



Syracuse Urbanized Area Stormwater Public Education Survey

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Stormwater Public Education Survey

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I. Introduction

The New York State Department of Environmental Conservation issued the SPDES General Permit for Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s) Permit in 2003. Municipalities regulated under this permit are required to improve the quality of stormwater discharged from their separate storm sewer systems to the waters of the United States by implementing management practices under six minimum control measures, one of which is the development and implementation of a public education program. Regulated municipalities are also required to evaluate the effectiveness of their stormwater management programs and make adjustments to improve efficiencies when indicated.

There are thirty-one regulated MS4 communities located in the Syracuse Urbanized Area (SUA). Twenty-nine of these communities work collaboratively to comply with common MS4 permit requirements as members of the CNY Stormwater Coalition. The Central New York Regional Planning & Development Board (CNY RPDB) serves as staff to the CNY Stormwater Coalition and is responsible for developing and delivering a consistent public stormwater education program. To aid the regulated MS4 operators in the Syracuse Urban Area (SUA) assess the effectiveness of public education efforts underway, the CNY RPDB developed and administered a basic, non-scientific Stormwater Survey in 2007. The survey was replicated in 2010 and 2015. The 2007 survey results provide a comparative baseline for identifying both effective and ineffective messages and delivery mechanisms for affecting behavioral change and raising awareness among the general public. In 2015, questions were added to basic survey to identify targets for improving the effectiveness and delivery of an enhanced phosphorus education program in the Onondaga Lake watershed.

II. Survey Design and Methodology

The Stormwater Public Education Survey was developed in order to learn more about public knowledge and overall perceptions regarding stormwater runoff and impacts on local communities. The MS4 general stormwater permit requires that public education efforts target specific “pollutants of concern.” In the SUA, the two primary pollutants of concern are phosphorus and sediment. These pollutants impact the majority of SUA water bodies listed on the NYS Priority Water Bodies List (PWL). As such, many of the survey questions focused on phosphorus and sediment. Pathogens are a secondary pollutant of concern in central New York where

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The 2015 survey was presented in four sections:

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The 2015 survey was presented in four sections:

1. General response questions - These questions are designed to help determine the perceived significance of potential water quality threats in Central New York.
2. Property maintenance habits - This section is designed to help municipalities understand if certain everyday activities are impacting water quality in Central New York, and therefore should be targeted for additional education and outreach.
3. General opinion questions - This section is intended to help municipalities improve the level and delivery of stormwater educational messages in Central New York.
4. General stormwater pollutant awareness questions – This section is designed to help gauge the need to strengthen core program messages.

The 12-page survey contains 38 multiple choice questions and one open ended question. Appendix A contains the full 2015 survey instrument and tabulated responses. The estimated time required for survey completion was approximately eight minutes. All survey responses were kept confidential. Survey respondents were permitted to skip questions that did not pertain to their lifestyle (i.e. pet owner). The number of responses for each question therefore varied. 89% of all survey respondents completed all 39 questions.

The survey was hosted on Survey Monkey, an easy to use, online survey platform that provides data analysis tools. The survey period was open from October 15, 2015 through December 31, 2015.

Distribution methods differed for each of the three surveys. The 2007 survey was directly distributed in hard copy form only to residents of regulated MS4 communities in the SUA. Survey forms were mailed or hand delivered. Respondents returned completed survey forms via the U.S. Postal Service.

The 2010 survey was available electronically and in hard copy form format. The survey was hosted on Survey Monkey, an online survey hosting service. The Survey Monkey link was posted on the CNY RPDB stormwater website, the Onondaga County website and announced in special mailings. Survey notices, hard copy survey forms and requests to participate electronically were posted at public use terminals in public libraries throughout the SUA. Distribution of the 2010 survey was widespread and consequently, included responses from a geographically wider audience representing both MS4 and non-MS4 communities than the 2007.

The 2015 survey was only available electronically. A link to the survey was distributed to individuals using existing list serves maintained by the CNY RPDB on behalf of the CNY Stormwater Coalition. Partner groups and agencies, including watershed organizations, county water quality agencies, and academic institutions were recruited to promote the survey and distribute the link to their members. Coalition members posted survey links on newsletters and websites, and the survey was promoted in newspapers outside of the immediate SUA. All responses were collected through Survey Monkey with no manual response entries. Appendix A contains the full list of 2015 survey questions and responses.

III. 2015 Survey Response summary

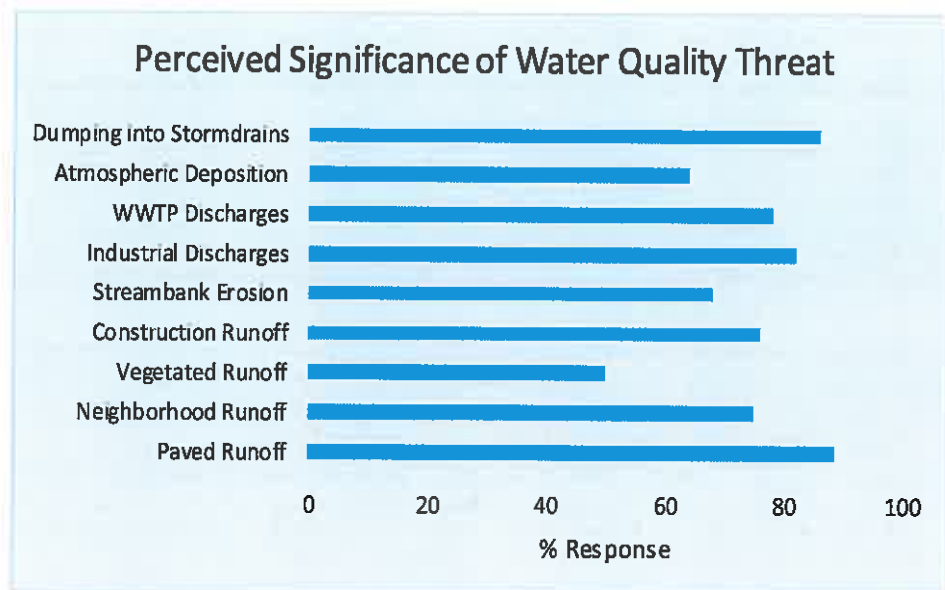
A. General Response Section

Results and interpretations from the General Response Section are summarized below. These questions are designed to determine the perceived significance of potential water quality threats in Central New York. Comprehensive results for each question are summarized in Appendix A, “2015 Survey Tabulations.” A comparative analysis of 2007, 2010 and 2015 survey responses is found in Section IV and Appendix B of this report.

The majority of respondents (45%) in 2015 considered overall water quality in their community to be good; 9% considered it to be excellent; and, 27% considered it to be fair. The remaining 13% had poor impressions or no opinion about water quality.

Respondents were asked to rate the significance of nine separate sources of pollution. A response of “significant” or “very significant” indicates that the identified pollution source is locally perceived to be a problem, while a response of “not significant” indicates that the identified pollution source is not considered to be a local problem.

The greatest perceived source of water contamination in the SUA is runoff from paved surfaces, such as roadways and parking lots. 89% of all respondents identified this source as significant or very significant. 75% of the survey respondents consider



stormwater runoff from residential neighborhoods to be a significant or very significant threat to water quality, and 50% consider stormwater runoff from vegetated or forested lands to be a significant or very significant threat to water quality.

The second greatest threat to water quality in CNY was identified as illicit discharge of materials other than stormwater into the storm sewer system. The survey question did not identify sanitary sewer cross connections as a component of illicit discharges; however, 86% of survey respondents consider the dumping of oil, grease, household chemicals and trash into storm drains as a significant or very significant source of water pollution in CNY. 75% of respondents are aware that a central hotline is available for reporting non-stormwater discharges/dumping

to the separate storm sewer system in Onondaga County. The survey did not ask about hotline usage.

76% of survey respondents consider active construction sites to be a significant or very significant source of pollution.

58% of survey respondents consider eroding stream banks to be a significant or very significant source of water pollution.

82% of survey respondents consider industrial sources to be significant or very significant sources of water pollution.

78% of survey respondents consider waste discharges from sewage treatment facilities to be a significant or very significant source of water pollution.

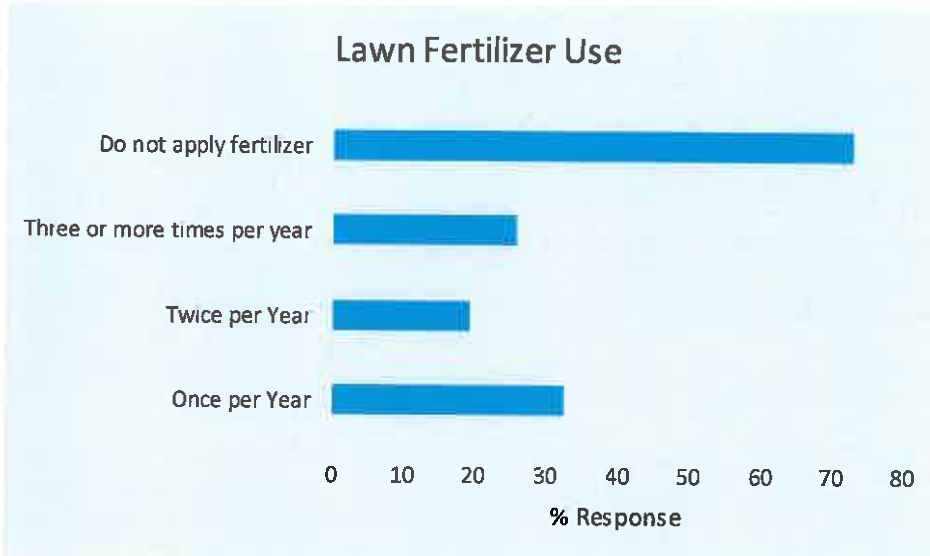
64% of survey respondents consider atmospheric deposition to be a significant or very significant source of water pollution.

B. Property Maintenance Habits Section

This section is designed to improve understanding of how the general public views the impact of everyday activities on water quality. Comprehensive results for each question are summarized in Appendix A, "2015 Survey Tabulations." A comparative analysis of 2007, 2010 and 2015 survey responses is found in Section IV and Appendix B of this report.

Respondents were asked to supply information about personal habits that may impact water quality. Cumulatively, individual habits and actions have the potential to significantly impact local water quality both positively and negatively. If specific actions or habits having potentially negative impacts can be identified as prevalent within a given region, public education and outreach programs targeting those actions can be effective tools for improving local water quality.

To evaluate the cumulative impact of individual actions on phosphorus loading, survey respondents were asked to describe their home lawn care practices. Nearly all respondents that have a lawn (98.2%) mow their own lawns. 90% of the respondents compost their grass clippings passively (leave them on the lawn), and 16% compost them actively (compost bins/piles). 2% of respondents place their grass clippings at the curb for municipal pick up, and no respondents reported disposing of grass clippings with other household garbage. While it is encouraging that nearly all respondent's grass clipping disposal habits have a relatively low impact on water quality, and even more encouraging that almost three quarters (73%) of respondents that have lawns do not apply supplemental lawn fertilizer.



Less encouraging, however is that of those respondents that do apply fertilizer, 67% apply it two or more times per year, indicating a need for more focused outreach on this topic.

85.0% of respondents indicate that they

are aware of lawn soil testing services, but only 12 % have had their lawn soil tested. This may indicate a lack of understanding about the economic and environmental benefits that can result from basing fertilizer use on an accurate lawn soil test, or that respondents are unaware of the potential water quality impacts of improper fertilizer application and therefore, don't see a need to have their soil tested.

When it comes to washing their cars, 76% of respondents indicate that they use a commercial car washing service while 23% of the respondents wash their cars at home in the driveway or road, and 11% wash their cars at home on their lawn. It is not clear if the majority of respondents utilize commercial car washes for the convenience, or if they understand that by doing so they protecting water quality in their communities.

Of the respondents that wash their cars at home, a small percentage wash their cars on their lawns indicating that the impacts and pathways of pollutants associated with car washing may not be well understood by the majority of the population. Equally probable however, is the fact that washing a car on the lawn is unpopular because of the potential damage to the lawn.

The results regarding another car care issue are also very encouraging. 92% of the respondents claim to recycle their used motor oil while only 8% admit to improperly disposing of used motor oil by including it with other household trash (7%) or pouring it down an indoor sink, toilet or drain (1%).

The trend is similar, but less positive with regards to household chemical disposal. The majority of respondents (83%) take their leftover household chemicals (cleaners, paint thinner, pesticides etc.) to a recycling facility. The remaining 17% admit to improperly disposing of leftover household chemicals by disposing of them with regular garbage, pouring them down the sink, toilet or bathtub, or diluting them with water and pouring them on the ground outdoors.

The survey also assesses how dog owners handle pet waste. 70% of respondents that own dogs pick up the waste all or most of the time, while 30% of dog owner only occasionally or never pick up the waste. The impact of waste left of the ground can have locally significant impacts on water quality. The survey does not ask how pet owners dispose of pet waste. The method of disposal may have as much impact on water quality as whether or not it gets picked up.

C. General Opinion Section

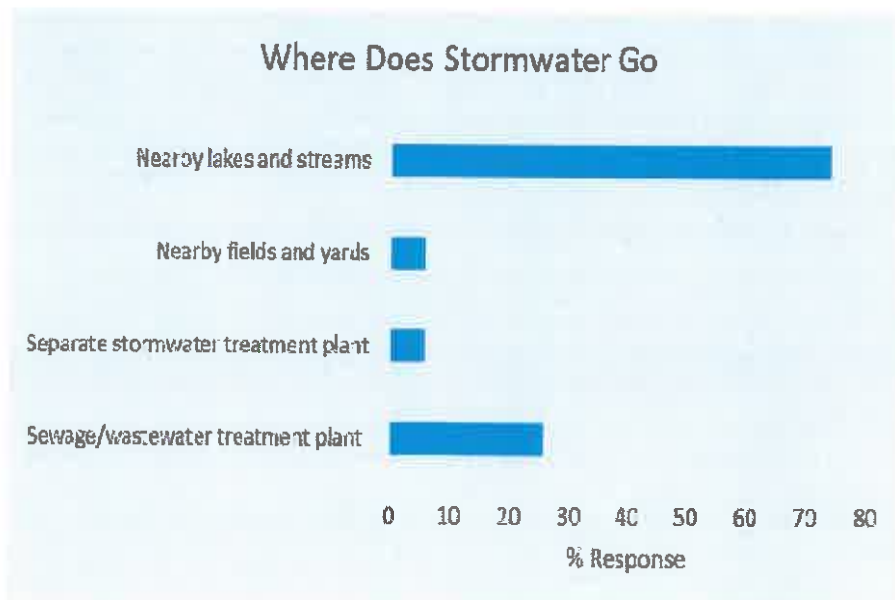
This section is designed to help municipalities improve the level and delivery of stormwater educational messages in Central New York. Comprehensive results for each question are summarized in Appendix A, "2015 Survey Tabulations." A comparative analysis of 2007, 2010 and 2015 survey responses is found in Section IV and Appendix B of this report.

