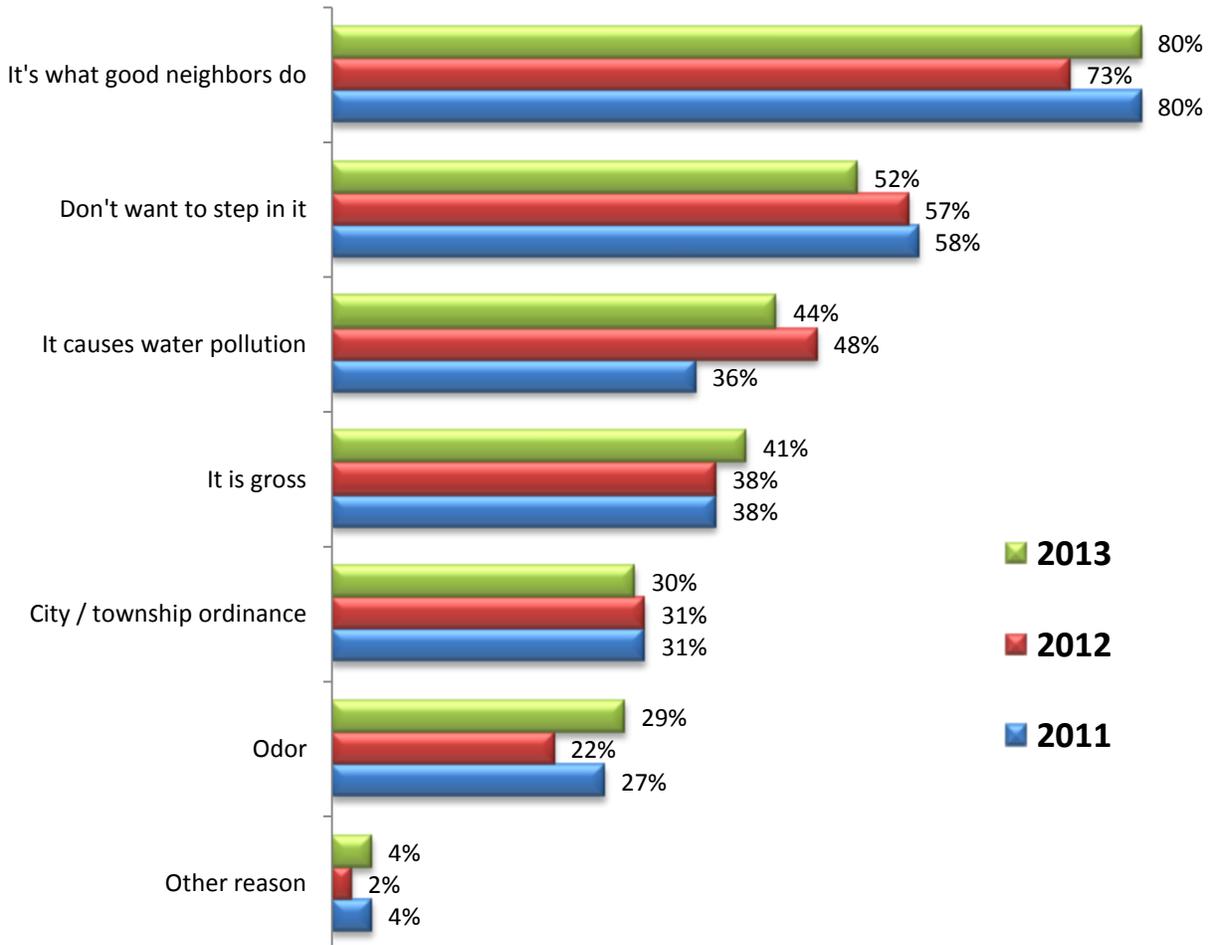
- When asked about the “Most important reason” for picking up after their dog(s), nearly half (49%) in 2013 selected “It’s what good neighbors do.” This was higher than in 2012, but the change was not statistically significant. Also, the proportion selecting this response in 2011 was similar, compared to 2013.
- Approximately one-in-eight (14%) in 2013 selected “It causes water pollution” as the most important reason to pick up after their dog.

What other reasons (if any) have motivated you to pick up after your dog(s)?



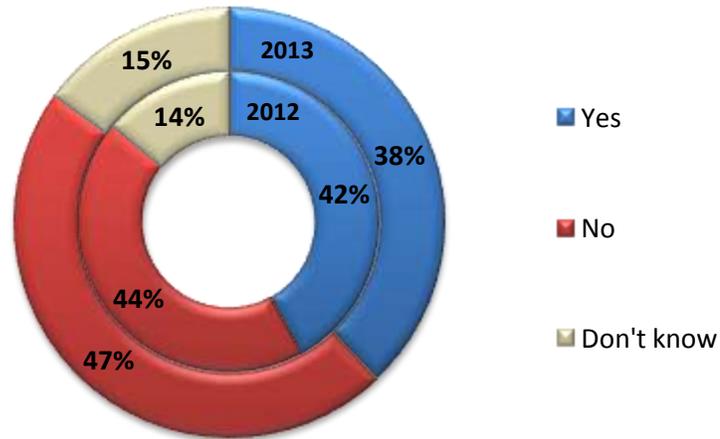
- In addition to the *most* important reason for picking up after their dog(s) as shown on the previous page, respondents were also asked to select any other reasons that motivate them. As shown in the chart above, an additional 30% in 2013 selected "It causes water pollution" as a motivation.
- When combining results in the chart above with the chart on the previous page, a total of 44% in 2013 were motivated to pick up after their dog(s) because "It causes water pollution." (That is, take 14% from the previous page + 30% from the chart above to get 44%.) For easy reference, the chart on the next page has *most* important and *other* motivations combined.

Most important + other reasons motivating dog owners to pick up after your dog(s):



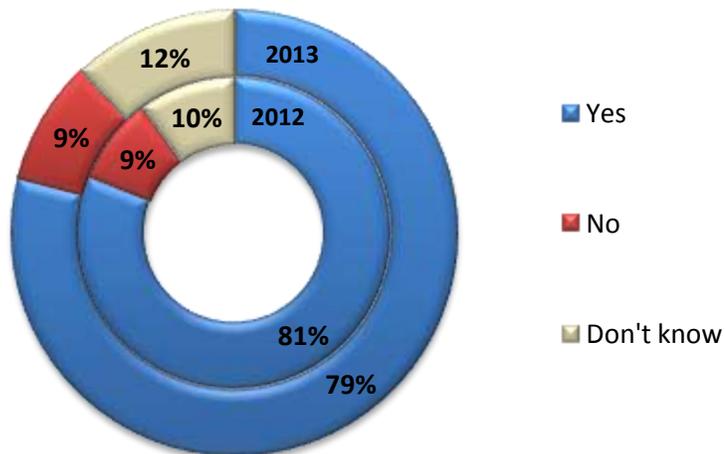
- While it is encouraging to see that more than four-in-ten in 2013 were motivated to pick up after their dog by wanting to reduce water pollution, this also means that more than half were not thinking about water pollution in this context. This implies that there is room to “educate” more northern Virginia residents about how dog waste is an important cause of water pollution, and “picking up after your dog” is an important action that helps reduce water pollution.
- The proportion motivated to pick up after their dog by wanting to reduce water pollution was significantly higher in 2012 (48%) than in 2011 (36%), but the difference between 2013 vs. 2011 (44% vs. 36%) was not statistically significant.
- On the next page, results are shown for two questions about dog waste that were first introduced in 2012. These questions were actually asked of all respondents, since those who do not own a dog, as well as those who do, can answer the following questions.

