I. Introduction: Stormwater Survey Report

The New York State Department of Environmental Conservation issued the SPDES General Permit for Stormwater Discharges from **M**unicipal **S**eparate **S**tormwater **S**ewer **S**ystems (MS4s) Permit No.GP-02-02 in 2003. Municipalities regulated under this permit are required to meet six minimum control measures, one of which is the development and implementation of a public education program.

The Central New York Regional Planning and Development Board (CNY RPDB) created a Stormwater Survey to help regulated municipalities evaluate the effectiveness of their public education efforts to date. The survey results will help municipalities develop and select appropriate education and outreach activities and effective delivery methods for complying with stormwater permit requirements.

CNY RPDB provided survey materials to participating municipalities for distribution to residents in the Syracuse Urbanized Area (SUA). CNY RPDB developed residential mailing lists for each municipality using tax parcel data. Of the 29 cities, towns and villages in the SUA, 14 voluntarily participated in the stormwater survey. The survey was distributed to an estimated 4,798 residences and had an 18% response rate. Survey distribution in the Towns of Camillus and Lafayette yielded less than five responses each. Although these responses were tabulated as part of the overall survey response, the results were not individually tabulated and reported in Appendix D. of this report.

For the most part, the survey was smoothly implemented with the exception of the Village of Fayetteville where the survey was distributed to village residents after the response deadline. CNY RPDB received the 87 village responses well after the SUA tabulation had been completed. Due to time constraints, survey responses from the Village of Fayetteville were not be tabulated or included in the total SUA tabulation and report.

The general survey findings indicate that respondents view point source pollution, such as industrial and wastewater treatment facility discharges, as the greatest sources of water pollution. Respondents also view pollutants such as oil, grease, household chemicals and trash as the greatest threats to water quality in Central New York. While this perception may have historical accuracy, it does not represent the current situation. As a result of clean water legislation enacted in the 1970's and 80's that regulated single source, end of pipe discharges, and as a result of advances in water pollution control technology, point source pollution is no longer the predominant threat to water quality

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. Survey results indicate that phosphorus and sediment are viewed as less threatening to water quality than other sources directly associated with point source discharges.

Based on overall survey results for the SUA, CNY-RPDB recommends that municipal education and outreach programs focus on promoting greater awareness of nonpoint source pollution and processes. Municipalities should highlight the connection between everyday actions and activities and their unseen impacts on water quality. Phosphorus and sediment should be incorporated as explicit examples of substances that negatively impact water quality in all nonpoint source messages.

II. Results:

A. General Knowledge

Respondents were asked to answer a series of questions regarding specific stormwater issues. These questions provide insight to the respondent's knowledge of stormwater issues and help to evaluate the effectiveness of past educational program efforts while providing a baseline for assessing the effectiveness of future educational efforts.

When asked to rate the overall quality of local water bodies, 91.0% of respondents responded positively with 39.0% returning a rating of "excellent"; 36.0% "good"; and 16.0% "fair." Only 4.3% of respondents rated local water quality as poor and 4.8% of all survey respondents had no opinion.

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 considered to be a problem, while a response of "not significant" indicates that the identified pollution source is not considered to be a local problem.

Point sources, such as industrial waste (81.0%) and waste discharges from sewage treatment facilities (80.2%) ranked the highest in terms of perceived current water quality threats despite significant reductions in point source water pollution resulting from clean water legislation enacted since the 1970's. Atmospheric deposition (acid rain) also ranked as a significant source of pollution (81.6%) as did the dumping of oil, grease, household chemicals and trash to storm drains (80.0%).

Not surprisingly, when asked to select the three pollutants considered to pose the greatest threat to water quality, two of the three pollutants identified in the survey were associated with end of pipe, or point source discharges. The three pollutants considered to pose the greatest threat are industrial waste (22.9%), wastewater treatment plant discharge (9.9%) and direct

dumping of oil, grease, household chemicals and trash (18.8%). Because the highest ranking pollutant sources and pollutants identified by the survey have received significant media attention at one time or another, it can be assumed that well crafted, public education efforts can and do make lasting impressions on the general public.