Respondents were asked to identify how they perceive their own impact on water quality and about their personal interests in water quality issues. They were also asked to identify preferred media and sources of information.

When asked if their everyday actions impact water quality in Central New York, 95% of respondents believe that they do (51% directly; 44% indirectly). 98% of respondents disagree with the statement that "only people who live alongside streams, rivers and lakes need to worry about how they are impacting water quality." However, 5 % of respondents believe their actions have no impact on water quality. Overall, these results are encouraging as they suggest that the general public recognizes that they have a role in protecting water quality, although they may not always understand the significance of that role.

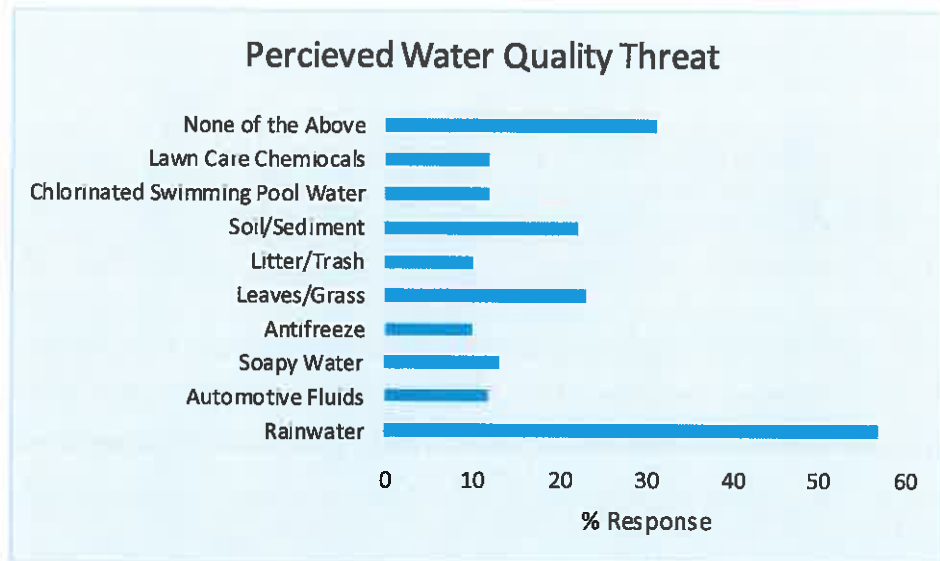
Respondents were asked to identify where stormwater goes after it enters a stormdrain. 74% of the respondents correctly identified lakes and streams; however, 33% of respondents indicated that

stormwater goes to a treatment facility before being discharged (26% WWTP and 6% separate stormwater treatment plant). This false understanding suggests that the impacts and pathways of pollutants associated with stormwater runoff are not sufficiently well understood by the general public and may undermine efforts to bring about behavioral change.



When asked if stormwater issues (i.e. erosion, drainage, etc.) have improved, worsened or remained the same while living at their current residence, 46% of respondents reported that stormwater-related problems have remained the same. 33% of respondents reported that stormwater problems have increased and 16% reported that stormwater problems have decreased. 6% of the respondents were unsure. On the face, these results are not telling; however, in comparison to responses received to this question in 2007, it is apparent that more people are aware of stormwater runoff in 2015 (see Sec. IV).

In 2015, respondents were asked to identify which potential contaminants pose a threat to water quality in CNY from a defined list. While 31% of all respondents recognized that all the potential contaminants pose some threat to water quality, more

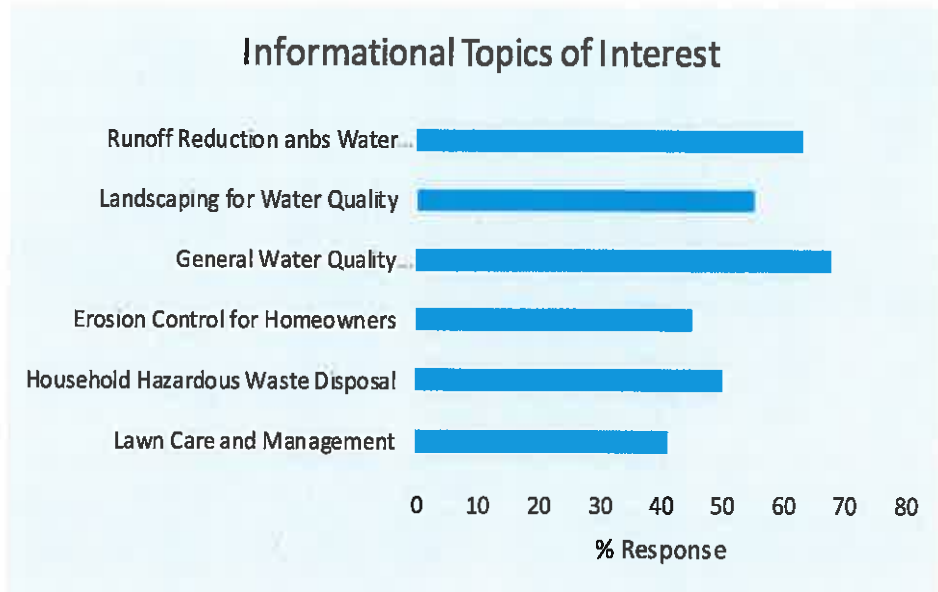


than half of the respondents (57%) believe that stormwater does not pose a threat to water quality. While this marks progress since 2010 when 87% of respondents identified stormwater as a non-threat to water quality, it also shows that a major message (stormwater runoff is a major source of surface water contamination in CNY, NYS and the nation) of the MS4 education program is being missed by a portion of the target audience. Considering that phosphorus and sediment are the primary pollutants of concern in the SUA, it is equally alarming that 23% of respondents believe that leaves and grass pose no threat to water quality, and that 22% believe soil and sediment pose no threat to water quality.

It is encouraging to note that 76% of respondents are interested in learning more about protecting water quality in Central New York. The preferred methods of information distribution identified by respondents are: websites (71%); print and online new articles (40%); print and online newsletters and publications (38%); TV and radio announcements (37%) Social media (34%) and lastly, informational brochures available at public places (29%).

Respondents indicated a preference for web-based resources when asked to identify their preferred news media. 78% of respondents prefer online newspapers over print newspapers (62%), and 58% prefer online newsletters over print newsletters (46%). Only 26% of respondents indicated that they read direct mail advertisements, while zero respondents read free, local newspapers.

When asked to identify topics of interest from a list of six choices, 68% of all respondents selected general water quality awareness and 63% selected runoff reduction and water conservation using green infrastructure. Landscaping for water quality (55%)

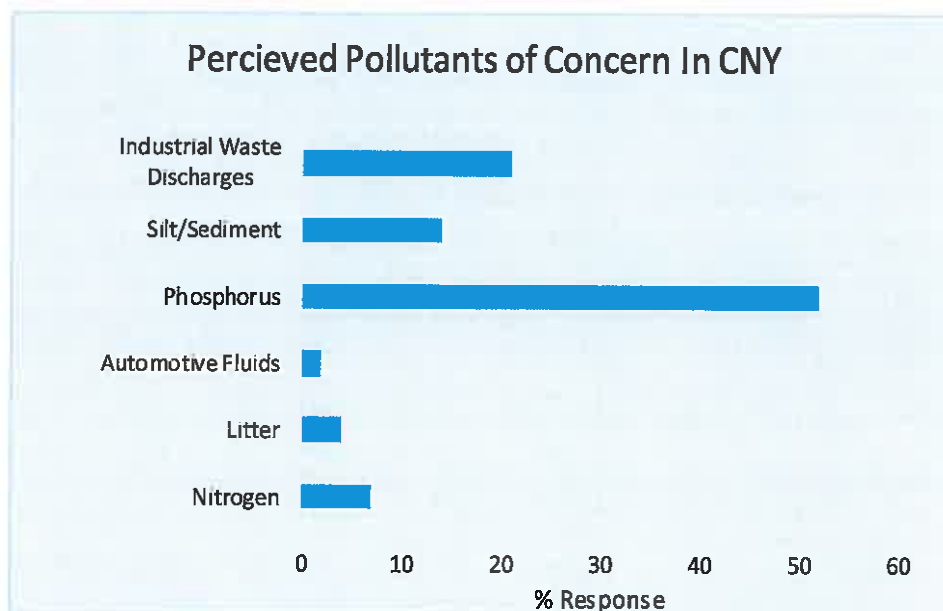


and household hazardous waste disposal (50%) also ranked high. Given the primary pollutants of concern in the SUA (phosphorus and sediment), it was troubling that erosion control for homeowners (45%) and lawn care and management placed last in terms of public interest among survey respondents.

D. General Stormwater Pollutant Awareness Section

This section is designed to help gauge the need to strengthen core program messages. Comprehensive results for each question are summarized in Appendix A, "2015 Survey Tabulations." The questions were not part of the 2007 or 2010 surveys, and therefore are not reflected the comparative analysis of 2007, 2010 and 2015 survey responses in Section IV of this report.

Respondents were asked to identify the primary pollutants of concern for CNY surface waters. A small majority (51%) of survey respondents correctly identified phosphorus as the primary pollutant of concern and over 99% of respondents recognize lawn



fertilizer as a significant source of phosphorus in CNY. 94% of the respondents recognize that most lawns in CNY do not require additional phosphorus to maintain vigor and health, however less than half (46%) of the respondents are aware that NYS law makes it illegal to use phosphorus fertilizer on lawns without demonstrating a need for through a soil test.

Somewhat surprisingly, 29% of respondents are not aware that grass and leaves, and 25% of respondents are not aware that soil are significant sources of phosphorus. From the perspective of the public education program, these source messages are frequently bundled with lawn fertilizer messages leading to the expectation that the public response to these survey questions would demonstrate a more uniform appreciation of individual phosphorus sources.

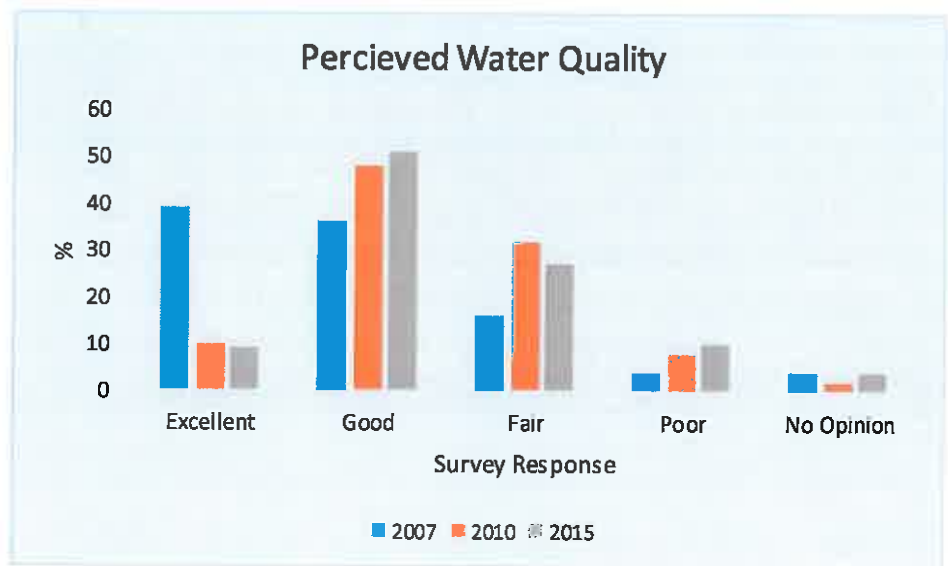
85% of respondents understand that pet waste can have a significant impact on water quality with only 3% of respondents failing to identify pet waste as a source of pathogens.

Although it was not possible to assess the accuracy of the response, the final survey question asked respondents if they reside in a municipality that operates a separate storm sewer system. 72% of the respondents entered an affirmative or negative response, while 28% were unsure.

IV. Comparison and Assessment of the 2007, 2010 and the 2015 Survey Results

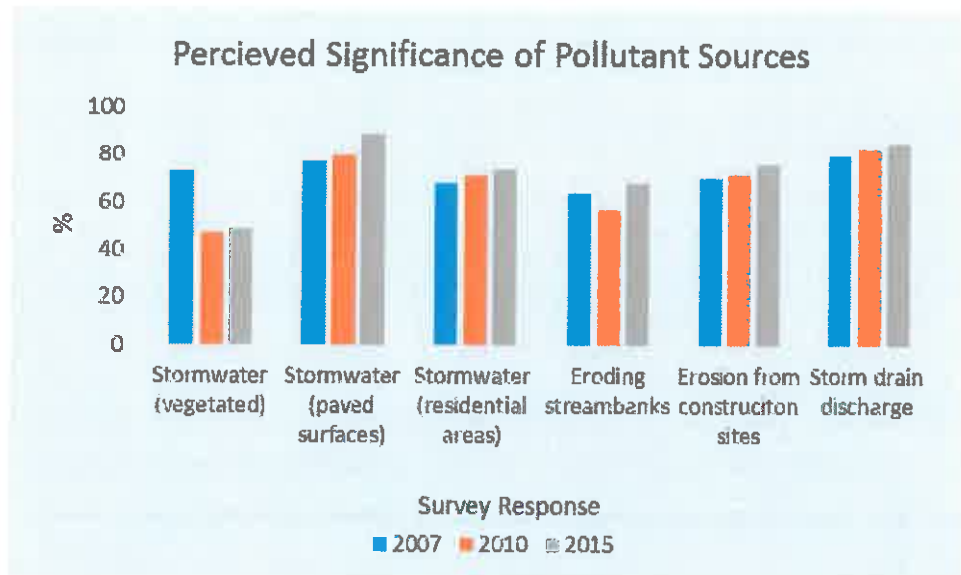
The primary objectives of this report are to assess the effectiveness of the ongoing stormwater public education within the Syracuse Urbanized Area, and to make recommendations for improving the regional stormwater public education program as needed to bring about behavioral changes that support water quality health. The assessment of the current program is based on a comparison of the 2007, 2010, and 2015 survey results. The following section summarizes these comparisons.