Does your neighborhood have any dog waste disposal stations (e.g., dispenser with waste bags and a trash can to dispose of dog waste)?



- While approximately four-in-ten reported having pet waste stations in their neighborhood, approximately eight-in-ten felt they are (or would be) useful.

Do you think these types of pet waste stations are (or would be) useful?



- While the results in the chart above apply to the total sample, the results were similar when examining just dog owners. For example, 80% of dog owners in 2013 felt that dog waste stations are (or would be) useful.
- It is also interesting to note that, among just those who already have dog waste stations in their neighborhood, 95% thought they were useful.
- Among those who do not already have dog waste stations in their neighborhood, 70% felt they would be useful. Among those who did not know if they had these types of stations, 69% felt they would be useful. These results can also be examined in the cross-tabulation below.

		Does your neighborhood have any dog waste disposal stations (e.g., dispenser with waste bags and a trash can to dispose of dog waste)?			Total
		Yes	No	Don't know	
Do you think these types of pet waste stations are (or would be) useful?	Yes	94.8%	70.2%	68.9%	79.4%
	No	2.1%	15.3%	4.1%	8.6%
	Don't know	3.1%	14.5%	27.0%	12.0%
Total		100.0%	100.0%	100.0%	100.0%

- Some readers may be interested in how responses related to dog waste disposal stations vary by area. For example, as shown below, the proportion reporting dog waste disposal stations in their area was highest in Leesburg / Loudoun (60%), followed by Alexandria (54%).

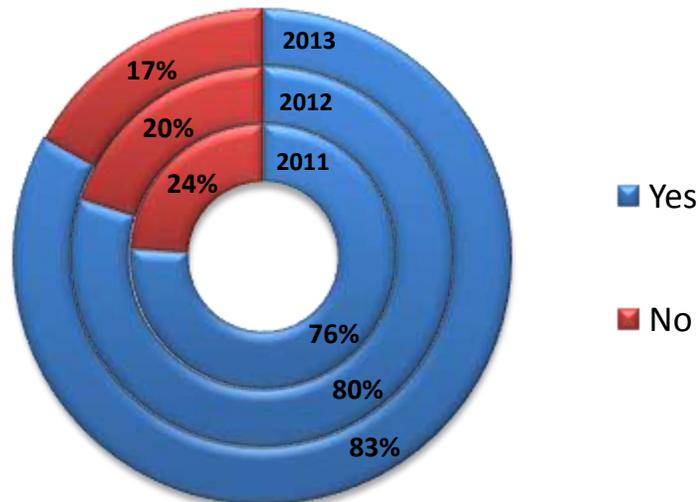
Neighborhood Has Dog Waste Disposal Stations	Alexandria	Arlington	Fairfax Inclusive	Leesburg / Loudoun	Dumfries / Stafford
Yes	54%	44%	30%	60%	25%
No	35%	28%	55%	32%	67%
Don't know	11%	28%	15%	8%	8%
<i>N = number of respondents</i>	55	78	244	63	60

Dog Waste Disposal Stations Useful	Alexandria	Arlington	Fairfax Inclusive	Leesburg / Loudoun	Dumfries / Stafford
Yes	91%	87%	74%	83%	77%
No	4%	6%	10%	9%	10%
Don't know	5%	7%	16%	8%	13%
<i>N = number of respondents</i>	55	78	244	63	60

Behavior Related to Lawns & Gardens

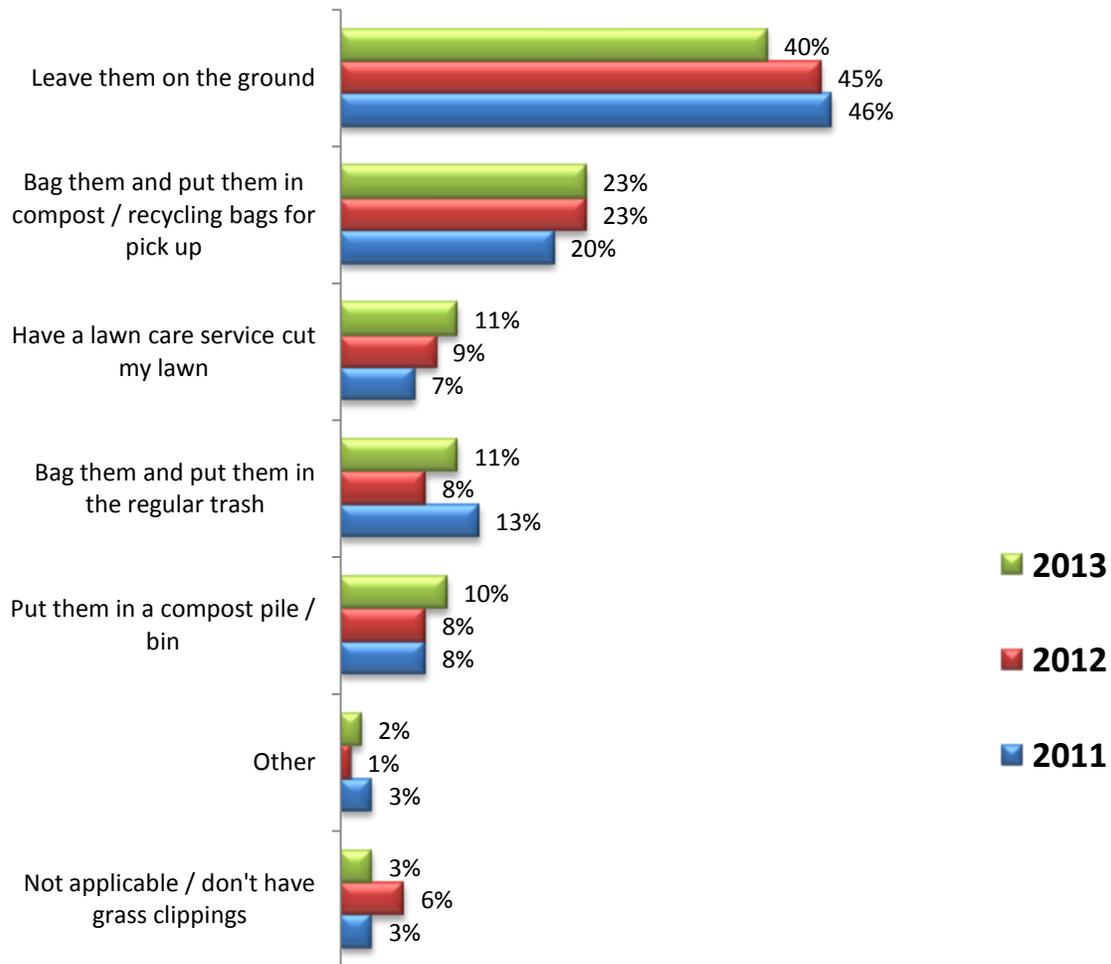
- More than three-fourths of the survey respondents each year indicated that their current home has a lawn or garden.