Respondents appear to equate the severity of the threat from stormwater runoff with the perceived degree of impervious ground surface. While 77.4% of respondents consider stormwater runoff from "paved surfaces" to be a significant water quality threat, only 68.9% of respondents consider stormwater runoff from residential neighborhoods to be a significant threat. Although less than 10.0%, this difference suggests that stormwater runoff from less densely developed suburban areas is viewed as less of a threat than stormwater runoff from densely, highly developed urban areas. This perception may originate from perceived difference in buffering capacities between suburban and urban areas and higher concentrations of industrial and commercial lands presumed to exist in urbanized areas.

Survey respondents recognize that erosion and sediment threaten local water quality, however, respondents distinguish between the severity of the threat based on its origin. For example, 70.5% of respondents consider erosion from construction sites to be a significant threat to water quality, but only 64.0% of survey respondents consider eroding stream banks to be a significant threat to water quality. This may be attributed in part to a perception that stream bank erosion is a natural process while construction related soil disturbances are not.

While encouraging to note that the public is hearing the message that stormwater runoff poses a real threat to water quality, survey responses suggest that the message may not be coming through clearly enough to bring about desired changes in personal habits. When asked to rank nine water quality pollutants in terms of the severity of their threat to water quality, the six pollutants associated with stormwater which had previously ranked high in terms of perceived

threat (atmospheric pollutants, stormwater runoff from paved surfaces, stormwater runoff from agricultural and undeveloped land rainfall runoff from residential neighborhoods, eroding stream banks, and soil erosion from construction sites) all received less than a 10.0% ranking. This apparent contradiction indicates a lack of understanding among survey respondents regarding the severity of stormwater runoff as a water quality threat.

This lack of understanding is particularly true with regard to atmospheric deposition (acid rain) and erosion from stream banks and construction sites. Acid rain, which ranked highest among identified sources of pollution (81.6%) ranked forth (9%) in terms of perceived threat. Similarly, streambank and construction site erosion are both perceived to be considerable sources of water quality pollution but rank lowest among all possible water quality threats (streambank 3.5%; construction site 4.8%). This is troublesome in light of the fact that sediment is one of the primary pollutants of concern in the SUA.

Survey respondents demonstrated a wide degree of variation in their understanding of what happens to stormwater once it enters a storm drain. While over one half (57.3%) of all respondents recognize that untreated stormwater is discharged from storm drains directly into nearby lakes and streams, nearly one quarter (24.3%) of respondents believe stormwater is treated at sewage treatment facilities and 10.8% believe stormwater is treated at separate stormwater facilities. 7.6% of respondents believe that stormwater is discharged into nearby open spaces (fields and yards).

B. Personal Habits

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. Not surprisingly, nearly all respondents (98.2%) mow their own lawns. 88.7% of the respondents compost their grass clippings either actively (compost bins/piles) or passively (leave on the lawn), while only 3.5% of respondents place their grass clippings at the curb for municipal pick up. 1.6% of respondents bag their clippings and dispose of them with other household garbage.

While it is encouraging that nearly all respondent's grass clipping disposal habits have a low negative impact on water quality, the same is not true for their use of lawn fertilizer. Slightly more than one half of respondents (52.5%) fertilize their lawns. Of that percentage, 38.5% apply fertilizer once or twice a year, while 53% apply fertilizer two or three times a year and 8.5% of all respondents fertilize their lawns five or more times per year.

73.0% of respondents indicate that they are aware of lawn soil testing services, but only 14.7 % 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, 56.o% of respondents indicate that they use a commercial car washing service while 41.5% of the respondents wash their cars at home in the driveway or road and 2.2% 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 41.5% of respondents that wash their cars at home, a very small percentage wash their cars on their lawns. This behavior may indicate that the impacts and pathways of pollutants associated with car washing are not well understood. Equally probable however, is the fact that washing a car on the lawn is unpopular because of the resulting damage to the lawn.