In 2007, the clear majority of survey respondents characterized CNY water quality as “Excellent.” Since then, there has been an increasing perception that water quality is “Good.” The change in anecdotal perceptions may be attributed to a growing awareness of local water quality in general. Regional water success stories associated with remediation efforts in



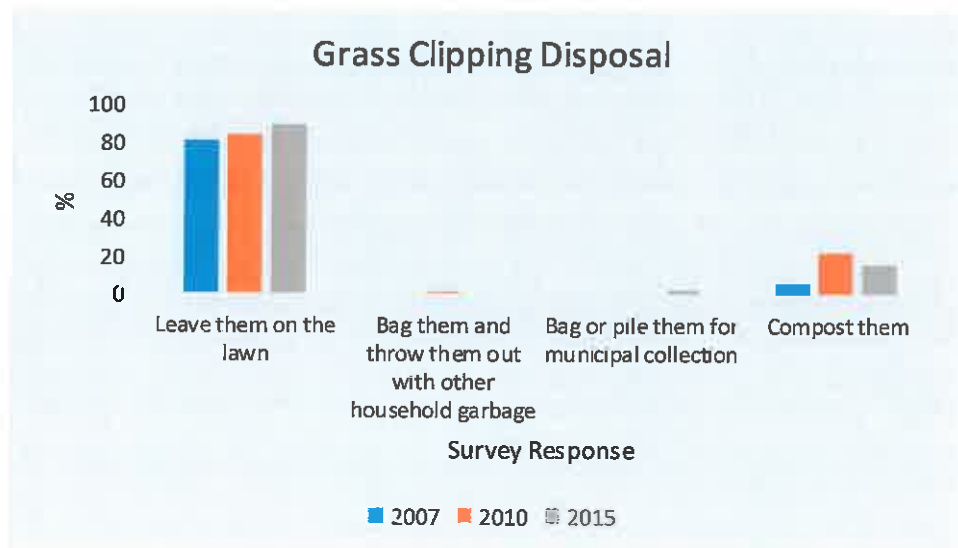
Onondaga Lake and reductions in combined sewer overflows resulting from both grey and green Save-the-Rain projects reinforce both the positive and negative aspects of CNY's water resources. The 2015, 79% of survey respondents viewed water quality as "Good" or "fair." This middle of the road majority view of CNY's water quality is reflective of actual conditions and is consistent with the majority view in 2010 when 80% of the respondents perceived water quality to be "Good" or "Fair."

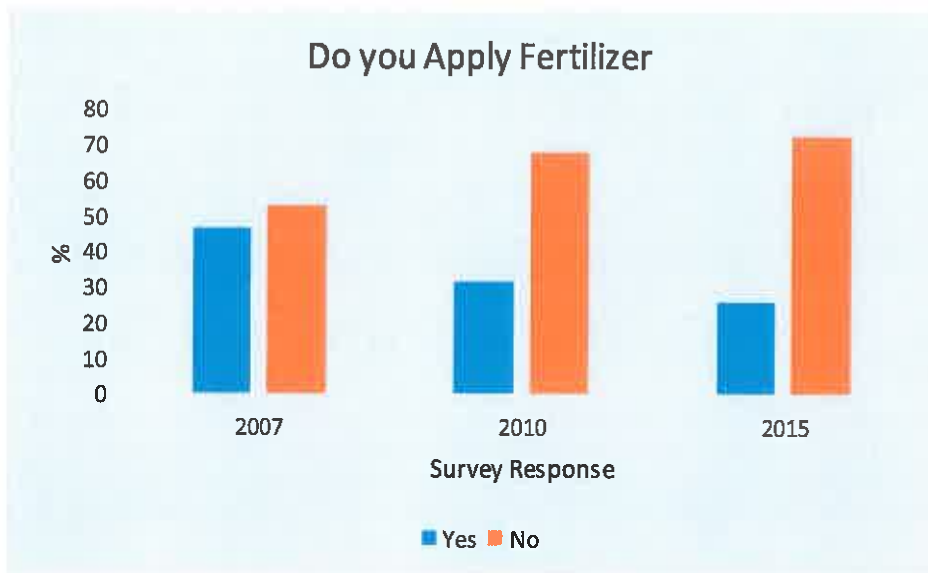
Over time, survey responses indicate a growing awareness of the significant role individual stormwater pollutant sources play in water quality. This change corresponds with the primary messages delivered through the Stormwater



Coalition public education program and indicates a slow, but steady improvement in public understanding.

Survey results indicate an improvement in how homeowners deal with grass clippings from their lawns. A strong focus on residential lawn care has been a cornerstone of the public education program which began to distinguish between "leaving clippings on the lawn" and "composting" them with other yard and garden waste in 2011. The results of the 2015 survey indicate the program is effectively reaching the targeted audience as reflected by an increase in the percentage of respondents that leave their clippings in place.





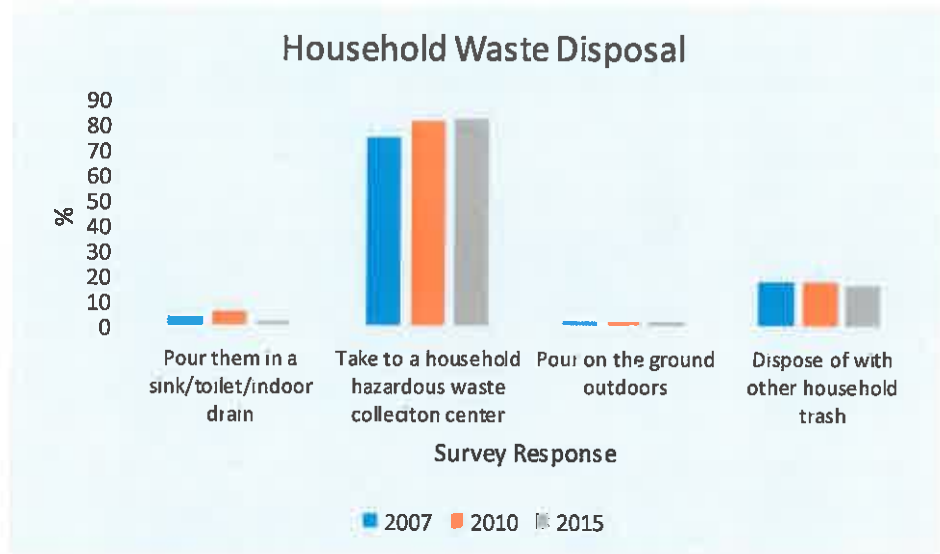
There has been a marked increase in the percentage of survey respondents that choose not to apply lawn fertilizer from 2007(53%) to 2015 (73%). Strong educational programming since 2007 that has focused on improving homeowner awareness of nutrient loading,

phosphorus impacts on local waters, and natural soil fertility levels that support healthy lawns without the need for fertilizers support this change and appear to be well received. There is still room for improvement in this area, as 67% of respondents that still apply lawn fertilizer do so two or more times per year.

Public stormwater education messages focused on car maintenance issues appear to be working; however, non-stormwater related concerns need to be broadly addressed. The number of people using a commercial car wash continues to grow with 76% of respondents using a commercial car wash in 2015. This is up from 70% in 2010 and 56% in 2007. It is not clear if this change can be directly attributed to stormwater education efforts or the rise in the number of customer friendly commercial car washing establishments offering a range in services and price points. Of the respondents that wash their cars at home, fewer respondents (23%) wash them on the driveway compared to 31% in 2010 and 41% in 2007. A positive trend is also observed in the move toward washing cars on lawns. In 2015, 11% of respondents washed their cars on lawns. This is up from 7% in 2010 and only 2% in 2007. In light of challenges associated with overcoming the perceived negative impacts to lawns, the small, but positive behavioral change can be attributed to ongoing public messaging that stresses the pathways of pollutants and the filtering properties of soil and rooted vegetation.

Of the people that change their own motor oil, a very high majority of 2015 respondents (92%) indicate that they take their used oil to a recycling facility. While this is certainly good news, this number is actually down from 2010 when 95% of the respondents recycled used motor oil. It should be noted that no respondents reported disposing of used oil directly on the ground or in a storm drain. This shows a small improvement over both the 2007 and 2010 survey results when positive responses were recorded for both ground and storm drain disposal. More alarming is the fact that in 2015, 7% of respondents disposed of used oil with other household

trash and 1% of respondents pour used oil down a drain or toilet compared to 2010. Both of these behaviors are slightly up from 2010 (3.8% and 0.0%).



A slightly greater percentage of respondents in 2015 (83%) took

their household wastes (paint thinner, cleaners, pesticides, etc.) to hazardous waste collection centers or to a collection event compared to 82% in 2010 and 76% in 2007. Although public awareness regarding illicit disposal practices of both motor oil and other household waste is encouraging, the impacts of these negative actions, coupled with the fact that they are still ongoing to some degree, warrants additional educational outreach.

A smaller percentage of respondents in 2015 (70%) are picking up after their dogs “always” or “often” than in 2010 (80%) or in 2007 (85%). This was surprising, considering the increasing presence of local laws in addition to neighbor perception and expectations. Pet owners are a

primary target audience for the public education program which has focused on pathogen issues associated with pet waste. The current survey results suggest that past efforts have been ineffective at improving awareness and changing behavior.



Findings and Recommendations

The following recommendations for the public stormwater education program were developed in response to a comparison of trends observed between public surveys conducted from 2007 through 2015.

Overall, the public stormwater education and outreach program is having a positive impact on awareness building and behavior change in central New York. Respondents are more aware of the water quality threat posed by stormwater, regional pollutants of concern, their sources and pathways today than they were in 2007. Phosphorus is recognized as a significant pollutant throughout central New York, and respondents have adopted behavioral changes that support water quality protection and improvement, including reducing the use of supplemental phosphorus on residential lawns, utilizing recycling centers for household and automotive waste disposal. There is also a greater recognition of natural processes and how they impact the flow and fate of pollutants to surface waters.

The results of the survey are not all positive. A significant percentage of survey respondents continue to use, and overuse lawn fertilizer. More than half of the respondents are unaware of legal restrictions on the use of phosphorus fertilizer. There is a growing awareness of how a separate storm sewer works, but the survey indicates that the number of people that discharge non-stormwater substances on the ground or directly into a storm drain is on the rise. A high majority of respondents know that pet waste poses a significant threat to water quality, but the number of pet owners that consistently pick up after their pets has been steadily declining since 2007.

In light of these somewhat contradictory findings, it is recommended that the public education program continue to focus on specific topics, including:

- Nutrient impacts and reduction
- illicit discharges to storm sewer systems;
- the path and fate of stormwater;
- the significance of stormwater as a source of pollution
- the impacts of sediment on water quality and the importance of stream bank buffers;
- the benefits of maintaining vegetated and forested lands;
- pathogen impacts associated with pet waste; and
- pet owner responsibilities.

Reinforcement of these messages will help to emphasize the importance of controlling the quality and quantity of stormwater pollution, while encouraging the general public to make lifestyle changes that will improve and protect water quality.

In order to be effective, the public education program will have to expand its reach and frequency. Since its inception, the public education program utilized newspaper articles and inserts, direct mailings, public signage, posters, fact sheets, and brochures. Seasonal literature was distributed to specific target audiences such as gardeners, Do-It-Yourselfers, students, and

pet owners. A stormwater website and an electronic newsletter are also core components of the program.

Given the overall positive impact of past efforts, many of these delivery mechanisms should be maintained or strengthened. A new challenge stems from the fact that over 75% of the 2015 respondents indicated that they are not interested in learning more about protecting water quality. The public education program must incorporate new informational delivery media and expand efforts to disseminate information electronically. 71% of respondents in 2015 indicated a preference for receiving information through websites. While a high percentage of the total, this is actually down from 2010. The only category to increase in terms of preferred information sources is municipal newsletters and publications.

Increased promotion and reliance on the existing stormwater website as a tool for disseminating useful, current and targeted information should be a priority. Municipalities and other partner groups should be encouraged to link to the website. Relevant, seasonal content should be updated frequently. Stormwater feature information should be provided to municipalities and other partner organizations for inclusion on independent websites and/or incorporated into municipal newsletters (print and electronic) as a regular feature.

Newspapers and newsletters, both online and print, continue to be utilized by a very high percentage of 2015 respondents. Articles in the Syracuse Post Standard have the potential to reach the largest number of homes, both electronically and in print, but are among the highest cost outlets available. Limited utilization of the Post Standard can raise and maintain public awareness of stormwater issues and encourage homeowner participation in protecting water quality. Less costly electronic newsletters should be utilized to provide topic specific, regularly scheduled information blasts and to promote greater citizen participation in stormwater management efforts.

Phosphorus and sediment are the primary pollutants of concern throughout central New York and should be the focus of nonpoint source pollution messages. The NYS Dishwasher Detergent and Nutrient Runoff Law will potentially reduce the amount of phosphorus in stormwater runoff and should be heavily promoted as a reminder that the use of phosphorus lawn fertilizer is not only an unnecessary threat to water quality, it is illegal.

Phosphate fertilizer is still available for establishing new lawns on barren soil. Educational efforts should be strongly focused on developing a broader awareness of the fact that supplemental phosphorus is not needed to maintain a healthy lawn in conjunction with messages that link at home lawn fertilization with the impacts and pathways of phosphorus to surface waters. The economic advantages of not using phosphorus should be stressed as a means of enticing behavioral change. The economic and environmental impacts of phosphorus fertilizer use/mis-use should be restated and reinforced along with municipal yard waste collection schedules and at community composting facilities, as well as, when permissible, at home and garden stores.

Home and garden stores and local garden clubs should be recruited to promote better landscaping practices and the benefits of maintaining dense ground cover. Demonstration projects such as rain gardens planted in public areas such as parks are also an effective way to share information about how effective landscaping methods can control stormwater runoff.

Information should be provided to the public on ways to reduce erosion and on the damaging impacts of sediment runoff. Guidelines for planting and maintain shoreline buffer strips, along with a list of native plants and nurseries where they can be purchased should be incorporated into seasonal program messages.

Guidance should be available on the correct methods for disposing of yard and household waste and automotive chemicals. All gardening products, pet waste, pesticides, oil, and gasoline should be kept out of the storm drains.

Successful efforts to teach the public that stormwater flows untreated to local waterways should be continued. While the public education program has been very successful in conveying this concept, 26% of respondents believe that stormwater is treated before being discharged into local waterways. Public education programs should continue to emphasize the resulting negative impact that discharging/dumping household chemicals and other substances into stormdrains has on water quality, aquatic life and habitat. These messages must reinforce the fact that no treatment is available to avoid these impacts or alleviate these damages.

Although the current survey demonstrates that progress is being made towards raising recognition of the significance of dumping non-stormwater into stormdrains, almost 25% of respondents fail to acknowledge this is a significant threat to water quality. Continued vigilance is necessary to overcome this mind set. Graphic depictions of storm sewer components and functions compared to sanitary and combined sewer systems are effective ways of simplifying a potentially abstract concept and should be incorporated into the education program.