Does your home have a lawn or garden?



- In a separate question, of the respondents who have a lawn or garden, more than half (60% in 2013, 62% in 2012, and 67% in 2011) identified themselves as the primary person taking care of the lawn or garden. Several questions about lawns and gardens were then asked only of these respondents (i.e., primary person in the household who takes care of the lawn or garden).
- The first question about lawns and gardens addressed actions related to grass clippings. As shown in the chart on the next page, four-in-ten (40%) in 2013 reported that they leave grass clippings on the ground.

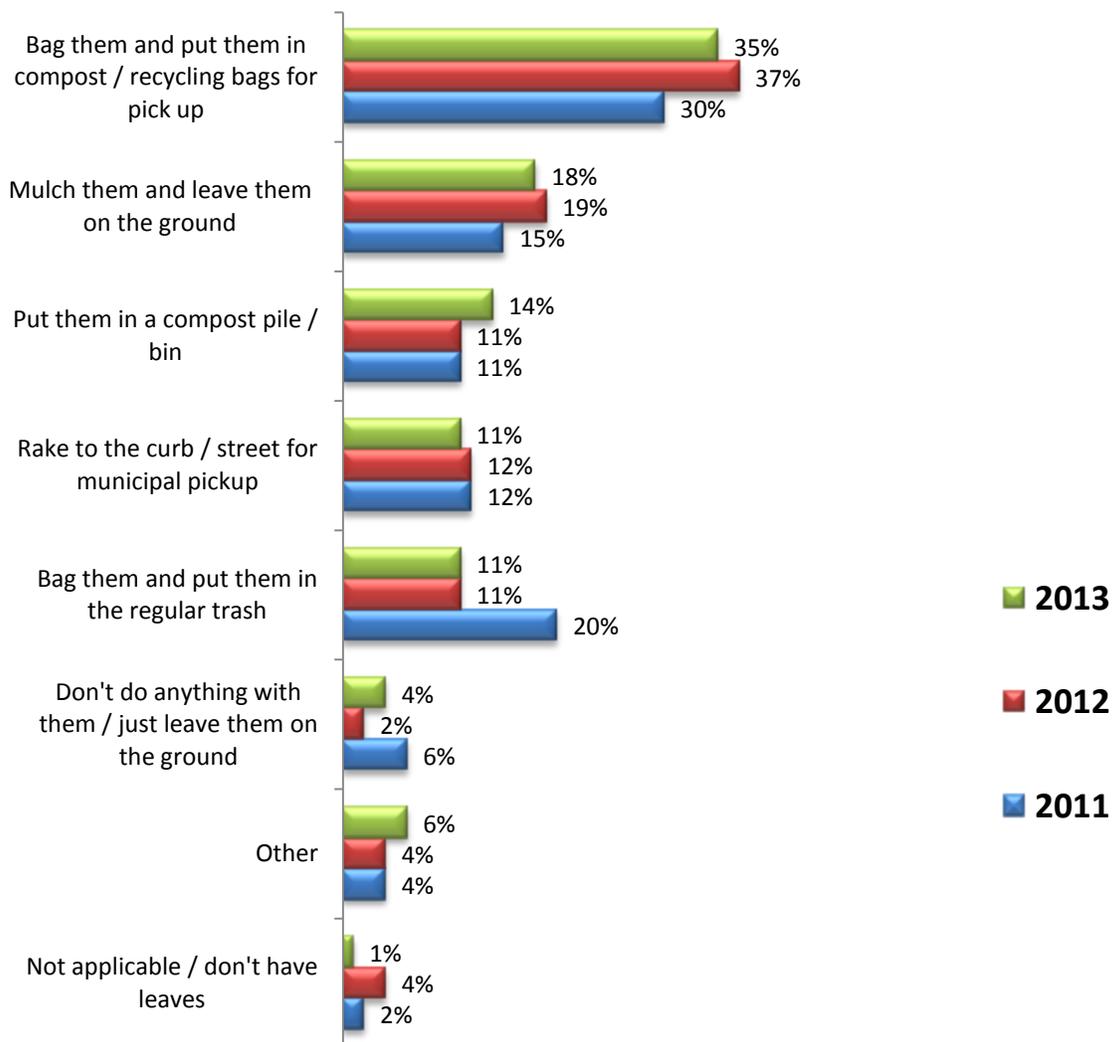
What do you do with grass clippings from your lawn or garden?



- However, some (11% in 2013, 8% in 2012, and 13% in 2011) reported putting grass clippings in the regular trash, and this suggests that there is room to educate these residents about better ways to handle grass clippings.

- When it comes to leaves that collect on the lawn or garden, more than one-third (35%) in 2013 reported putting them in compost / recycling bags for pick up.

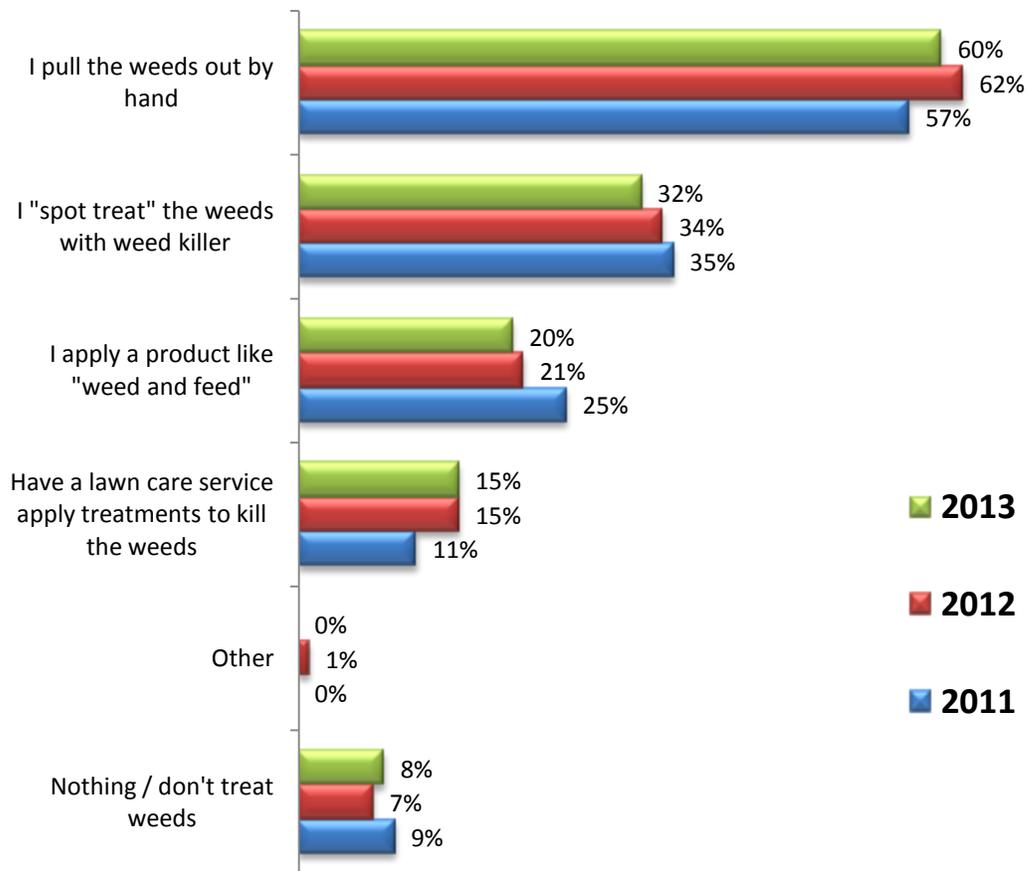
What do you do with leaves that collect on your lawn or garden?