The results regarding another car care issue are very encouraging. 97.2% of the respondents claim to recycle their used motor oil. Less than one percent of all respondents admit to improperly disposing of used motor oil by including it with other regular household trash and/or pouring it on grass, dirt, or gravel, or down a storm drain.

The trend is similar, but less positive with regards to household chemical disposal. Slightly more than three quarters (76.6%) of respondents take their leftover household chemicals (cleaners, paint thinner, pesticides etc.) to a recycling facility. The remaining 23.3% admit to improperly disposing of leftover household chemicals (17.8% dispose of with regular garbage; 3.9% pour them down the sink, toilet or bathtub; 1.6% dilute them with water and pour on the ground outdoors).

The survey also assesses how dog owners handle pet waste. It is encouraging that most respondents pick up their dog's waste (57.5% "always"; 27.0% "often"; 11.3% "occasionally"; 4.13% "never"). 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. Opinion

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, 86.4% of respondents believe that they do (50.5% directly; 35.9% indirectly). 95.2% 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, 13.6 % 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.

When asked if stormwater issues (i.e. erosion, drainage, etc.) have improved, worsened or remained the same while living at their current residence, 47.0% of respondents reported that stormwater-related problems have remained the same. 29.9% of respondents reported that stormwater problems have increased and 8.3% reported that stormwater problems have decreased. 15.6% of the respondents were unsure.

It is encouraging to note that 80.0% 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 (37.9%); newspapers (27.1%); town/village newsletters (19.6%); informational brochures available at public places (15.0%). Less than 1.0% of respondents prefer getting information from TV and radio advertisements.

When asked about their actual media consumption habits, respondents seem to rely on a different set of media. 84.9% of respondents read daily newspapers; 90.5% read free local newspapers; 50.4% read direct mail advertising; and 45.2% rely on TV and radio.

When asked to identify topics of interest from of a list of five choices, 60.8% of all respondents select general lawn care management including for erosion control for homeowners (4.8%) and landscaping for water quality (2.4%). General water quality is of interest to 18.1% of respondents and 21.0% of respondents are interested in learning more about household hazardous waste disposal.

III. Recommendations

Based on the survey results, CNY RPDB has identified two major objectives for Phase II Stormwater educational programs in the SUA. The first is to improve the recognition of nonpoint source pollution as the greatest current threat to water quality. The second is to encourage behavior that positively impacts water quality.

The first objective is key to changing public behavior. A strong understanding of the realities of nonpoint source pollutants, sources and processes must be developed before any other objectives can be met. The current public perception that point source pollution is more prevalent than nonpoint source pollution may stem from past media coverage of dramatic and visible incidents and the natural tendency to associate water quality degradation with such incidents.

The following recommendations are designed to help municipalities achieve these objectives. Although generic in nature, the narrative discussion that follows the recommendations provides specific activities and goals drawn from the analysis of survey responses.

Municipalities should:

1. Build a case for being concerned about nonpoint source water pollution
2. Focus on phosphorus and sediment
3. Keep the message basic and clear
4. Target specific actions that individuals have control over
5. Seek out and work with unlikely partners
6. Develop themed messages on a seasonal basis
7. Match educational messages with existing staff functions and established procedures
8. Identify and utilize existing resources to save time and money
9. Make it easier for the public to do the right thing by working with local businesses to

develop financial incentives that benefit residents and the local economy

10. Provide the tools that residents need to advance municipal stormwater goals

Municipal education programs should use local examples that illustrate the reduction of obvious point source pollution discharges resulting from the advances in pollution control technology and clean water legislation and regulation to demonstrate that nonpoint source pollution is more prevalent threat today than point source pollution. Municipalities should incorporate dramatic and readily available images and messages from high profile local waters, such as Onondaga Lake, which have benefited from substantial decreases in industrial waste discharges and point source phosphorus loads in recent years.

Phosphorus and sediment, the primary pollutants of concern in the SUA should be a major focus of all nonpoint source pollution messages. It is important to communicate basic messages simply and clearly. Graphic displays of the hydrologic cycle that incorporate non-point source pollution images provide a good means for accomplishing this.