Opportunities to expand on education and outreach in the area of pet waste management, including a focus on proper disposal methods, should be expanded. Simple messages that use humor have been developed and proven to be successful across the state and the country. Outlets and opportunities (i.e. issuing dog licenses, posting and distribution of information at veterinary and dog boarding facilities, dog shelters and dog parks) should be identified and nurtured. Signage and pet waste stations (with plastic bags and waste receptacles) in local parks should be promoted and installed whenever possible.

Basic messages geared toward youth should be routinely available for use by youth groups and to partner organizations that work with youth. Existing materials such as activity sheets, coloring books and bookmarks, etc. should be promoted electronically as well as made available at public outreach events.

Parent-Teacher organizations and other groups including scouting organizations should be targeted as an audience for disseminating stormwater management information. As a

sponsoring organization for fund-raising activities, such as car-washes, and community involvement activities, including those associated with Earth Day, these organizations represent an underutilized asset for informing a prime target audience.

- END -

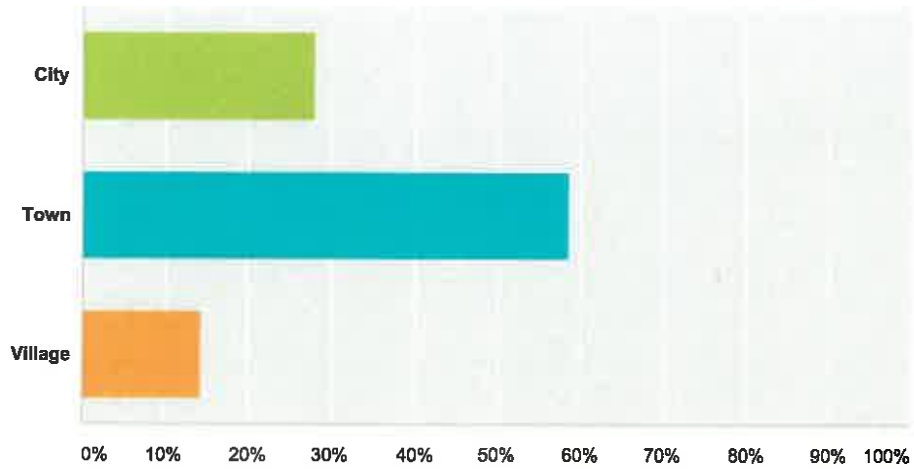
Appendix A

2015

SURVEY RESPONSE TABULATION

Q1 Do you currently reside in a:

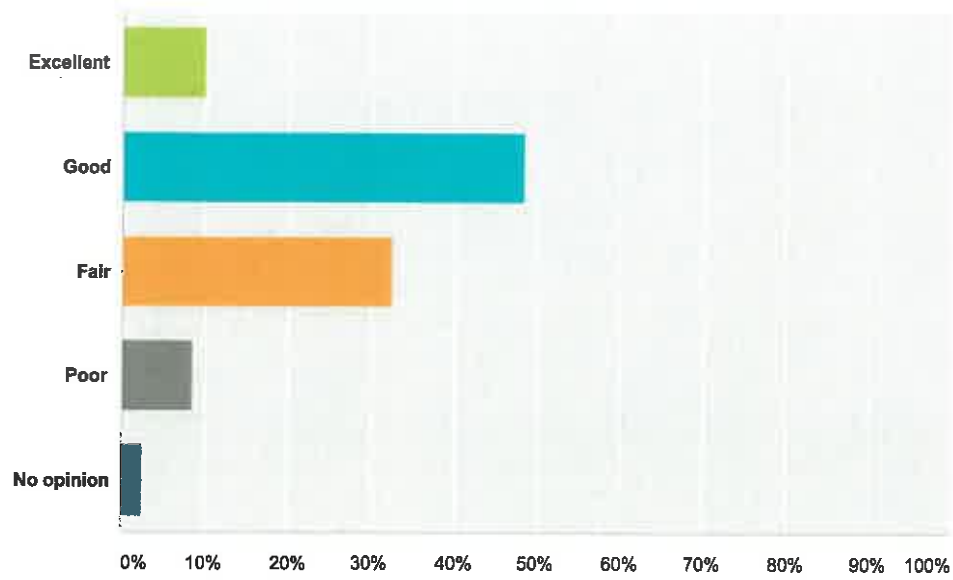
Answered: 602 Skipped: 0



Answer Choices	Responses	Count
City	27.91%	168
Town	55.64%	353
Village	14.45%	87
Total Respondents: 602		

Q2 The overall water quality of the streams and lakes in my community is:

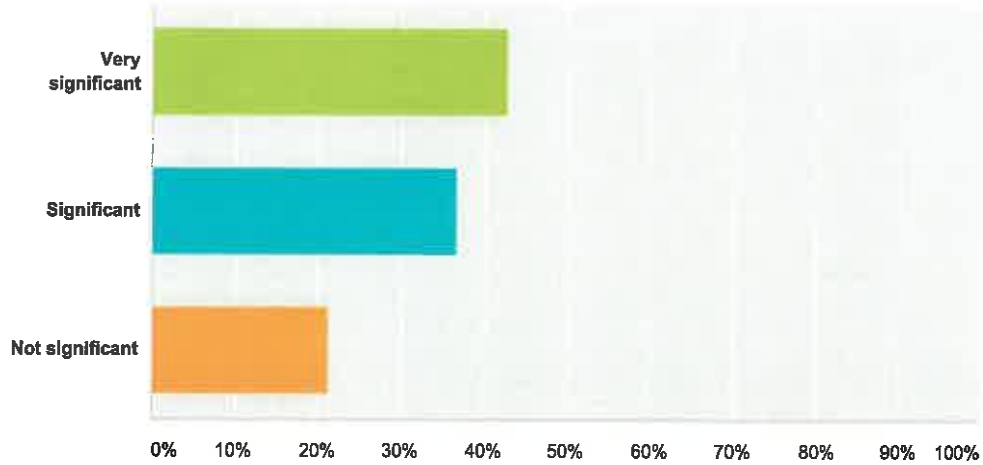
Answered: 600 Skipped: 2



Answer Choices	Responses	Count
Excellent	10.00%	60
Good	48.50%	291
Fair	32.50%	195
Poor	8.50%	51
No opinion	2.50%	15
Total Respondents: 600		

Q3 How significant do you consider industrial waste discharges to be as a source of water pollution in CNY?

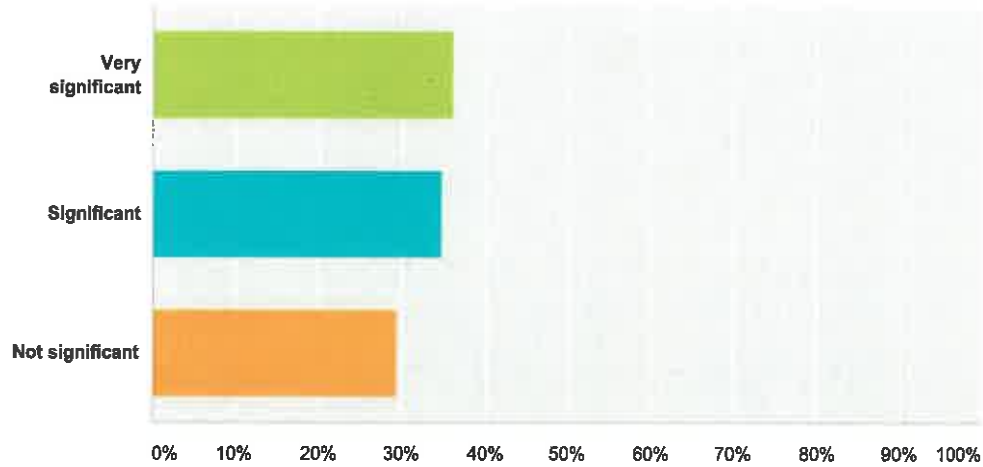
Answered: 594 Skipped: 8



Answer Choices	Responses
Very significant	42.76% 254
Significant	36.70% 218
Not significant	21.38% 127
Total Respondents: 594	

Q4 How significant do you consider discharges from sewage treatment facilities to be as a source of water pollution in CNY?

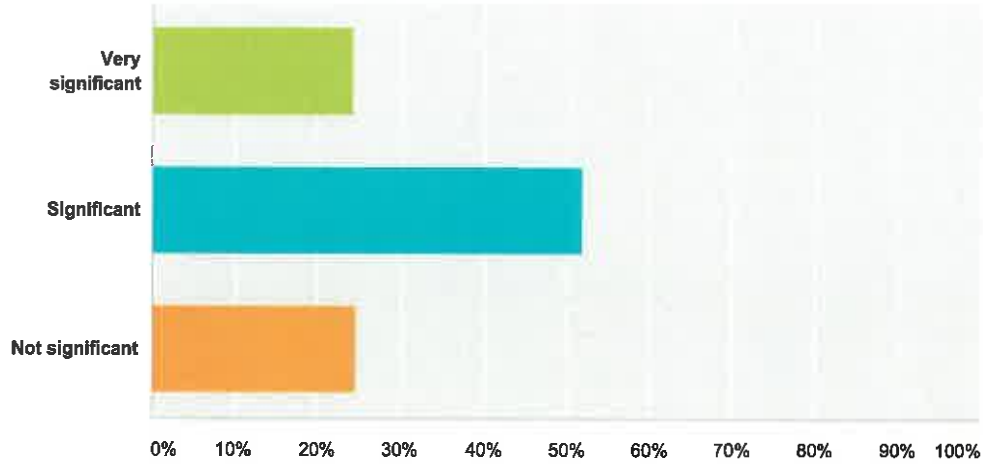
Answered: 597 Skipped: 5



Answer Choices	Responses	Count
Very significant	36.18%	216
Significant	34.84%	208
Not significant	29.48%	176
Total Respondents: 597		

Q5 How significant do you consider atmospheric deposition (the transfer of pollutants from the air to the earth's surface) to be as a source of water pollution in CNY?

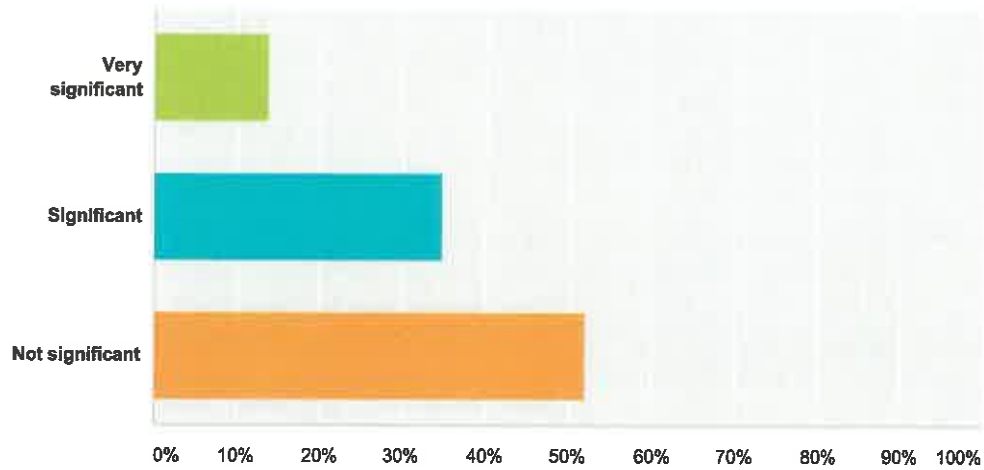
Answered: 597 Skipped: 5



Answer Choices	Responses	Count
Very significant	24.29%	145
Significant	51.76%	309
Not significant	24.62%	147
Total Respondents: 597		

Q6 How significant do you consider stormwater (rain and melting snow) runoff from vegetated or forested land to be as a source of water pollution in CNY?

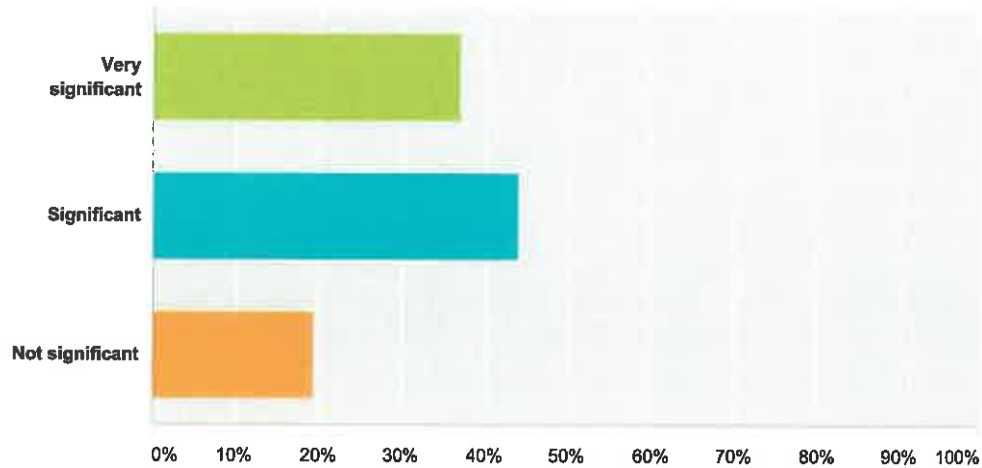
Answered: 595 Skipped: 7



Answer Choices	Responses	Count
Very significant	13.78%	82
Significant	34.79%	207
Not significant	51.93%	309
Total Respondents 595		

Q7 How significant do you consider stormwater (rain and melting snow) runoff from paved surfaces, such as parking lots and roads, to be as a source of water pollution in CNY?

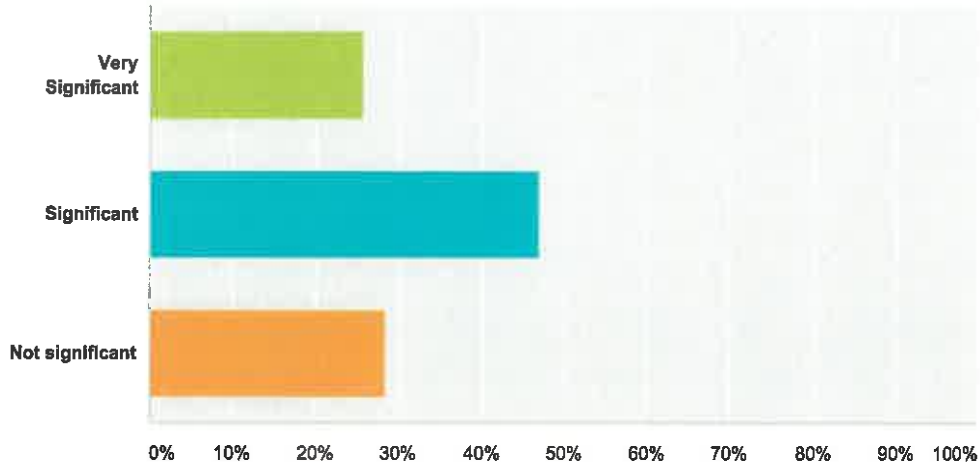
Answered: 590 Skipped: 12



Answer Choices	Responses
Very significant	36.95% 218
Significant	44.07% 260
Not significant	19.49% 115
Total Respondents: 590	

Q8 How significant do you consider stormwater (rain and melting snow) runoff from residential neighborhoods to be as a source of water pollution in CNY?