- Some (11% in 2013) put them in the regular trash, and this suggests that there is room to educate these residents about better ways to handle leaves.

- When dealing with weeds, more than half reported pulling them out by hand.

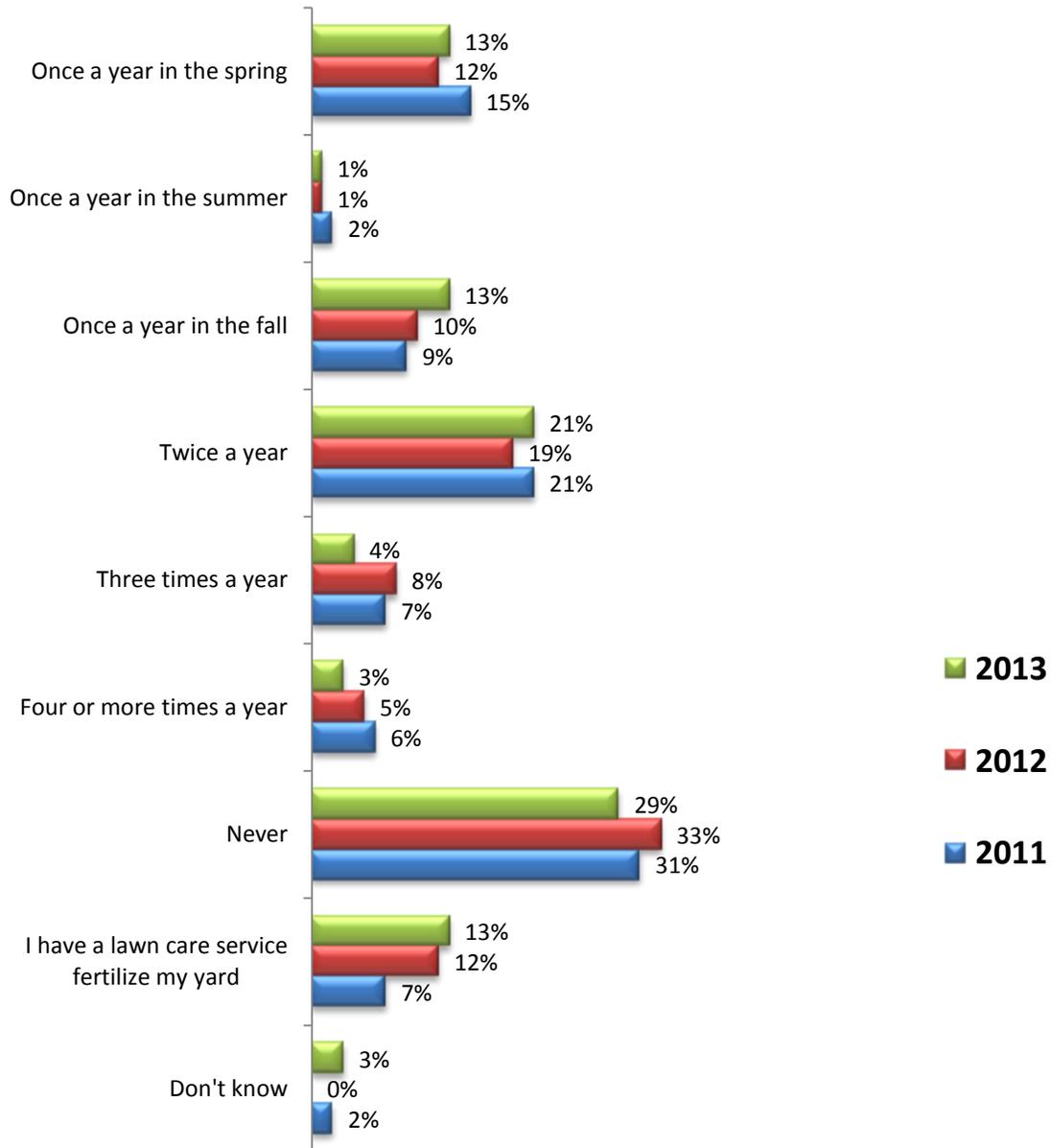
How do you treat weeds in your lawn or garden?



- However, it is possible to report more than one way of dealing with weeds. Approximately one-third use "spot treatments," and one-in-five in 2013 reported that they apply "weed and feed." Also, some have a lawn service apply weed killer.

- Nearly one-third each year reported that they *never* fertilize their lawn. Among those who do so, fertilizing behavior varied, as shown in the chart below.

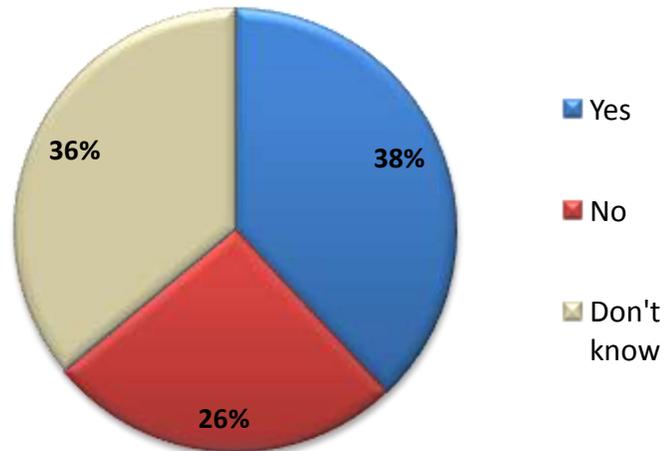
Which of the following best describes how often you fertilize your lawn?



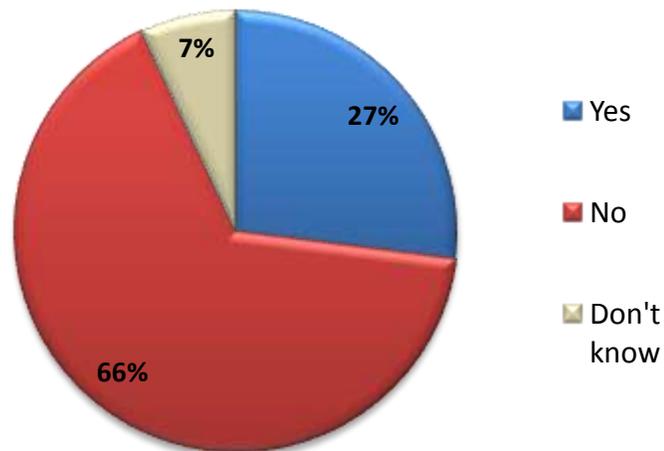
- Among those who fertilize once a year, the same percentage in 2013 reported doing so in the spring as reported doing so in the fall. This suggests that there is room to educate more residents of northern Virginia that fertilizing in the fall is better for local waterways than fertilizing in the spring.