Municipalities should contact agencies such as the United States Environmental Protection Agency (U.S. EPA) and the Terrene Institute to obtain colorful posters and other materials that can be easily displayed at municipal buildings. By simplifying the complex interactions of environmental and socio-economic factors in any given urban/suburban setting, these materials provide a familiar context as the backdrop for explaining diffuse, nonpoint source stormwater pollution concepts.

The Onondaga Lake Partnership (OLP) provides a framework for local, state and federal governments to cooperate in restoring Onondaga Lake with the participation of special interest groups, businesses and educational institutions from the community. The OLP sponsors a number of educational and public participation events throughout the year. Municipalities in the

Onondaga Lake watershed should stay updated on events and programs scheduled by the OLP and actively support and promote those events as a component of their municipal public education and outreach programs.

The survey provides evidence that people are concerned about water quality. Survey respondents believe that their everyday actions impact water quality and that they have reason to be concerned about water quality regardless of their proximity to a surface water body. Unfortunately, these beliefs may not translate into action when addressing stormwater runoff as slightly more than one-third of the survey respondents think stormwater is treated before being discharged into local waterways. The perception that stormwater is treated may lead people to introduce substances into storm drains that they may not otherwise view as safe for the environment.

Direct reminders, such stenciled messages on storm grates, are often the most effective way to stop direct discharges into storm drains. Municipalities in the SUA have received detailed instructions and other support materials for organizing and conducting storm drain stenciling projects using volunteers. This information should be incorporated into municipal public education/outreach and participation programs by scheduling municipal stenciling events on a fixed rotation. Municipalities should coordinate the timing of such events with targeted information campaigns that include publishing related articles and fact sheets in municipal newsletters and on municipal websites. The U.S EPA, the New York State Department of Environmental Conservation (NYS DEC) and the Central New York Regional Planning & Development Board (CNY RPDB) provide articles of various lengths and related fact sheets that can be customized or used as is. These are available at no cost and can be quite effective in addressing potentially complex issues in a non-technical and easy to understand format.

The survey looked at behaviors that may contribute to non-point source pollution, particularly those that impact phosphorus and sediment loads. Given the SUA's largely suburban environment, the survey looked closely at respondent's lawn care and maintenance practices. About one half of the respondents fertilize their lawns, but only a few test the soil to determine the actual fertilizer needs. Applying fertilizer in large quantities or prior to storm events contributes to increased phosphorus loading. Because lawn fertilizer is commonly available and widely used, it is likely that the impacts of improper fertilizer use are not well recognized.

Municipalities should make concentrated efforts to provide specific information regarding the detrimental effects of phosphorus fertilizers on water quality. These important messages should be delivered through a variety of outlets including newsletters, brochures and displays.

To address the specific issues associated with the misuse of common lawn fertilizers, municipalities should target their messages to residents that are already actively involved in home lawn care maintenance by associating specific messages with existing programs. For example, municipalities that conduct yard waste collections should include information on phosphorus and preferred methods for dealing with grass clippings and leaves with published lawn waste collection schedules. By associating educational efforts with regularly scheduled events, municipalities can provide the measurable details (dates, events, schedules) that are required in their stormwater permit annual reports.

Municipalities should work with groups such as Cornell Cooperative Extension (CCE) to promote soil testing services and the use of no phosphorus fertilizer. Municipalities should also consider partnering with CCE and local gardening clubs to promote better landscaping practices and demonstration projects, such as rain gardens and native ground covers to keep stormwater on

site and to reduce fertilizer needs. Local interest groups provide a knowledgeable and interested audience and volunteer labor pool whose services and participation can greatly enhance the effectiveness of targeted educational and public participation efforts.

Community fundraiser car washes and at-home car washing represents another category of personal activities that introduce phosphorus and other pollutants to surface waterways through municipal stormwater systems. Pollutants in wash water runoff, such as phosphorus, dirt and other chemical cleaning agents, combine with road surface pollutants such as oil, gravel and organic matter, before eventually making their way into the nearest storm drain or surface water body.