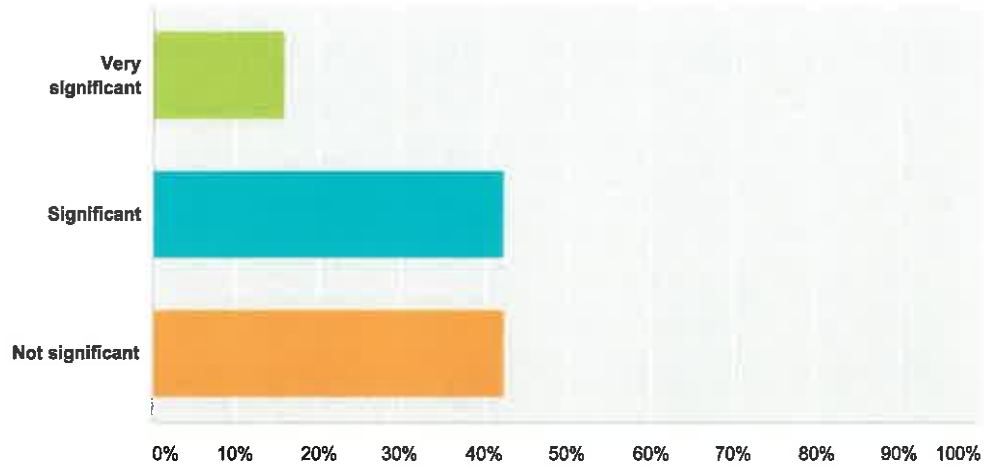
Answered: 593 Skipped: 9



Answer Choices	Responses	Count
Very Significant	25.63%	152
Significant	46.88%	278
Not significant	28.33%	168
Total Respondents: 593		

Q9 How significant do you consider eroding stream banks to be as a source of water pollution in CNY?

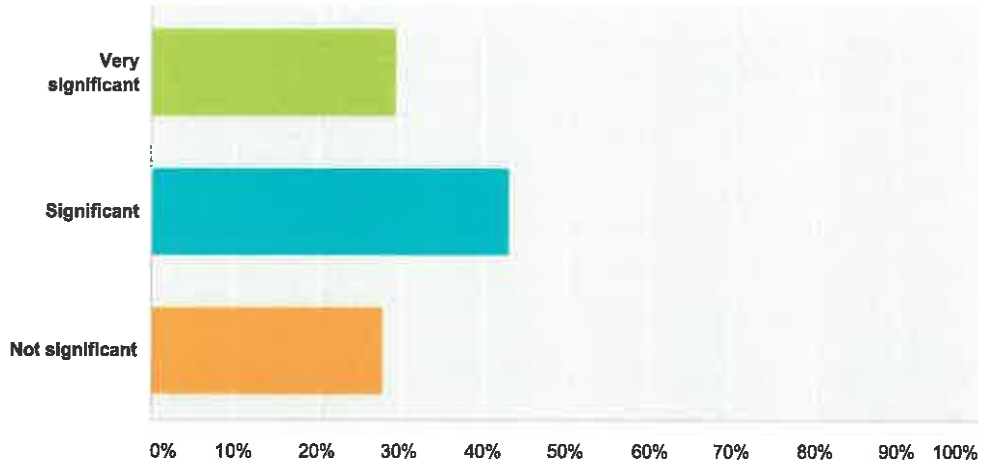
Answered: 596 Skipped: 6



Answer Choices	Percentage	Count
Very significant	15.94%	95
Significant	42.45%	253
Not significant	42.45%	253
Total Respondents: 596		

Q10 How significant do you consider erosion from construction sites to be as a source of water pollution in CNY?

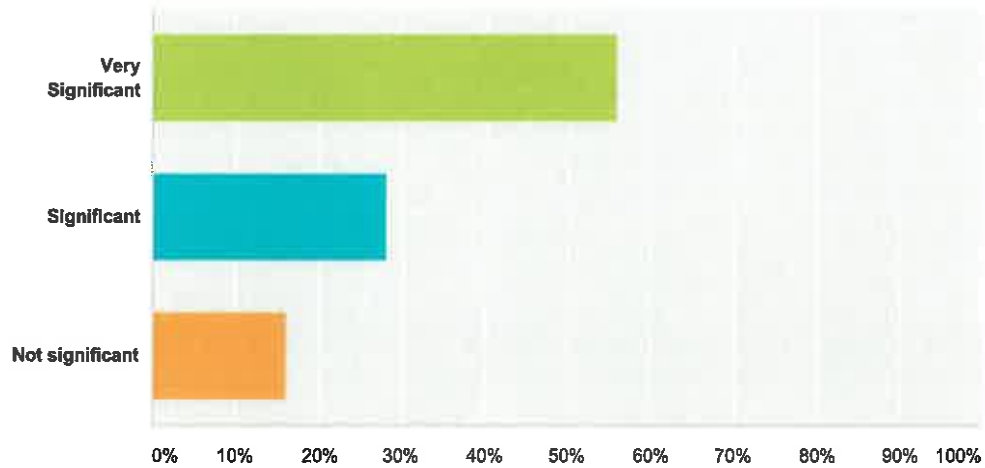
Answered: 595 Skipped: 7



Answer Choices	Responses	Count
Very significant	29.41%	175
Significant	43.19%	257
Not significant	28.07%	167
Total Respondents: 595		

Q11 How significant do you consider the dumping of oil, grease, household chemicals, and trash into stormdrains to be as a source of water pollution in CNY?

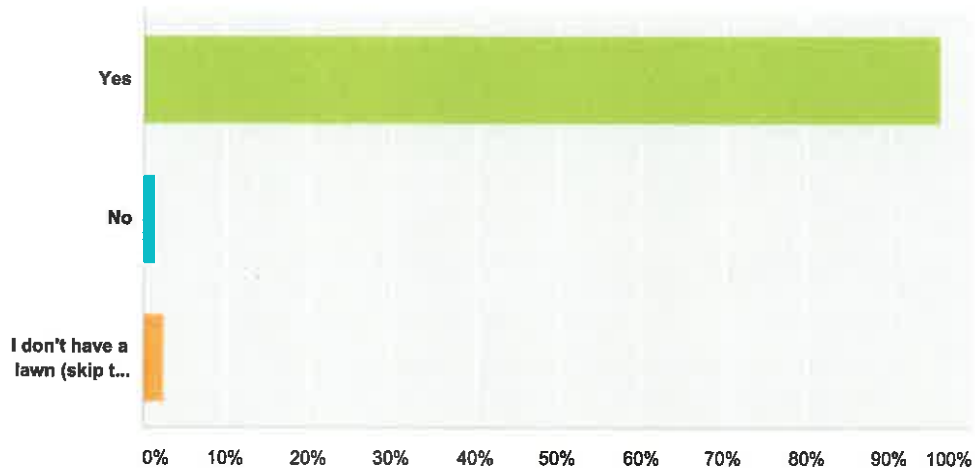
Answered: 594 Skipped: 8



Answer Choices	Responses	Count
Very Significant	55.89%	332
Significant	28.11%	167
Not significant	16.16%	96
Total Respondents		594

Q12 If you have a lawn, do you mow it?

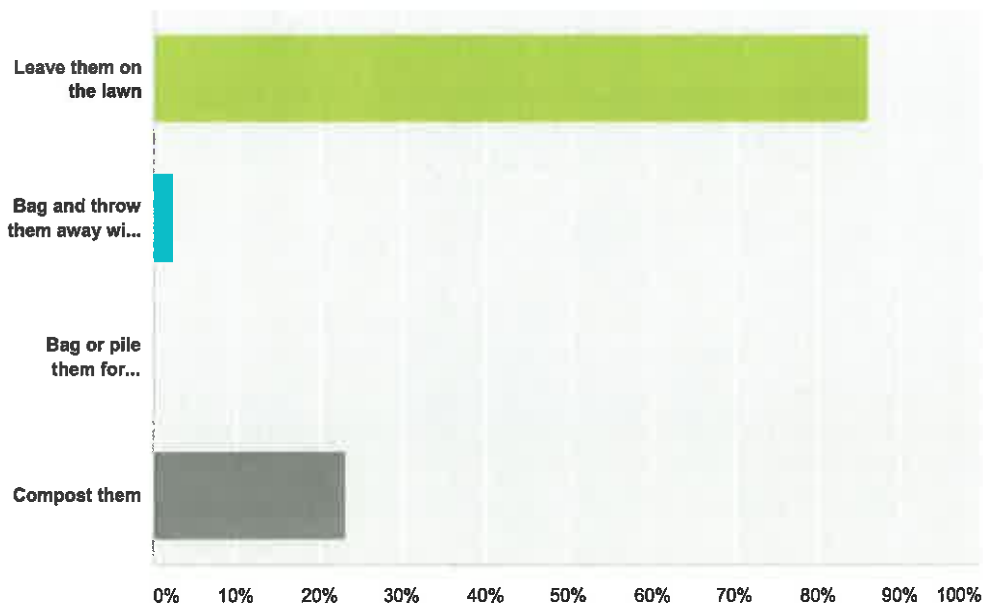
Answered: 577 Skipped: 25



Answer Choices	Responses
Yes	95.01% 554
No	1.56% 9
I don't have a lawn (skip to question 18)	2.60% 15
Total Respondents: 577	

Q13 If you mow your lawn, what do you do with the grass clippings?

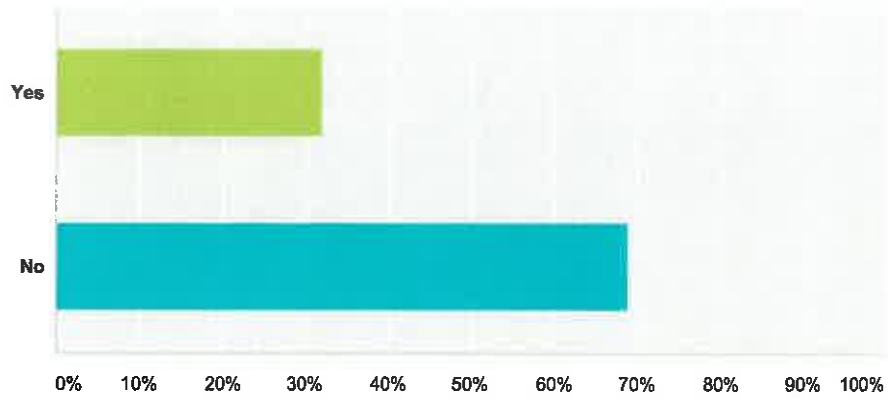
Answered: 548 Skipped: 54



Answer Choices	Responses	
Leave them on the lawn	65.95%	471
Bag and throw them away with other household garbage	2.37%	13
Bag or pile them for municipal collection	0.00%	0
Compost them	23.18%	127
Total Respondents: 548		

Q14 Do you apply fertilizer to your lawn?

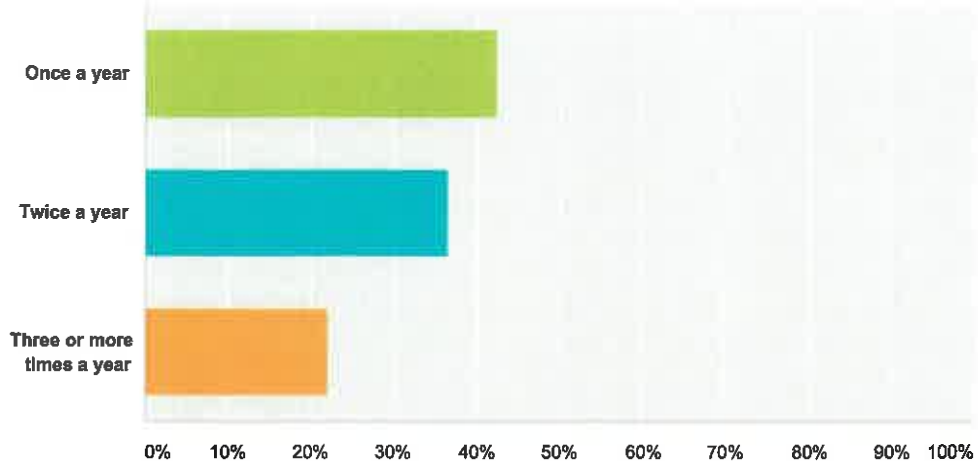
Answered: 566 Skipped: 36



Answer Choices	Responses
Yes	31.98% 181
No	68.90% 390
Total Respondents: 566	

Q15 If you apply fertilizer to your lawn, about how often?

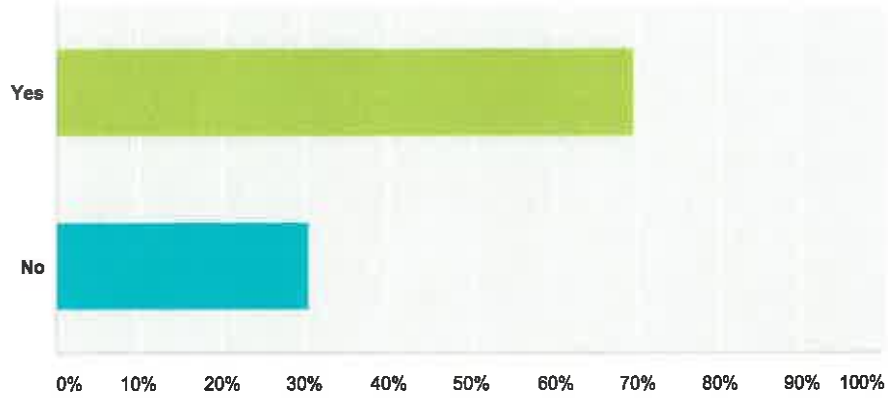
Answered: 186 Skipped: 416



Answer Choices	Responses
Once a year	42.47% 79
Twice a year	36.56% 68
Three or more times a year	22.04% 41
Total Respondents: 186	

Q16 Are you aware that soil from your lawn can be tested to determine your lawn's actual fertilizer needs?