- The next two questions were new in the 2013 survey and were asked only of those who fertilize their lawn (or have a lawn service fertilize their lawn) at least once a year. First, as shown below, nearly four-in-ten (38%) use a "slow release N fertilizer," although many didn't know. Second, more than one-fourth have had their soil tested for fertility or pH.

Do you use a slow release N fertilizer?



Have you ever had your soil tested for fertility or pH?

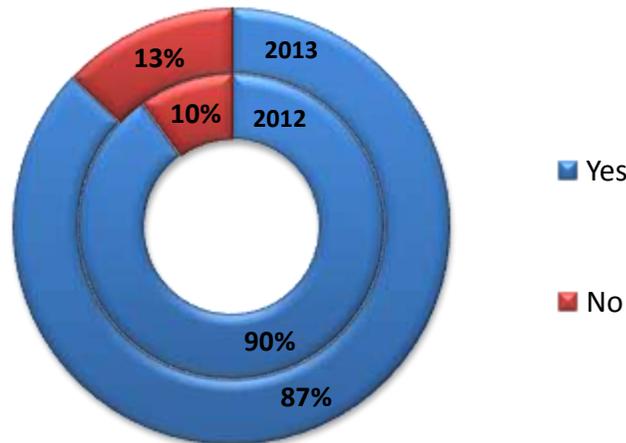


- In a third new question, respondents were asked where they get information to decide when and how much fertilizer to apply. The most commonly selected response option was "Follow directions on the bag" (52%), followed by "Lawn service conducts the applications" (27%), and then "Follow soil test results / recommendations" (7%), "Apply amount that feels right" (6%), "Eyeball it based on size of the lawn" (3%), and various other responses (5%).

Rain Barrels & Rain Gardens

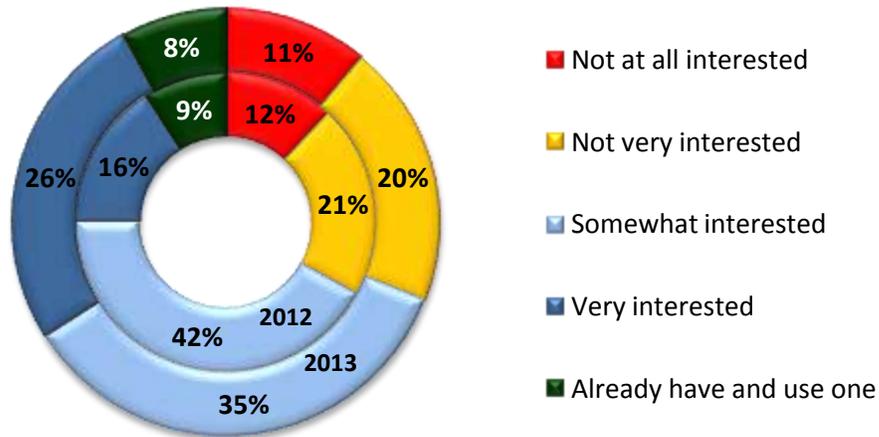
- Questions about “rain barrels” and “rain gardens” were first introduced in the 2012 survey. However, in 2013 these questions were asked only if the respondent was the primary person who takes care of the lawn or garden. In 2012, these questions were asked of all respondents. *Thus, to ensure valid year-to-year comparisons, the 2012 results below were also based only on the respondents who take care of their lawn or garden.* (For this reason, the 2012 results shown on this page and the next page differ from the results shown in the 2012 report.)

Have you ever heard of a “rain barrel” (i.e., a barrel you put under your downspout to collect rain water that you can use around your yard)?



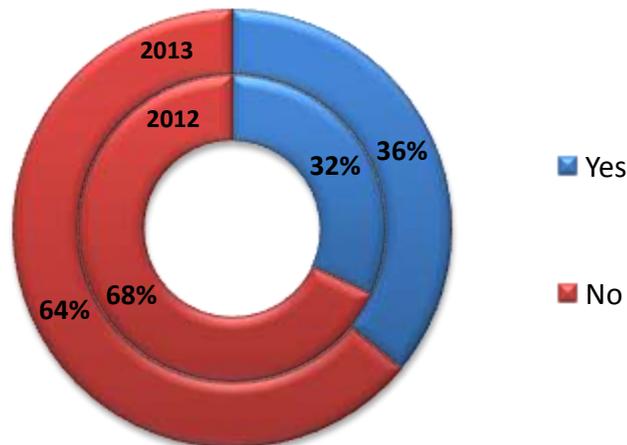
- When asked how interested they would be in installing and using a rain barrel, a significantly higher proportion in 2013 vs. 2012 would be “Very interested” (26% vs. 16%, respectively).

How interested would you be in installing and using a "rain barrel" at your home within the next few years?



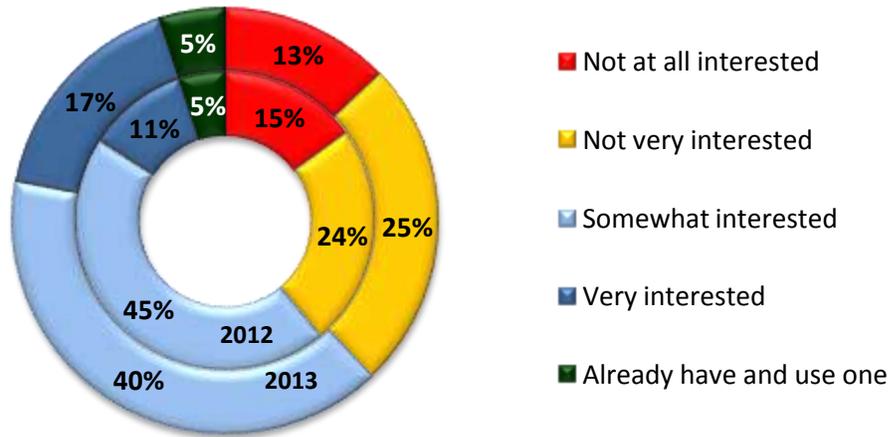
- Among respondents who reported being the primary person in their household who takes care of their lawn or garden, approximately one-third have heard of a "rain garden."

Have ever you heard of a "rain garden" (i.e., a bowl shaped garden area where runoff can collect and soak into the ground)?



- Again among respondents who reported being the primary person in their household who takes care of their lawn or garden, a higher proportion in 2013 vs. 2012 were "Very interested" in a "rain garden," but the change (from 11% to 17%) was not quite large enough to be statistically significant.