Municipalities should encourage residents to wash their cars on grassed surfaces or to use commercially operated carwashes that treat wash water on-site. Municipalities should partner with local commercial carwashes to develop use-incentive programs to entice more people to use these services. A potential incentive would be to offer a discount car wash coupon in the municipal newsletter in conjunction with a brief informational article the impact at-home carwash runoff has on water quality. The environmental benefits of commercial car washes should be emphasized as the basis for the offer.

Municipalities should develop guidelines for charity car wash fundraisers including how to site and locate operations in appropriate areas and instructions for diverting car wash runoff to vegetated infiltration areas. Storm drain plugs can also be purchased and made available on loan to charities for use during planned car wash fundraisers. Grants may be available to cover the cost of these plugs.

Most people recognize that the many of the everyday chemical substances used in and around the house are toxic. However, some substances are “camouflaged” and often overlooked as dangerous. A common example is treated swimming pool water. In order for municipalities

to help residents develop a more comprehensive understanding of hidden water quality threats, municipalities should make seasonal tip-strips available on websites and at municipal stormwater displays. These should identify both the obvious household chemical threats and the less obvious threats and their impacts. Information on the proper handling and disposal should be incorporated. Distribution should be timed with the start of seasonal activities. A tip sheet on the proper method for discharging chlorinated swimming pool water should be incorporated as part of the swimming pool permit process. The NYS DEC and the U.S. EPA make no cost tip-strips available for a wide range of activities. These can be customized or used as is and printed on a use based demand schedule.

Almost all respondents indicate that they pick up after their dog, however the survey doesn't ask how pet owners ultimately dispose of the waste. Improper disposal methods can negate the collection effort, especially if the waste is deposited directly into a stormwater catch basin.

A simple way that municipalities can incorporate a message to dog owners regarding pet waste is to distribute information in conjunction with dog licensing procedures. Information on the fact sheet should explain how to collect dog waste and proper methods of disposal.

Another proven, but somewhat more involved method for reducing pet waste problems is to install "pet waste stations" at local parks where resident often bring their pets for exercise. Typical pet waste stations are composed of an informational sign, a plastic bag distribution box and an enclosed waste receptacle. The stations should be located in areas that are easy to access for cleaning, such as main parking lot entranceways. Municipalities may be able to obtain a grant to cover the cost of purchasing pet waste stations. Possible grant sources include the NYS Department of Parks, Recreation and Historic Preservation and the NYS DEC Water Quality Improvement Projects grant program.

To be successful, public education programs require good basic content and effective delivery. To address programming implementation, the survey asked respondents to identify the information sources they most prefer. These sources should be carefully considered when designing education programs in order to efficiently reach the greatest number of residents possible.

Based on survey responses, municipalities will reach the greatest general audience by utilizing local newspapers, municipal newsletters and the Internet. Municipal newsletters should contain a stormwater message as a standing feature of every edition. The messages should be tailored to compliment other seasonal/topical information presented in the newsletter. Fixed publications provide measurable goals and reportable compliance activities. The messages should originate from the municipality's stormwater contact as identified in its general stormwater permit.

Municipalities should take advantage of local newspapers, such as the "Penneysaver" and the "DeWitt Times" to reach broad audiences. Readership of these types of publications is reported to be very high among survey respondents. These publications are often anxious for content and will honor requests to print articles provided by municipalities. As mentioned earlier, several sources make stormwater related articles available for municipal use with minimal or no modifications necessary.

All written materials that municipalities develop and distribute should be incorporated on municipal websites under a separate stormwater page. In the same way, all stormwater materials should contain the municipal website for more information. Websites should, of course, be updated and maintaining an active stormwater website is a measurable goal that also provides a continuous means for publicizing the required stormwater contact information. Municipal stormwater websites should also provide an e-mail address for collecting comments, questions

and complaints regarding construction activities within the community as required by the general stormwater.