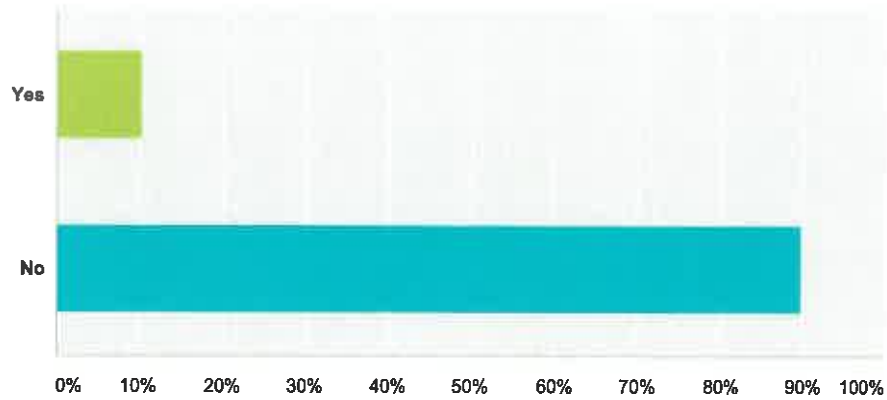
Answered: 564 Skipped: 38



Answer Choices	Responses	
Yes	69.50%	392
No	30.50%	172
Total Respondents: 564		

Q17 Have you ever had your soil tested?

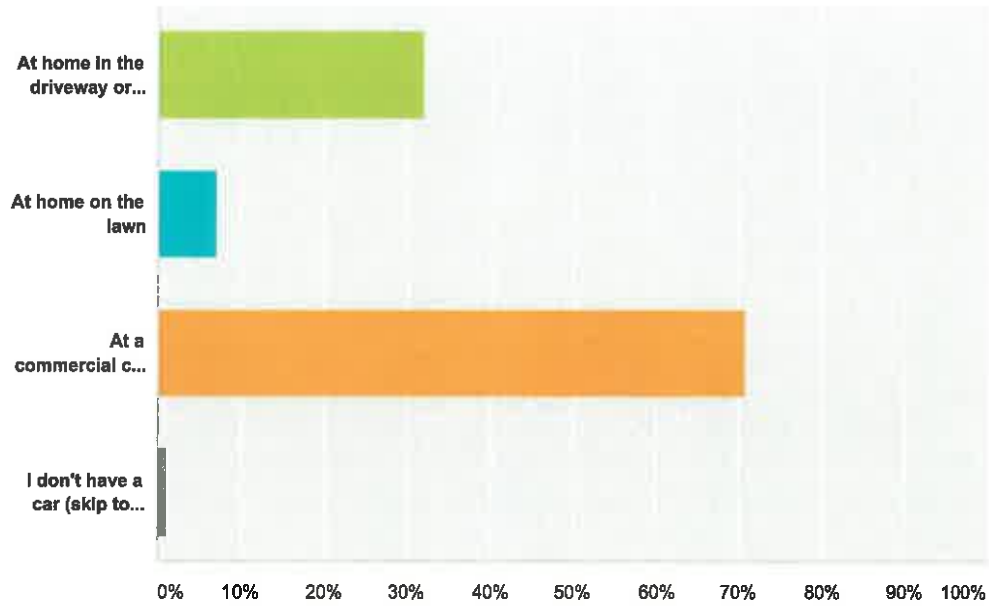
Answered: 565 Skipped: 37



Answer Choices	Responses
Yes	10.27% 58
No	89.73% 507
Total Respondents 565	

Q18 If you have a car, where do you wash it?

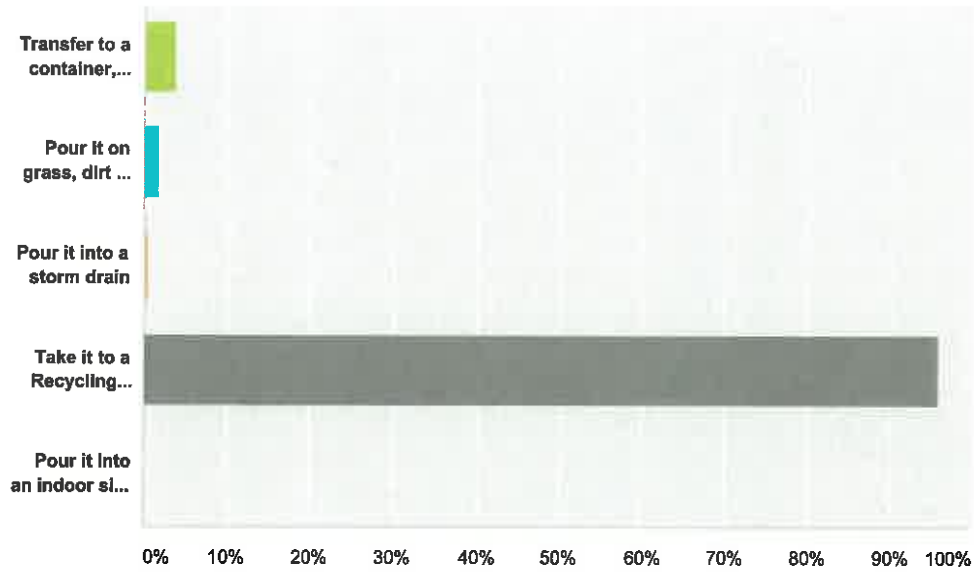
Answered: 570 Skipped: 32



Answer Choices	Responses
At home in the driveway or road	31.93% 182
At home on the lawn	7.02% 40
At a commercial car wash	70.78% 403
I don't have a car (skip to question 20)	1.05% 6
Total Respondents: 570	

Q19 If you change your own motor oil, how do you dispose of the used oil?

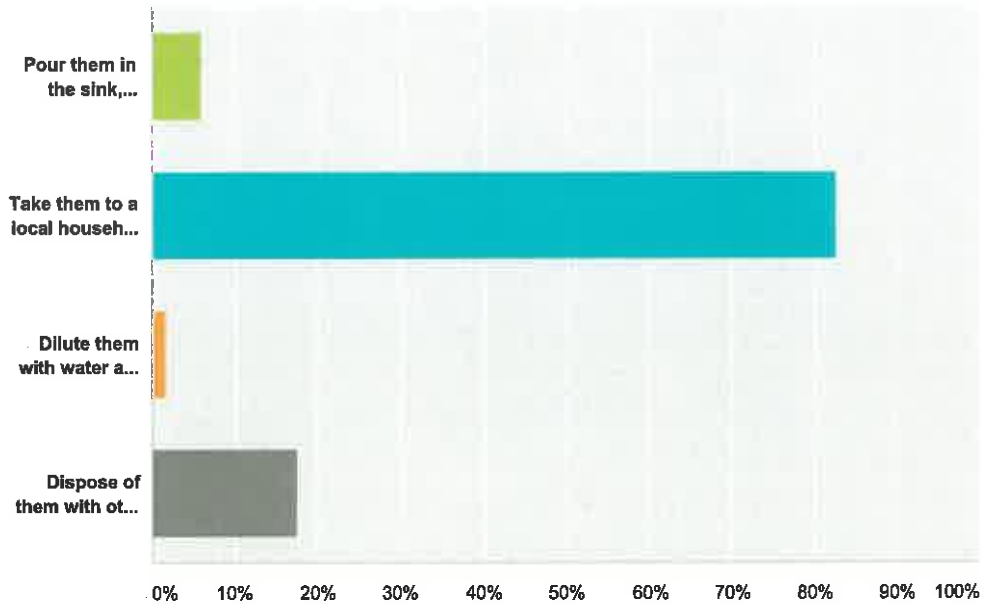
Answered: 239 Skipped: 363



Answer Choices	Responses
Transfer to a container, seal, and dispose of it with other household trash	9.17% 9
Pour it on grass, dirt or gravel	1.67% 4
Pour it into a storm drain	0.42% 1
Take it to a Recycling facility	95.02% 228
Pour it into an indoor sink, toilet or drain	0.00% 0
Total Respondents: 239	

Q20 What do you do with leftover household chemicals such as cleaners, paint thinner, pesticides, etc.? Check all that apply.

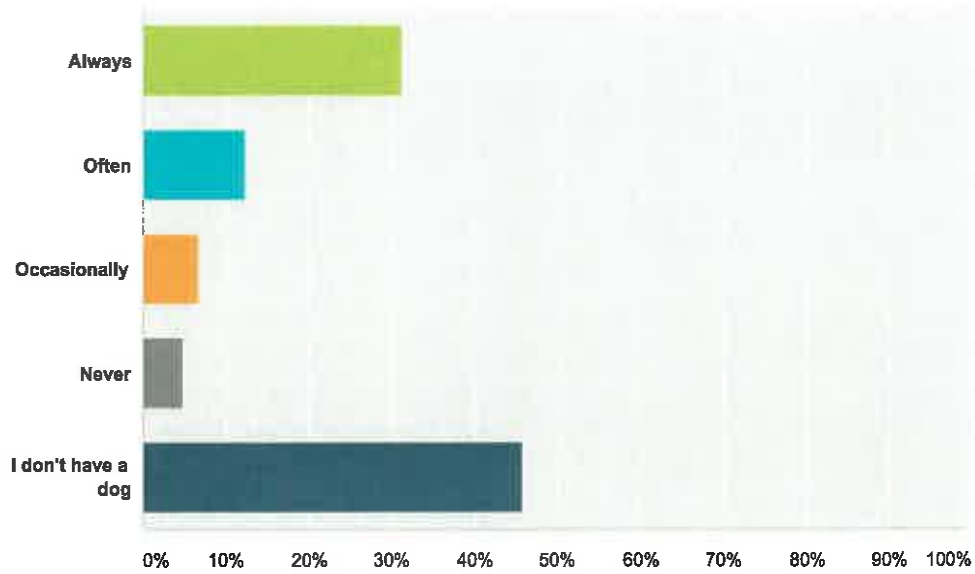
Answered: 536 Skipped: 66



Answer Choices	Responses
Pour them in the sink, toilet or other indoor drain	5.78% 31
Take them to a local household hazardous waste center/collection event	82.46% 442
Dilute them with water and pour on the ground outdoors	1.68% 9
Dispose of them with other household trash	17.54% 94
Total Respondents: 536	

Q21 If you have a dog, how often do you pick up its waste?

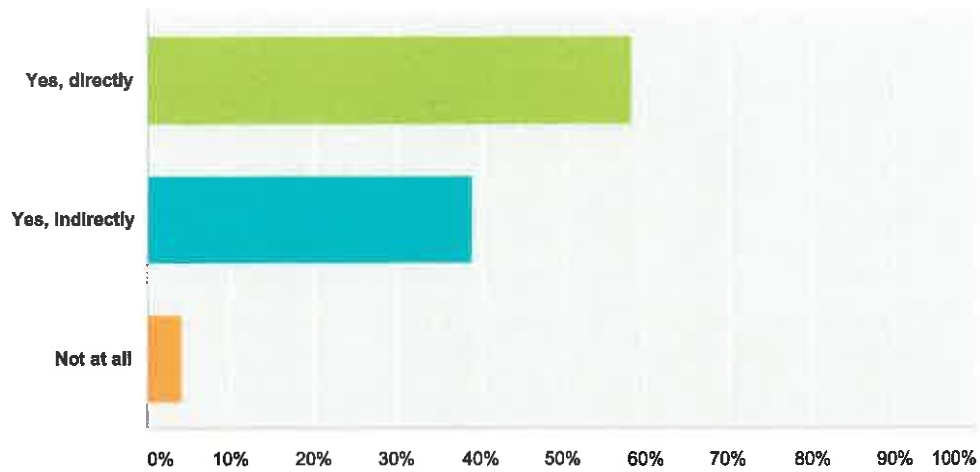
Answered: 570 Skipped: 32



Answer Choices	Responses
Always	31.05% 177
Often	12.28% 70
Occasionally	6.67% 38
Never	4.74% 27
I don't have a dog	45.79% 261
Total Respondents: 570	

Q22 Do you feel that your everyday actions affect water quality in Central New York?

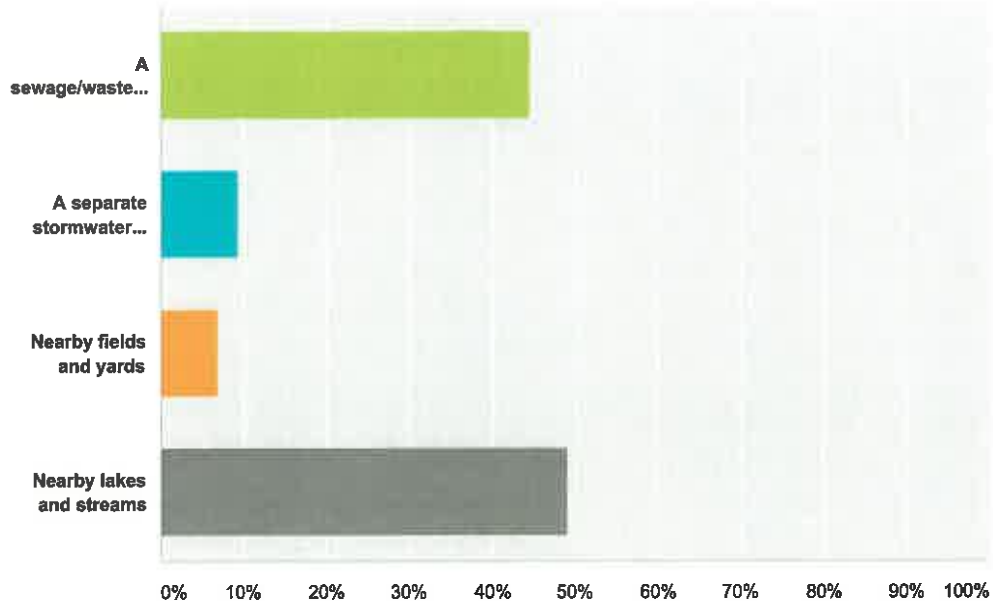
Answered: 557 Skipped: 45



Answer Choices	Responses	Count
Yes, directly	58.17%	324
Yes, indirectly	38.96%	217
Not at all	4.13%	23
Total Respondents: 557		

Q23 Where do you think stormwater goes after it enters a stormdrain?

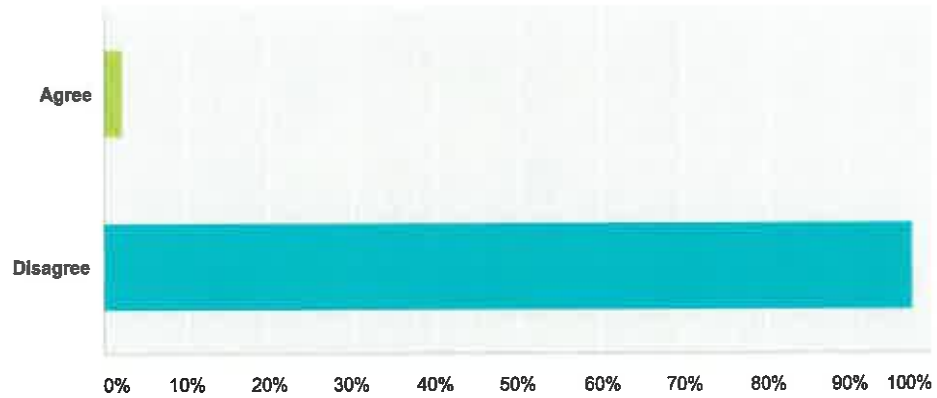
Answered: 558 Skipped: 44



Answer Choices	Responses
A sewage/wastewater treatment facility	45.64% 248
A separate stormwater treatment facility	9.50% 53
Nearby fields and yards	6.81% 38
Nearby lakes and streams	49.10% 274
Total Respondents: 558	

Q24 Only people who live alongside streams, rivers and lakes need to worry about how they are affecting water quality.