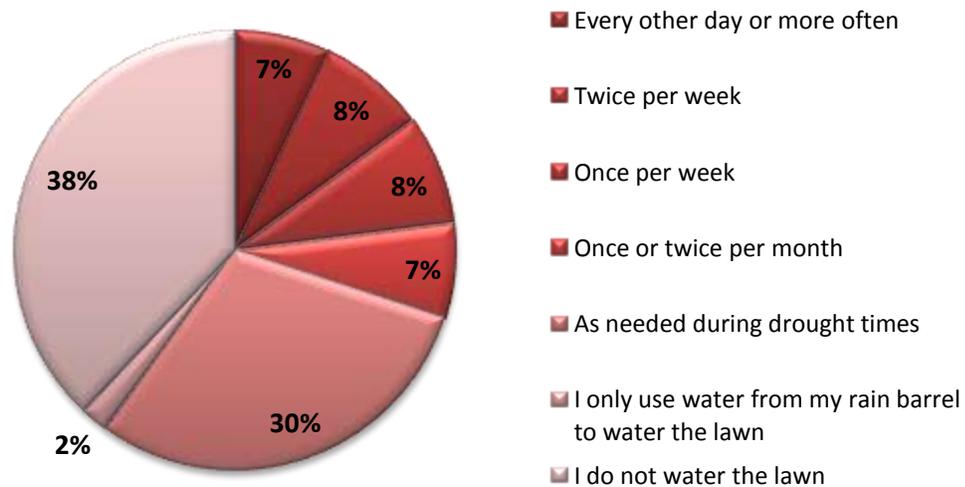
How interested would you be in installing and using a “rain garden” at your home within the next few years?



Lawn Watering

- The question below was first introduced in the 2013 survey and was asked only of those who reported being the primary person in their household who takes care of the lawn or garden. Interestingly, nearly four-in-ten (38%) indicated that they do not water their lawn.

How often do you water your lawn during the summer (May-September) on average?



- On the other hand, some watered their lawn every other day or twice per week on average.

Behavior Related to Changing Vehicle Oil

- When asked about changing the oil in their car or truck, more than eight-in-ten each year reported that they use an oil change service, while approximately 11% in 2013 reported taking old motor oil to a gas station or hazmat facility for recycling. A few respondents selected other response options, including three respondents in 2013 who put old motor oil in the trash. Because the number selecting some response options was so small, the results are shown in the tables below, with the frequency (number of respondents selecting each response) and the percentage.

2013: When you need to change the oil in your car or truck, what do you do with the old motor oil?

	<i>Frequency</i>	<i>Percent</i>
I don't change the oil myself / I take it to a garage / oil change service	427	85.4%
Take the old motor oil to a gas station or hazmat facility for recycling	57	11.4%
Put it in the trash	3	0.6%
Dump it in the gutter or down the storm sewer	2	0.4%
Store it in my garage	1	0.2%
Don't own a car or truck	10	2.0%
Total	500	100.0%

2012: When you need to change the oil in your car or truck, what do you do with the old motor oil?

	<i>Frequency</i>	<i>Percent</i>
I don't change the oil myself / I take it to a garage / oil change service	426	85.2%
Take the old motor oil to a gas station or hazmat facility for recycling	49	9.8%
Store it in my garage	3	0.6%
Put it in the trash	2	0.4%
Other	2	0.4%
Don't own a car or truck	18	3.6%
Total	500	100.0%

2011: When you need to change the oil in your car or truck, what do you do with the old motor oil?

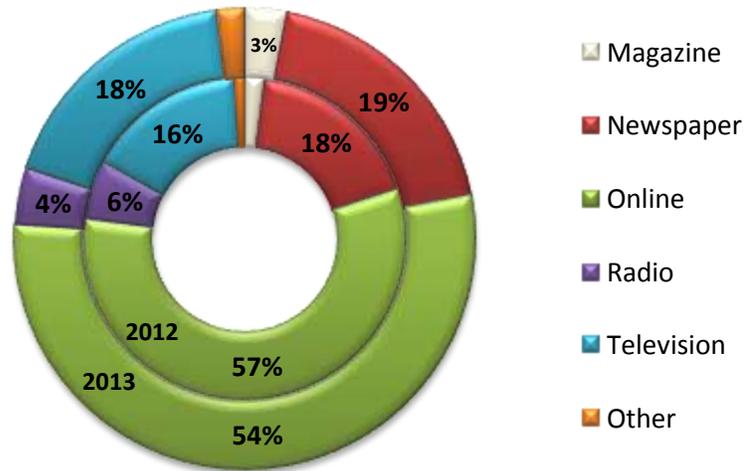
Frequency *Percent*

I don't change the oil myself / I take it to a garage / oil change service	413	82.6%
Take the old motor oil to a gas station or hazmat facility for recycling	60	12.0%
Put it in the trash	2	0.4%
Other	2	0.4%
Don't own a car or truck	23	4.6%
Total	500	100.0%

Preference for Receiving Information

- Based on a question that was first introduced in the 2012 survey, more than half prefer to receive information online. (To be sure, recall that this was a web survey, and this preference may be more common among those who complete web surveys than those who don't.)

How do you prefer to receive information?



- In each of the areas included in the survey, more preferred to receive information online than preferred to receive information from other sources, as shown below.

Preference for Receiving Information	Alexandria	Arlington	Fairfax Inclusive	Leesburg / Loudoun	Dumfries / Stafford
Online	63%	55%	52%	58%	47%
Newspaper	18%	20%	21%	13%	17%
Television	11%	13%	18%	25%	22%
Radio	2%	6%	5%	2%	3%
Magazine	4%	3%	2%	2%	8%
Other	2%	3%	2%	0%	3%
<i>N = number of respondents</i>	55	78	244	63	60

- As might be expected, younger respondents were more likely than older respondents to prefer receiving information online.

Preference for Receiving Information	Have Lived in Current Residence				
	< 1 Year	1 to 3 Years	4 to 9 Years	10 to 19 Years	20 or More Years
Online	72%	56%	54%	47%	48%
Newspaper	10%	15%	15%	28%	21%
Television	14%	19%	22%	13%	18%
Radio	0%	6%	3%	5%	7%
Magazine	4%	2%	3%	5%	3%
Other	0%	2%	3%	2%	3%
<i>N = number of respondents</i>	49	123	117	111	100

Preference for Receiving Information	Age				
	21 to 34	35 to 44	45 to 54	55 to 64	65 +
Online	62%	61%	55%	51%	40%
Newspaper	8%	12%	24%	24%	28%
Television	22%	17%	13%	14%	21%
Radio	5%	5%	3%	2%	7%
Magazine	2%	4%	3%	3%	4%
Other	1%	1%	2%	6%	0%
<i>N = number of respondents</i>	111	95	86	105	103

Preference for Receiving Information	Gender		Homeownership	
	Male	Female	Homeowners	Renters
Online	55%	52%	51%	63%
Newspaper	20%	18%	22%	10%
Television	14%	21%	18%	18%
Radio	5%	4%	4%	4%
Magazine	4%	3%	3%	3%
Other	2%	2%	2%	2%
<i>N = number of respondents</i>	234	266	380	120

Appendix: Questionnaire

Only Rain NVRC Survey

INTRODUCTION:

Welcome, and thank you for participating in this important research survey.

S1. Are you:

- Male
- Female

S2. Which of the following categories includes your age?

- Under 18 **[END SURVEY]**
- 18 to 20 **[END SURVEY]**
- 21 to 24
- 25 to 34
- 35 to 44
- 45 to 54
- 55 to 64
- 65 to 74
- 75 or older

S3. Which of the following best describes your residence?

- I own my home
- I rent my home
- Neither **[END SURVEY]**

S4. Do you live in the state of Virginia?