Municipal websites should contain links to other stormwater sites including the NYS DEC, U.S. EPA and the CNY RPDB Stormwater page for more regional information and links to the on-line Central New York stormwater library.

Municipalities should keep a record of all educational efforts for inclusion in their annual report. Educational efforts are easy to document, measure and forecast. Very often, municipalities fail to get credit for all public education compliance activities undertaken the previous year because they are not recorded on a flow basis.

To help with this administrative task, municipalities should develop a tracking mechanism. Each person with responsibility for any aspect of the municipal public education and outreach program (i.e., distributing materials with permits, stocking stormwater displays, drafting/submitting newspaper articles, etc.) should log all efforts throughout the year and submit the complete log to the person responsible for preparing the annual report in March of each permit year.

Appendix A

Stormwater Survey Form

Stormwater Survey

Central New York Regional Planning and Development Board

Part 1. General Knowledge Questions

Please circle the response that most closely matches your opinion.

1. Rate the overall water quality of the rivers, streams and lakes in your community.
   a.) Excellent b.) Good c.) Fair d.) Poor e.) No Opinion

2. How significant do you consider each of the following items to be as a source of water pollution in your community?

   A. Waste discharges from industrial sources
      a.) Very Significant
      b.) Significant
      c.) Not Significant

   B. Waste discharges from sewage treatment facilities
      a.) Very Significant
      b.) Significant
      c.) Not Significant

   C. Pollutants from the atmosphere, such as acid rain
      a.) Very Significant
      b.) Significant
      c.) Not Significant

   D. Rainfall runoff from paved surfaces such as parking lots and roads
      a.) Very Significant
      b.) Significant
      c.) Not Significant

   E. Rainfall runoff from agriculture and undeveloped land
      a.) Very Significant
      b.) Significant
      c.) Not Significant

   F. Rainfall runoff from residential neighborhoods
      a.) Very Significant
      b.) Significant
      c.) Not Significant

G. Eroding stream banks
   a.) Very Significant
   b.) Significant
   c.) Not Significant

H. Soil erosion on construction sites

   a.) Very Significant
   b.) Significant
   c.) Not Significant

I. Dumping of oil, grease, household chemicals, and trash into stormdrains
   a.) Very Significant
   b.) Significant
   c.) Not Significant

3. Of the items above, which three do you consider to pose the greatest threat to water quality in Central New York? *(Please use the spaces provided to identify the letter of the pollution source listed above; A – I from question 2).*

   1. _____ 2. _____ 3. _____

4. Where do you think stormwater goes after entering a stormdrain?
   a.) Sewage treatment facility
   b.) A separate stormwater treatment facility
   c.) Nearby fields and yards
   d.) Nearby lakes and streams

5. Which of the following do you feel would pose little or no threat to water quality if accidentally introduced into a storm drains? *(Circle all that apply)*

a.) Rainwater	d.) Antifreeze	g.) Soil/ Sediment
b.) Oil	e.) Leaves/ Grass	h.) Chlorinated Pool water
c.) Soapy Water	f.) Litter/ Trash	i.) Lawn Care Chemicals

Part 2. Personal Habits

Please circle the response that most closely matches your answer.

6. If you have a lawn, do you mow it? (If you don't have a lawn skip to question # 12)
   Yes No

7. If yes, what do you do with the grass clippings?
   a.) Leave them on the lawn
   b.) Bag and throw away with other household garbage
   c.) Compost
   d.) Other (*please specify*): _____

8. Do you apply fertilizer to your lawn?
   Yes No

9. If yes, about how often do you apply fertilizer to your lawn?

a.) Once a year
b.) Two or three times a year
c.) Five times or more a year

10. Did you know that soil from your lawn can be tested to determine your lawn's actual fertilizer needs?
Yes No

11. Have you ever had your the soil tested?
Yes No

12. If you have a car, where do you wash it? (If you don't have a car skip to question # 14)
a.) At home in the driveway or in the road
b.) At home on the lawn
c.) At a commercial car wash