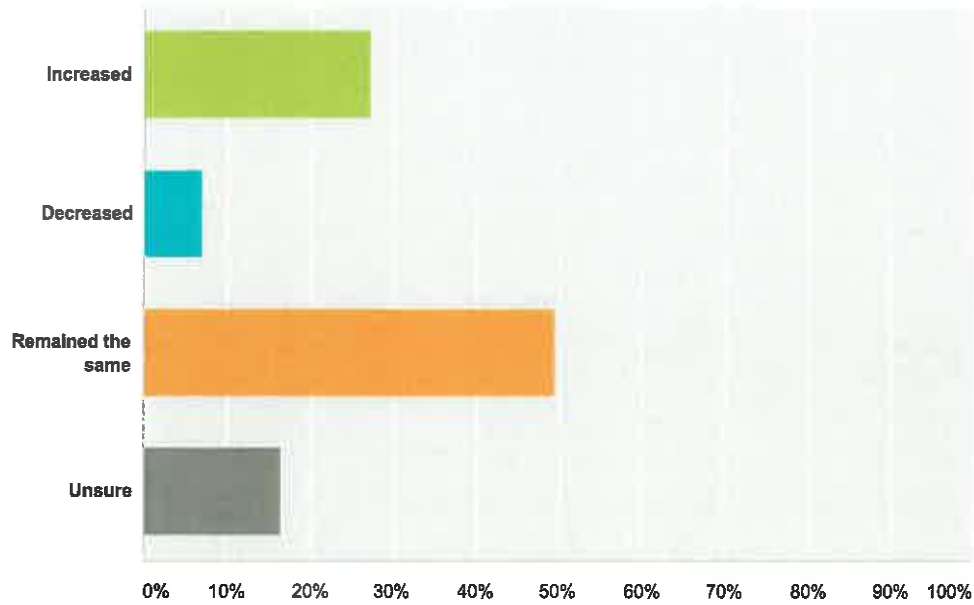
Answered: 557 Skipped: 45



Answer Choices	Responses
Agree	2.33% 13
Disagree	97.67% 544
Total Respondents: 557	

Q25 Since living at your current address, would you say that stormwater related problems (drainage, water quality, erosion, etc.) in your community have:

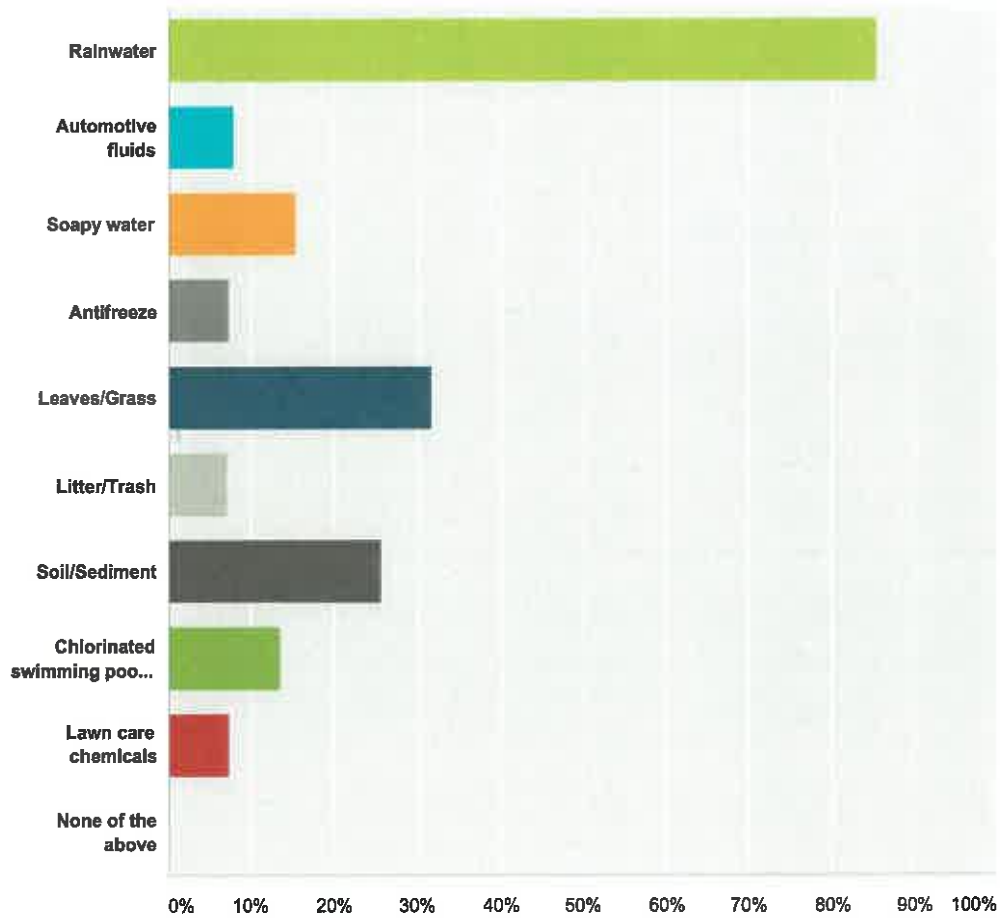
Answered: 557 Skipped: 45



Answer Choices	Responses
Increased	27.11% 151
Decreased	7.18% 40
Remained the same	49.55% 276
Unsure	16.52% 92
Total Respondents: 557	

**Q26 Which of the following do you feel would pose no threat to water quality if accidentally introduced into a storm drain?
(Check all that apply)**

Answered: 441 Skipped: 161

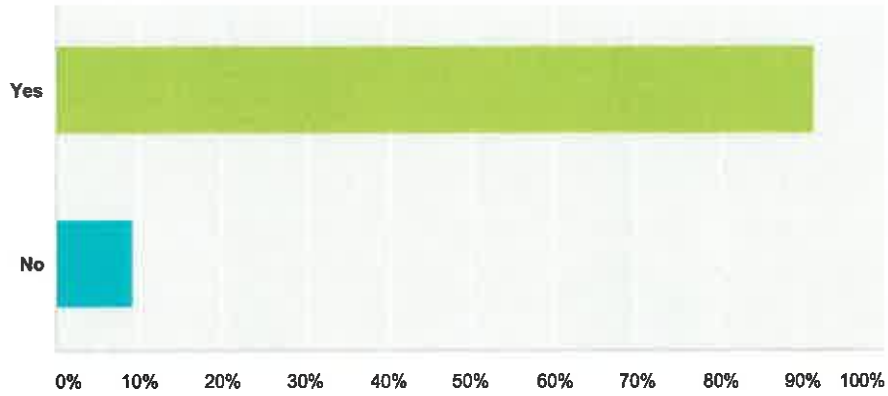


Answer Choices	Responses
Rainwater	85.49% 377
Automotive fluids	7.94% 35
Soapy water	15.42% 68
Antifreeze	7.26% 32
Leaves/Grass	31.75% 140
Litter/Trash	7.03% 31
Soil/Sediment	25.62% 113
Chlorinated swimming pool water	13.61% 60
Lawn care chemicals	7.26% 32

None of the above	0.00%	0
Total Respondents: 441		

Q27 Are you interested in learning more about how you can protect water quality and better manage stormwater runoff?

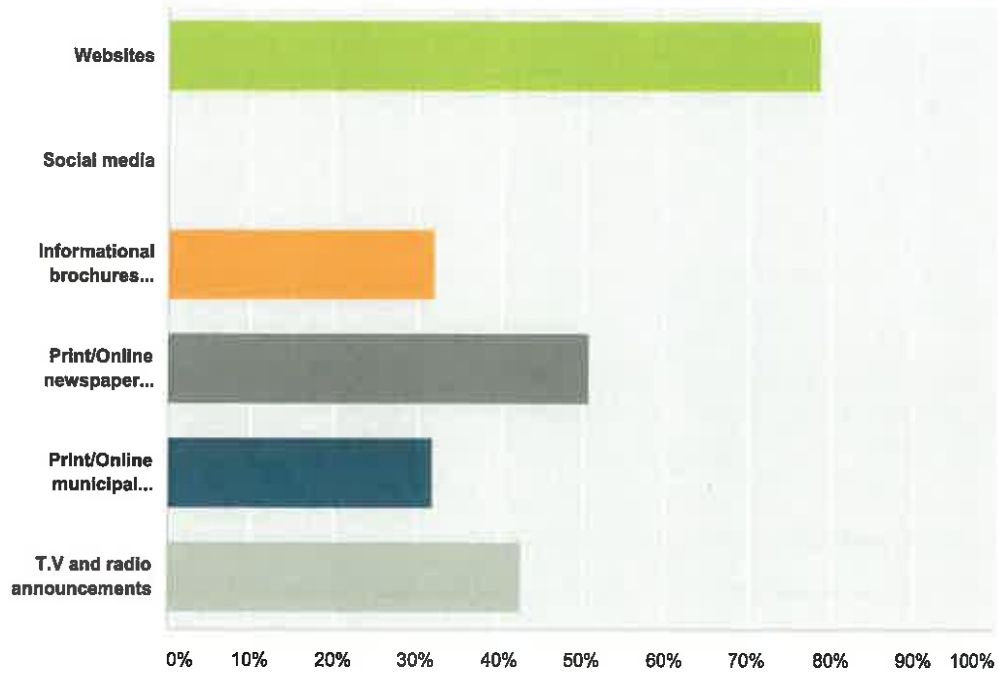
Answered: 554 Skipped: 48



Answer Choices	Responses	
Yes	91.34%	506
No	9.21%	51
Total Respondents: 554		

Q28 If you answered yes, what is the best way to supply information to you? (Check all that apply)

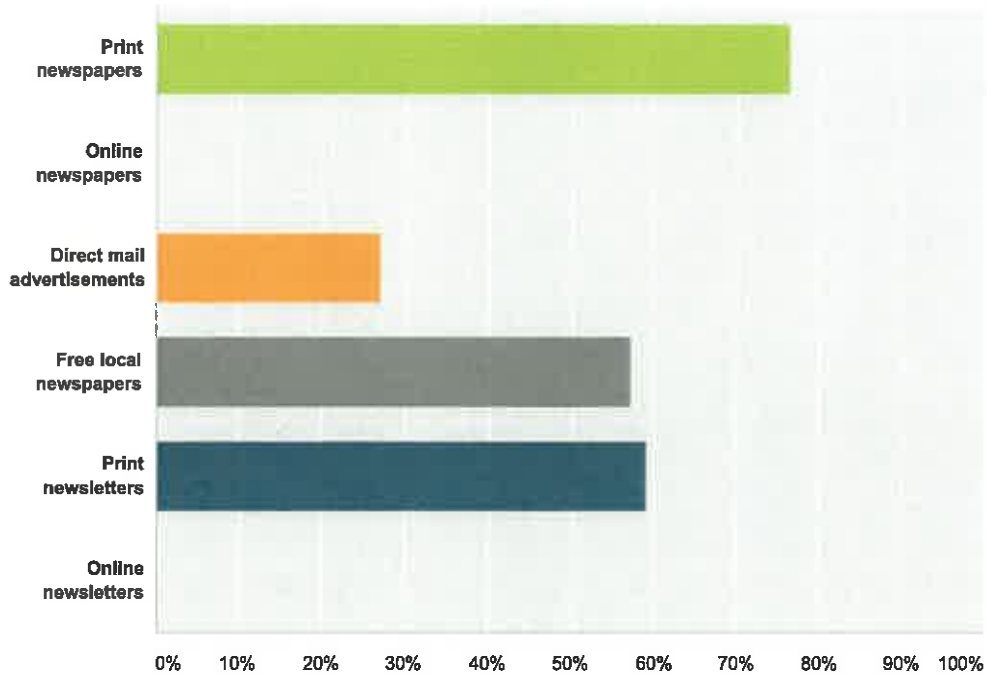
Answered: 506 Skipped: 96



Answer Choices	Responses
Websites	78.46% 397
Social media	0.00% 0
Informational brochures available at public places	32.21% 163
Print/Online newspaper articles	50.79% 257
Print/Online municipal newsletters and publications	32.02% 162
T.V and radio announcements	42.69% 216
Total Respondents: 506	

Q29 Do you read the following? Check all that apply.

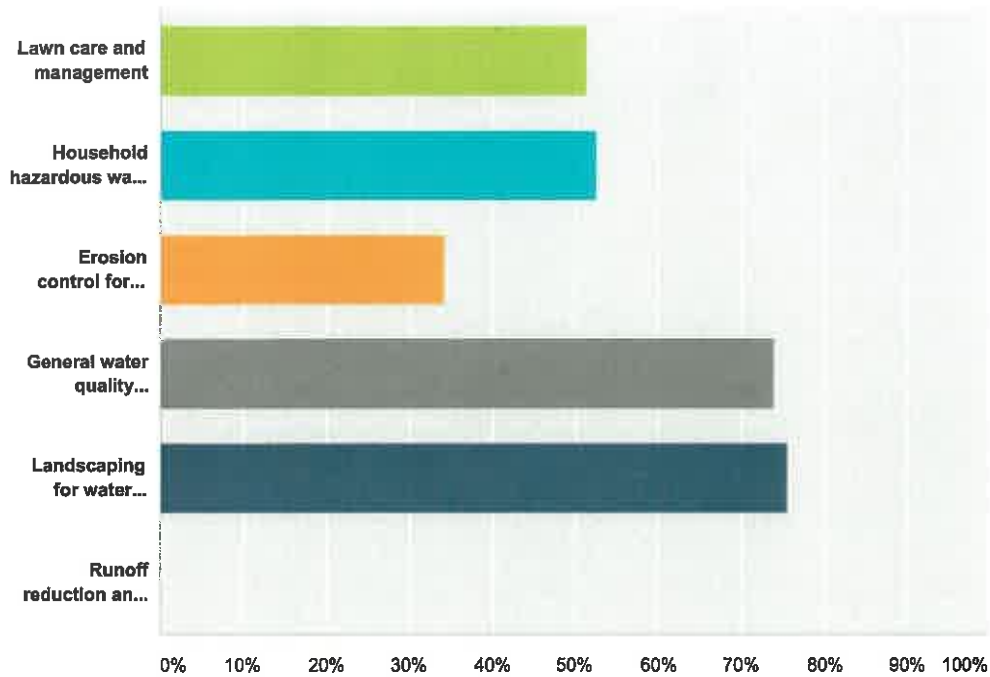
Answered: 501 Skipped: 101



Answer Choices	Responses	Count
Print newspapers	76.45%	383
Online newspapers	0.00%	0
Direct mail advertisements	27.15%	136
Free local newspapers	57.29%	287
Print newsletters	59.08%	296
Online newsletters	0.00%	0
Total Respondents 501		

Q30 What informational topics are of interest to you?