- Yes
- No **[END SURVEY]**

S5. Which of the following best describes where you live (county or city or town)?

- Alexandria
- Arlington
- Dumfries
- Fairfax (city of)
- Fairfax (county of)
- Falls Church
- Herndon
- Leesburg
- Loudoun County
- Stafford County
- Vienna
- None of the above **[END SURVEY]**

Q1. For how many years have you lived in your current residence?

- Less than 1 year
- 1 to 3 years
- 4 to 9 years
- 10 to 19 years
- 20 or more years

Q2. Do you live within the Potomac River Watershed?

- Yes
- No
- Not Sure
- I do not know what a "watershed" is

Q3. What do you think is the number one cause of pollution in local streams, the Potomac River, and the Chesapeake Bay? (Please select only one)

- Factories / Industrial waste
- Fertilizers and pesticides from lawns and farms
- Garbage / trash / litter
- Gas, oil and exhaust from automobiles
- Pet waste
- Polluted runoff from streets and parking lots
- Don't know / not sure
- Other: _____

Q4. How important do you feel the actions of individuals are in protecting water quality in local streams, the Potomac River and the Chesapeake Bay?

- Not at all important
- Not too important
- Somewhat important
- Very important

Q5. "Stormwater" is rain or other water that flows into the street, along the gutter and into the storm drain. To the best of your knowledge, where do you believe storm water eventually ends up?

- At a waste water treatment facility
- Local streams, ponds or lakes
- Potomac River or Chesapeake Bay
- Underground / seeps in to the ground
- Don't know
- Other: _____

----- Page Break -----

Q6. Many people are surprised to learn that polluted water runoff is the number one cause of pollution in the Potomac River and Chesapeake Bay. When it rains and when snow melts, the water picks up pollutants on the land and washes them into local waterways. Knowing this, would you be more likely or less likely to take actions to reduce the amount of pollutants that you personally put into storm drains?

- Much less likely
- Somewhat less likely
- No more or less likely
- Somewhat more likely
- Much more likely

Q7. Do you (or does another person in your household) have a dog?

- Yes **[CONTINUE WITH Q8]**
- No **[SKIP TO Q10c]**

Q8. When taking your dog(s) for a walk, how often do you pick up after your dog(s)?

- Always / every time the dog leaves waste
- Usually
- Half the time
- Sometimes
- Rarely
- Never
- Not applicable / I don't take the dog(s) on walks

Q9. How often do you (or does someone else from your household) remove dog waste from your yard?

- Daily
- Weekly
- Monthly
- Less often than once a month
- Never
- Not applicable / don't have a yard

[SKIP OVER Q10a/b IF NEVER OR NOT APPLICABLE IN BOTH Q8 AND Q9]

Q10a. What is the most important reason to pick up after your dog(s)? (Please select only one)

- City / township ordinance
- Don't want to step in it
- It causes water pollution
- It is gross
- It's what good neighbors do
- Odor
- Other reason
- None / no reason to **[SKIP TO Q10c]**

Q10b. What other reasons (if any) have motivated you to pick up after your dog(s)? [PROGRAMMING NOTE: DON'T SHOW WHAT WAS SELECTED IN Q10a]

- City / township ordinance
- Don't want to step in it
- It causes water pollution
- It is gross
- It's what good neighbors do
- Odor
- None of the above

Q10c. Does your neighborhood have any dog waste disposal stations (e.g., dispenser with waste bags and a trash can to dispose of dog waste)?

- Yes
- No
- Don't know

Q10d. Do you think these types of pet waste stations are (or would be) useful?

- Yes
- No
- Don't know

Q11. Does your home have a lawn or garden?

- Yes **[CONTINUE WITH Q12]**
- No **[SKIP TO Q22]**

Q12. Are you the primary person who takes care of the lawn or garden?

- Yes **[CONTINUE WITH Q13a]**
- No **[SKIP TO Q22]**

Q13a. What do you do with grass clippings from your lawn or garden?

- Bag them and put them in the regular trash
- Bag them and put them in compost / recycling bags for pick up
- Leave them on the ground
- Put them in a compost pile / bin
- Have a lawn care service cut my lawn
- Other
- Not applicable / don't have grass clippings

Q13b. What do you do with leaves that collect on your lawn or garden?

- Bag them and put them in the regular trash
- Bag them and put them in compost / recycling bags for pick up
- Rake to the curb / street for municipal pickup
- Mulch them and leave them on the ground
- Put them in a compost pile / bin
- Don't do anything with them / just leave them on the ground
- Other
- Not applicable / don't have leaves

Q14. How do you treat weeds in your lawn or garden? (Select all that apply)

- I apply a product like "weed and feed" that contains weed treatment and fertilizer
- I "spot treat" the weeds with weed killer
- I pull the weeds out by hand
- I have a lawn care service apply treatments to kill the weeds
- Other
- Nothing / I don't treat weeds / leave the weeds alone

Q15. Which of the following best describes how often you fertilize your lawn?

- Once a year in the spring
- Once a year in the summer
- Once a year in the fall
- Twice a year
- Three times a year
- Four or more times a year
- Never **[SKIP TO Q19]**
- I have a lawn care service fertilize my yard
- Don't know

Q16. Do you use a slow release N fertilizer?

- Yes
- No
- I don't know

Q17. Have you ever had your soil tested for fertility or pH?

- Yes
- No
- I don't know

Q18. Where do you get information to decide when and how much fertilizer to apply?

- Follow directions on the bag
- Lawn service conducts the applications
- Apply amount that feels right
- Eyeball it based on size of lawn
- Follow soil test results / recommendations
- Other: _____

Q19. How often do you water your lawn during the summer (May-September) on average?

- Every other day or more often
- Twice per week
- Once per week
- Once or twice per month
- As needed during drought times
- I only use water from my rain barrel to water the lawn
- I do not water the lawn

Q20a. Have you ever heard of a “rain barrel” (i.e., a barrel you put under your downspout to collect rain water that you can use around your yard)?

- Yes
- No

Q20b. How interested would you be in installing and using a “rain barrel” at your home within the next few years?

- Not at all interested
- Not very interested
- Somewhat interested
- Very interested
- I already have and use a “rain barrel”

Q21a. Have you ever you heard of a “rain garden” (i.e., a bowl shaped garden area where runoff can collect and soak into the ground)?

- Yes
- No

Q21b. How interested would you be in installing and using a “rain garden” at your home within the next few years?

- Not at all interested
- Not very interested
- Somewhat interested
- Very interested
- I already have a “rain garden” at my home

Q22. When you need to change the oil in your car or truck, what do you do with the old motor oil?

- I don't change the oil myself / I take it to a garage / oil change service
- Take the old motor oil to a gas station or hazmat facility for recycling
- Store it in my garage
- Put it in the trash
- Dump it in the gutter or down the storm sewer
- Dump it down the sink
- I don't own a car or truck
- Other

Q23. How important do you think it is for local governments to spend more money on protecting water quality?

- Not at all important
- Not too important
- Somewhat important
- Very important

----- Page Break -----

Q24. Have you seen any ads on TV or the Internet about fertilizing less often, and/or reducing water pollution?