13. If you change the oil in your car yourself, how do you dispose of the used oil?
a.) Transfer to a container and dispose with other household garbage
b.) Pour it on grass, dirt, gravel
c.) Pour it into a storm drain
d.) Take it to a recycling facility
e.) Other (specify)_____

14. If you have a dog, how often do you pick up its waste?
a.) Always
b.) Often
c.) Occasionally
d.) Never

15. What do you do with leftover household chemicals such as cleaners, paint thinner, pesticides, etc. once you finished using them *(circle all that apply)*:
a.) Pour them in your sink, toilet, or bath drain
b.) Take them to a local household hazardous waste center
c.) Dilute them with water and pour on the ground outdoors
d.) Dispose of with other household garbage

Part 3. Opinion Questions

Please circle the response that most closely matches your opinion.

16. Do you feel your everyday actions affect water quality in Central New York:
a.) Directly
b.) Indirectly
c.) Not at all

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

18. Since living at your current address, would you say that stormwater-related problems

(drainage, water quality, erosion, etc) in your area have:
a.) Increased
b.) Decreased
c.) Remained the same
d.) Unsure

19. Would you be interested in learning more about how you can protect water quality in Central New York?
Yes No

20. If you answered yes, what would be the best way to supply information to you? *(Circle all that apply)*
a.) Websites
b.) Informational brochures available at public places such as libraries and municipal buildings
c.) Newspaper articles
d.) Town or village Newsletters
e.) Ads on radio and/or T.V.

21. Do you read the following? *(Circle yes or no to answer).*

a.) Daily newspapers	Yes	No
b.) Direct mail advertisements	Yes	No
c.) Free local newspapers	Yes	No
d.) Town or village newsletters	Yes	No

e.) Other local information sources (specify): _____

22. What topics are of interest to you?
a.) Lawn care and management
b.) Household hazardous waste disposal
c.) Erosion control for homeowners
d.) General water quality awareness/ education
e.) Landscaping for water quality
f.) Other (specify): _____

Thank you for taking part in this survey
Please return the completed survey form by ___September 1st ___to:

Matthew Yates
CNY RPDB
126 N. Salina St., Suite 200
Syracuse, NY 13202

Appendix B

Syracuse Urban Area Response Tabulation

SUA MS4s	**Sample List Size**	**Full List Size**	**Responses**	**% Sample List**
Baldwinsville	373	1866	108	28.95442359
Camillus Town*	315	6,290	3	0.952380952
Camillus Village	283	283	98	34.62897527
Central Square	337	449	0	0
Cicero Town	380	7,587	0	0
Clay Town	356	14,604	91	25.56179775
Dewitt Town	374	6,226	0	0
East Syracuse Village	332	553	0	0
*Fayetteville**	340	1,363	85	*25*
Geddes Town	396	3,967	121	30.55555556
Hastings Town	302	302	0	0
LaFayette Town*	189	189	1	0.529100529
Liverpool Village	380	759	85	22.36842105
Lysander Town	323	3,233	0	0
Manlius Town	332	5,540	88	26.5060241
Manlius Village	345	1,180	0	0
Marcellus Town	356	356	61	17.13483146
Marcellus Village	357	407	0	0
Minoa Village	343	978	0	0
North Syracuse Village	389	1,949	0	0
Onondaga Town	351	4,412	42	11.96581197
Phoenix Village	364	545	51	14.01098901
Pompey Town	80	80	0	0
Salina Town	387	9,680	0	0
Solvay Village	300	1,499	0	0
Sullivan Town	308	770	42	13.63636364
Syracuse	421	28,121	35	8.313539192
Van Buren Town	374	1,870	49	13.10160428
West Monroe Town	184	184	0	0
Total	**9,571**	**105,242**	**875**	**273.2198183**
Average	**330.0344828**	**3629.034483**	**58.33333333**	**18.21465456**
Total Surveys Mailed**	**4,798**			
SUA Response Rate**	**18.23676532**			

*surveys not tabulated

**based on distribution to sample list only and excluding Village of Fayetteville

Appendix C

Individual MS4 Survey Tabulations