Answered: 518 Skipped: 84



Answer Choices	Responses
Lawn care and management	51.35% 266
Household hazardous waste disposal	52.51% 272
Erosion control for homeowners	34.17% 177
General water quality awareness/education	73.94% 383
Landscaping for water quality	75.68% 392
Runoff reduction and water conservation using green infrastructure	0.00% 0
Total Respondents: 518	

Q31 How old are you?

Answered: 0 Skipped: 602

No matching responses.

Answer Choices	Responses
18 years or younger	0.00% 0
19 to 25 years	0.00% 0
26 to 32 years	0.00% 0
33 to 47 years	0.00% 0
47 to 55 years	0.00% 0
56 to 63 years	0.00% 0
64 years or older	0.00% 0
Total	0

Q32 When considering water quality, the primary pollutant of concern in CNY is:

Answered: 0 Skipped: 602

! No matching responses.

Answer Choices	Responses	
Nitrogen	0.00%	0
Litter	0.00%	0
Automotive fluids	0.00%	0
Phosphorus	0.00%	0
Silt/sediment	0.00%	0
Industrial wastewater discharges	0.00%	0
Total		0

Q33 In CNY which of the following materials is not a significant source of phosphorus to our surface waters?

Answered: 0 Skipped: 602

! No matching responses.

Answer Choices	Responses	
Soil	0.00%	0
Grass and leaves	0.00%	0
Acid rain	0.00%	0
Pet/animal waste	0.00%	0
Lawn Fertilizer	0.00%	0
Total		0

Q34 Most lawns in CNY need additional phosphorus to maintain vigor and health.

Answered: 0 Skipped: 602

! No matching responses.

Answer Choices	Responses	
True	0.00%	0
False	0.00%	0
Total		0

Q35 In NYS, it is illegal to use phosphorus fertilizer on your lawn without demonstrating a need for it through a soil test.

Answered: 0 Skipped: 602

No matching responses.

Answer Choices	Responses
True	0.00% 0
False	0.00% 0
Total	0

Q36 Pet waste can have a significant impact on water quality.

Answered: 0 Skipped: 602

! No matching responses.

Answer Choices	Responses
True	0.00% 0
False	0.00% 0
Total	0

Q37 Pet waste is not a source of which of following surface water pollutants:

Answered: 0 Skipped: 602

! No matching responses.

Answer Choices	Responses
Pathogens	0.00% 0
Chlorine	0.00% 0
Phosphorus	0.00% 0
Viruses	0.00% 0
Ammonia	0.00% 0
Total	0

Q38 There is a central hotline for reporting any non-stormwater discharges/dumping to the separate stormwater sewer system in Onondaga County.

Answered: 0 Skipped: 602

No matching responses.

Answer Choices	Responses
True	0.00% 0
False	0.00% 0
Total	0

Q39 My town, village or city operates a separate storm sewer system.

Answered: 0 Skipped: 602

! No matching responses.

Answer Choices	Responses
True	0.00% 0
False	0.00% 0
Unsure	0.00% 0
Total	0

Appendix B

2007, 2010 and 2015 SURVEY COMPARATIVE ANALYSIS TABLE

1. Do you currently reside in a			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
City	N/A	27.9%	28.25%
Town	N/A	58.6%	58.19%
Village	N/A	14.5%	14.69%

2. The overall water quality of the streams, and lakes in my community is			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Excellent	39.0%	10.0%	9.04%
Good	36.0%	48.5%	51.41%
Fair	16.0%	32.5%	27.12%
Poor	4.3%	8.5%	9.60%
No opinion	4.8%	2.5%	3.95%

3. How significant do you consider waste discharges from industrial sources to be as a source of water pollution in your community?			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Very significant	47%	42.8%	41.19%
Significant	33%	36.7%	37.79%
Not significant	19%	21.4%	18.60%

4. How significant do you consider waste discharges from sewage treatment facilities to be as a source of water pollution in your community?			
Answer Options	2007 Response Percent	Response Percent	Response Percent
Very significant	46.9	36.2%	37.93%
Significant	33.3	34.8%	40.23%
Not significant	19.8	29.5%	21.84%

5. How significant do you consider pollutants from the atmosphere, such as acid rain, to be as a source of water pollution in your community?			
Answer Options	2007 Response Percent	2010 Response Percent	2010 Response Percent
Very significant	31.1%	24.3%	16.52%
Significant	50.5%	51.8%	48.28%
Not significant	18.4%	24.6%	36.78%

6. How significant do you consider stormwater/rainfall runoff from vegetated or forested land to be as a source of water pollution in your community?			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Very significant	26.0%	13.8%	20.23%
Significant	47.0%	34.8%	29.48%
Not significant	26.0%	51.9%	50.87%

7. How significant do you consider stormwater/rainfall runoff from paved surfaces, such as parking lots and roads, to be as a source of water pollution in your community?			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Very significant	27.4%	36.9%	40.57%
Significant	50.0%	44.1%	48.57%
Not significant	22.6%	19.5%	11.43%

8. How significant do you consider stormwater/rainfall runoff from residential neighborhoods to be as a source of water pollution in your community?			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Very Significant	20.8%	25.6%	25.59%
Significant	48.1%	46.9%	49.43%
Not significant	31.0%	28.3%	26.44%

9. How significant are eroding stream banks to be as a source of water pollution in your community?			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Very significant	20.0%	15.9%	22.99%
Significant	44.0%	42.4%	45.40%
Not significant	36.0%	42.4%	31.61%

10. How significant do you consider erosion from active construction sites to be as a source of water pollution in your community?			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Very significant	27.2%	29.4%	30.46%
Significant	43.3%	43.2%	45.40%
Not significant	29.5%	28.1%	24.14%

11. How significant do you consider the dumping of oil, grease, household chemicals and trash into storm drains to be as a source of water pollution in your community?			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Very Significant	53.0%	55.9%	30.46%
Significant	27.0%	28.1%	45.40%
Not significant	20.0%	16.2%	24.14%

12. If you have a lawn, do you mow it?			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Yes	98.2%	96.0%	94.35%
No	1.8%	1.6%	2.26%
I don't have a lawn (skip to question 18)		2.6%	3.39%

13. If you mow your lawn, what do you do with the grass clippings?			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Leave them on the lawn	82.0%	85.9%	89.70%
Bag and throw them away with other household garbage	1.6%	2.4%	0.00%
Bag or pile them for municipal collection	N/A	N/A	2.42%
Compost them	6.7%	23.2%	16.36%

14. Do you apply fertilizer to your lawn?			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Yes	47.5%	32.0%	26.90%
No	52.5%	68.9%	73.10%

15. If you apply fertilizer to your lawn, about how often?			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Once a year	38.5%	42.5%	32.61%
Twice a year	53.0%	36.6%	41.30%
Three or more times a year	8.5%	22.0%	26.09%

16. Are you aware that soil from your lawn can be tested to determine your lawn's actual fertilizer needs?			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Yes	73.0%	69.5%	84.62%
No	27.0%	30.5%	15.38%

17. Have you ever had your soil tested?			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Yes	14.7%	10.3%	84.62%
No	85.3%	89.7%	15.38%

18. If you have a car, where do you wash it?			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
At home in the driveway or road	41.5%	31.9%	22.99%
At home on the lawn	2.0%	7.0%	10.92%
At a commercial car wash	56.0%	70.7%	76.44%
I don't have a car (skip to question 20)	N/A	1.1%	0.57%

19. If you change your car's oil yourself, how do you dispose of the used oil?			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Transfer to a container, seal, and dispose of it with other household trash	0.5%	3.8%	6.67%
Pour it on grass, dirt or gravel	0.2%	1.7%	0.00%
Pour it into a storm drain	0.2%	0.4%	0.00%
Take it to a recycling facility	76.0%	95.8%	92.22%
Pour it into an indoor sink, toilet or drain	NA	0.0%	1.11%

20. What do you do with leftover household chemicals such as cleaners, paint thinner, pesticides, etc.? Check all that apply.			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Pour them in the sink, toilet or other indoor drain	3.9%	5.8%	1.83%
Take them to a local household hazardous waste center/collection event	76.0%	82.5%	82.93%
Dilute them with water and pour on the ground outdoors	1.5%	1.7%	1.83%
Dispose of them with other household trash	17.8%	17.5%	17.07%

21. If you have a dog, how often do you pick up its waste?			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Always	57.5%	31.1%	29.07%
Often	27.1%	12.3%	13.95%
Occasionally	11.2%	6.7%	10.47%
Never	4.1%	4.7%	8.14%
I don't have a dog	N/A	45.8%	38.37%

22. Do you feel that your everyday actions affect water quality in Central New York:			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Directly	50.5%	58.2%	50.86%
Indirectly	35.9%	39.0%	44.00%
Not at all	13.6%	4.1%	5.71%

23. Where do you think stormwater goes after it enters a storm drain?			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
A sewage/wastewater treatment facility	24.3%	44.4%	26.16%
A separate stormwater treatment facility	10.8%	9.5%	6.40%
Nearby fields and yards	7.55%	6.8%	6.40%
Nearby lakes and streams	57.3%	49.1%	73.84%

24. Only people who live alongside streams, rivers and lakes need to worry about how they are affecting water quality.			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Agree	4.85%	2.3%	2.31%
Disagree	95.2%	97.7%	97.69%

25. Since living at your current address, would you say that stormwater related problems (drainage, water quality, erosion, etc.) in your community have:			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Increased	29.9%	27.1%	32.76%
Decreased	8.25%	7.2%	16.09%
Remained the same	47.0%	49.6%	45.98%
Unsure	15.6%	16.5%	6.32%

26. Which of the following do you feel would pose no threat to water quality if accidentally introduced into a storm drain? (Check all that apply)			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Rainwater	77.1%	85.5%	57.06%
Automotive fluids	3.98%	7.9%	12.27%
Soapy water	16.6%	15.4%	12.88%
Antifreeze	4.4%	7.3%	10.43%
Leaves/Grass	28.6%	31.7%	23.31%
Litter/Trash	4.1%	7.0%	9.82%
Soil/Sediment	23.4%	25.6%	22.09%
Chlorinated swimming pool water	23.3%	13.6%	12.27%
Lawn care chemicals	5.23%	7.3%	11.66%
None of the Above	N/A	N/A	30.67%

27. Are you interested in learning more about how you can protect water quality in Central New York?			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Yes	80.0%	91.3%	76.16%
No	20.0%	9.2%	25.0%

28. If you answered yes, what is the best way to supply information to you? (Check all that apply)			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Websites	37.9%	78.5%	70.68%
Social Media	N/A	N/A	33.83%
Informational brochures available at public places	15.0%	32.2%	28.57%
Newspaper articles	27.1%	50.8%	39.85%
Municipal newsletters and publications	19.6%	32.0%	38.35%
T.V and radio announcements	0.4%	42.7%	36.84%

29. Do you read the following? Check all that apply.			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Daily newspapers/Print Newspapers	84.9%	76.4%	61.45%
Online Newspapers	N/A	N/A	78.31%
Direct mail advertisements	50.4%	27.1%	25.90%
Free local newspapers	72.0%	57.3%	0.0%
Print Newsletters/Town or village Newsletters	90.5%	59.1%	58.43%
Online Newsletters	N/A	N/A	58.43%

30. What informational topics are of interest to you?			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Lawn care and management	53.6%	51.4%	40.94%
Household hazardous waste disposal	21.0%	52.5%	50.34%
Erosion control for homeowners	4.8%	34.2%	44.97%
General water quality awareness/education	18.1%	73.9%	67.79%
Landscaping for water quality	2.4%	75.7%	55.03%
Runoff reduction and water conservation using green infrastructure			63.09%

31. How old are you?			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
18 years or younger	N/A	N/A	1.12%
19 to 25 years	N/A	N/A	5.62%
26 to 32 years	N/A	N/A	4.49%
33 to 47 years	N/A	N/A	21.35%
48 to 55 years	N/A	N/A	20.22%
56 to 63 years	N/A	N/A	30.34%
64 years or older	N/A	N/A	16.85%

32. When considering water quality, the primary pollutant of concern in CNY is:			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Nitrogen	N/A	N/A	7.27%
Litter	N/A	N/A	4.24%
Automotive fluids	N/A	N/A	2.42%
Phosphorus	N/A	N/A	51.52%
Silt/sediment	N/A	N/A	13.94%
Industrial wastewater discharges	N/A	N/A	20.61%

33. In CNY, which of the following materials is not a significant source of phosphorus to our surface waters?			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Soil	N/A	N/A	25.95%
Grass and leaves	N/A	N/A	29.11%
Acid Rain	N/A	N/A	44.30%
Pet/animal waste	N/A	N/A	0.00%
Lawn fertilizer	N/A	N/A	0.63%

34. Most lawns in CNY need additional phosphorus to maintain vigor and health.			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Yes	N/A	N/A	6.21%
No	N/A	N/A	93.79%

35. In NYS, it is illegal to use phosphorus fertilizer on your lawn without demonstrating a need for it through a soil test.			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Yes	N/A	N/A	45.57%
No	N/A	N/A	54.43%

36. Pet waste can have a significant impact on water quality.			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Yes	N/A	N/A	85.28%
No	N/A	N/A	14.72%

37. Pet waste is not a source of which of the following surface water pollutants:			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Pathogens	N/A	N/A	3.18%
Chlorine	N/A	N/A	82.17%
Phosphorus	N/A	N/A	8.92%
Viruses	N/A	N/A	5.10%
Ammonia	N/A	N/A	0.64%

38. There is a central hotline for reporting any non-stormwater discharges/dumping to the separate storm sewer system in Onondaga County.			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Yes	N/A	N/A	85.28%
No	N/A	N/A	14.72%

39. My Town, village or city operates a separate storm sewer system.			
Answer Options	2007 Response Percent	2010 Response Percent	2015 Response Percent
Yes	N/A	N/A	43.37%
No	N/A	N/A	28.92%
Unsure	N/A	N/A	27.71%