- Yes **[CONTINUE WITH Q25]**
- No **[SKIP TO Q26]**
- Not sure **[SKIP TO Q26]**

Q25. Did seeing those ads make you change any of your behaviors related to fertilizing less often and/or reducing water pollution?
(Select all that apply)

- Yes, I now pick up pet waste more often
- Yes, I now plan to fertilize fewer times during the year
- Yes I now properly dispose of motor oil
- I was already doing what is recommend to reduce water pollution
- None of the above applies to me

----- Page Break -----



Q26. Have you seen the logo above anywhere? (Show Only Rain logo)

- Yes
- No

Q27. How do you prefer to receive information? (Please select only one)

- Magazine
- Newspaper
- Online
- Radio
- Television
- Other: _____

Appendix D
Workshop Agendas

Beautifying Your Yard for Healthy Streams

Designing, Building, and Maintaining Small-Scale Residential Rain Gardens

Saturday, Nov. 17
9:30 AM – 12:30 PM

Fairlington Community Center,
3308 S. Stafford Street
Arlington, VA

AGENDA

Welcome 9:30-9:40

Corey Miles, Senior Environmental Planner, Northern Virginia Regional Commission

Designing and Building a Rain Garden 9:40-10:45

Asad Rouhi, Urban Conservation Engineer, Northern Virginia Soil & Water Conservation District

Break 10:45-11:00

Selecting Plants and Landscaping a Rain Garden 11:00-11:30

Christin Jolicoeur, Watershed Management Planner, Arlington County

Maintaining a Rain Garden, Lessons-Learned 11:30-12:00

Aileen Winquist, Watershed Outreach Program Manager, Arlington County

Rain Garden Exercise 12:00-12:20

Asad Rouhi and Christin Jolicoeur

Working in groups, participants will have an opportunity to use what they learn in the seminar to develop a rain garden plan for a single-family house. Using information provided by the Workshop sponsors, groups will calculate the surface area for a rain garden, determine a location for the rain garden, and show how they plan to bring runoff to the rain garden. Groups may have 2 – 3 minutes to share their ideas with the rest of the class.

Questions 12:20-12:30

Optional Tour of Rain Gardens at Fairlington Community Center

Christin Jolicoeur



This workshop was funded, in part, by the Northern Virginia Regional Commission, the Northern Virginia Regional Commission Management Program at the Department of Environmental Quality of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, under the Coastal Zone Management Act of 1972, as amended.



Stormwater Retrofitting Workshop for Stormwater Practitioners

A Chesapeake Bay Stormwater Training Partnership Workshop

April 29 – 30, 2013

8:30 – 4:30

Fairfax County Government Center

Conference Rooms 2 and 3

12000 Government Center Pkwy

Fairfax, VA 22035

FREE!

Several drivers, including the Chesapeake Bay TMDL and MS4 permit requirements, are increasing the demand for stormwater retrofitting as a tool for reducing urban runoff and pollution. Stormwater retrofitting has emerged as one of the solutions to mitigate the impact of un-managed runoff from developed areas as well as to provide better water quality treatment in older stormwater structures, such as detention ponds.

This **free** workshop is for practitioners with at least a basic understanding of stormwater management design and with an interest in learning more about the nuts and bolts of stormwater retrofitting. The two-day program will include a mix of lecture, discussion, small group exercises, and field activities. *We encourage you to bring your laptops for the design exercise portion of the workshop.* The focus of this training is on how to locate and prioritize retrofit opportunities in developed areas, through field investigations and concept drawings. We will cover retrofitting streets, existing stormwater basins, public lands, and other topics.

Instructors: Tom Schueler, Chesapeake Stormwater Network
 Cecilia Lane, Chesapeake Stormwater Network
 Dave Hirschman, Center for Watershed Protection
 Laurel Woodworth, Center for Watershed Protection
 Matt Meyers, Fairfax County, Department of Public Works and Environmental Services

DAY 1 – Monday, April 29

8:30 – 9:00	Registration	
9:00 – 9:15	Welcome and Introductions	ALL
9:15 – 9:45	Why Retrofit? (Discussion)	CWP
9:45 – 10:45	Retrofit Types & Locations	CSN
10:45 – 11:00	Break	
11:00 – 12:00	Desktop Assessments (& Group Exercise)	CWP
12:00 – 1:00	Lunch (on your own)	
1:00 – 2:00	Intro to Field Investigations	CSN/CWP
2:00 – 4:30	FIELD EXERCISE #1 (multiple sites)	ALL

DAY 2 – Tuesday, April 30

8:30 – 9:00	Welcome	
9:00 – 10:00	Post-Field Work	CSN

10:00 – 11:00	Ranking Retrofits (& Group Exercise)	CWP
11:00 – 1:00	<i>Lunch (on your own) & Self-guided Tour of Existing Retrofits</i>	
1:00 – 1:30	How Much Do Retrofits Cost?	CSN
1:30 – 2:00	Design and Construction	CWP
2:00 – 3:00	Maintenance & Verification	CSN
3:00 – 3:30	Case Study: “Stormwater Enhancements and Retrofitting in Fairfax County”	Matt Meyers, Fairfax Co.
3:30– 4:00	Beyond Retrofitting: Using a Comprehensive Watershed Approach to Restoration	CSN
4:00 – 4:15	Retrofit Reflections & Evaluations	ALL

The [Chesapeake Bay Stormwater Training Partnership](#) is a training program for stormwater management professionals created by the **Chesapeake Stormwater Network** and the **Center for Watershed Protection**. It is sponsored by the National Fish and Wildlife Foundation’s Chesapeake Bay Stewardship Fund. Fairfax County, Northern Virginia Soil and Water Conservation District and the Northern Virginia Regional Commission are providing logistical support for the workshop.

The **Chesapeake Stormwater Network (CSN)** is an organization whose mission is to improve on the ground implementation of more sustainable stormwater management and environmental site design practices in each of 1300 communities and seven states in the Chesapeake Bay Watershed. The Network is coordinated by **Tom Schueler** and **Cecilia Lane** and is located in Ellicott City, MD.

Since 1992, the **Center for Watershed Protection (CWP)** has been working in numerous communities to provide solutions for clean water and healthy natural resources. Their work is based on sound scientific research and guided by a passion for advancing the state-of-the art, ensuring practitioners have the right tools, and promoting the widespread implementation of the most effective watershed management techniques.

New Tools for Capturing Citizen Data

Are you a government agency, local watershed group, or simply interested in learning about FieldScope?

Join us for a brown bag lunch on how FieldScope allows you to capture data collected by citizen scientists.

FieldScope is a web-based mapping, analysis, and collaboration tool designed to support geographic investigations and engage citizen scientists in investigations of real-world issues.

Date: 11:45 am to 1:30 pm on Tuesday, September 24, 2013

Location: NVRC Offices. 3060 Williams Drive, Suite 510, Fairfax, VA 22031

RSVP: The event is free, but [registration](#) is required.

Agenda: Presentation by National Geographic and the Alice Ferguson Foundation on the Trash Free Potomac FieldScope and Chesapeake Bay Water Quality Programs.

Lunch: Bring your own lunch; drinks and dessert will be offered. In the spirit of a Trash Free Potomac, we challenge you to bring a trash free lunch.



Presented by National Geographic, the Alice Ferguson Foundation, and the Northern Virginia Regional Commission

