

# Onondaga County New York



# Stormwater Management Program (SWMP) Plan

2009

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## Introduction

In response to the 1987 Amendments to the Clean Water Act (CWA), the [U.S. Environmental Protection Agency \(EPA\)](#) developed Phase I of the National Pollutant Discharge Elimination System (NPDES) Storm Water Program in 1990. The Phase I program addressed sources of storm water runoff that had the greatest potential to negatively impact water quality. The Department of Environmental Conservation (DEC) is responsible for administering the program in New York State as part of the State Pollutant Discharge Elimination System (SPDES) permit program. Under Phase I, SPDES permit coverage was required for stormwater discharges from medium and large Municipal Separate Storm Sewer Systems (MS4s) located in incorporated places or counties, eleven categories of industrial activity and construction activity that disturbed five or more acres of land.

The Phase II Final Rule, published in the Federal Register on December 8, 1999, expanded the stormwater permit program to include stormwater discharges from certain regulated small MS4s and construction activity that disturbs between 1 and 5 acres of land. On January 8, 2003, the DEC finalized two new permits for stormwater discharges in NYS as required by the Federal EPA; the small MS4 and small construction permits.

The MS4 permit requires regulated municipal MS4s (those with a minimum population density of 1000 people per square mile and located in urban areas with a population of 50,000 or more as defined by the U.S. Census Bureau) to develop and fully implement a stormwater management program by 2008. Stormwater management programs must contain appropriate management practices in each of the following minimum control measure categories: [Public Education and Outreach](#); [Public Involvement and Participation](#); [Illicit Discharge Detection and Elimination](#); [Construction Site Stormwater Runoff Control](#); [Post-Construction Stormwater Management](#); and [Pollution Prevention and Good Housekeeping for Municipal Operations](#).

The Syracuse Urbanized Area, which includes portions of Onondaga County, fits the population threshold and density criteria regulated under Phase II of the Storm Water Program and therefore the 35 municipalities that fall within the boundaries of the urbanized area are required to obtain coverage under the SPDES MS4 stormwater permit and comply with requirements of the permit. A list of the regulated MS4s in the Syracuse Urbanized Area and a map of the area are on pages 5 and 6.

As a first step toward obtaining SPDES permit coverage, regulated MS4s were required to submit a Notice of Intent (NOI) form to DEC by March 10, 2003. The NOI required MS4s to provide an initial outline of planned management practices and to identify measurable goals to annually assess progress toward the full implementation of an appropriate stormwater management program. Although the DEC has specified a few required actions and provided a list of approved management practices for each minimum control category, regulated MS4s are encouraged to tailor the development of their stormwater management programs to best meet local stormwater concerns.

The DEC is encouraging MS4s to take a watershed approach to local stormwater management by working with neighboring MS4s to develop complementary or cooperative programs for solving shared problems. By combining efforts, sharing costs and working together, regulated municipalities will recognize a higher level of environmental benefits at a decreased program cost.

All publicly funded MS4s operating within the boundaries of regulated municipal MS4s are also subject to the Phase II permit requirements. Examples of other regulated MS4s include school districts, public universities, prisons, state agencies and more. Eventually, the MS4 permit program may be expanded statewide.

The [small construction permit](#) is somewhat different in that it is already a statewide requirement. Operators of all small construction activities disturbing at least one acre of soil must obtain a SPDES permit from the DEC prior to breaking ground regardless of whether or not the construction takes place within a regulated MS4. Construction site owners/operators must file an NOI form and develop an approved Stormwater Pollution Prevention Plan (SWPPP) that includes provisions for controlling erosion and sedimentation during construction and managing stormwater runoff over the life of the completed project. The one-acre soil disturbance is a cumulative threshold. In other words, if a construction activity disturbs less than one acre of soil, but is part of a common development plan that will disturb one acre or more cumulatively over the duration of construction, a construction permit is required for the entire development.

### **Why is Stormwater a Problem?**

Stormwater gathers a variety of pollutants that are mobilized during runoff events. Polluted runoff degrades our lakes, wetlands, rivers and other waterways. Transported soil clouds receiving waters and interferes with fish habitat and aquatic plant life. Polluted runoff also contaminates our drinking water sources.

### **What is Stormwater?**

Stormwater is water from rain or melting snow that doesn't soak into the ground but runs off into waterways. As it flows from rooftops, over paved areas and bare soil, and through sloped lawns it picks up a variety of materials including soil, animal waste, salt, pesticides, fertilizers, oil and grease, debris and other potential pollutants. The quality and quantity of runoff is affected by a variety of factors depending on the season, local weather, geography and activities taking place along the path of its flow.

Nutrients such as phosphorus and nitrogen can be harmful to aquatic life by promoting the overgrowth of algae and depleting oxygen in the waterway. Toxic chemicals from automobiles, sediment from construction activities, and careless application of pesticides and fertilizers threaten the health of the receiving waterway and can kill fish and other aquatic life. Bacteria from animal wastes and illicit sewer system connections can make nearby lakes and rivers unsafe for wading, swimming and the propagation of edible fish. According to an inventory conducted by the United States Environmental Protection Agency (EPA), half of the impaired waterways in the United States are affected by stormwater runoff from urban/suburban and construction sources.

### **What's Being Done?**

Significant improvements have been achieved in controlling pollutants that are discharged from point sources such as sewage and wastewater treatment plants. Across the nation, attention is shifting to non-point sources of pollution such as stormwater runoff. Stormwater management, especially in urban areas, is becoming a necessary step in the process of further reducing water pollution despite the inherent challenges it brings.

Stormwater runoff cannot be treated using the same end-of-pipe controls appropriate for sewage and wastewater treatment plants. Pollutants in Stormwater runoff enter our waterways in numerous ways and the best point of control is usually at the pollutant's source. Significant water

quality improvement can be made by employing best management practices, or "BMPs". Proper storage of chemicals, good housekeeping and just plain paying attention to what's happening during runoff events can lay the ground work for developing a relatively inexpensive stormwater pollution prevention program.

The EPA and the NYSDEC are increasing their attention to stormwater pollution prevention in several ways. A federal regulation, commonly known as [Stormwater Phase II](#), requires permits for stormwater discharges from Municipal Separate Storm Sewer Systems (MS4s) in urbanized areas and for construction activities disturbing one or more acres. To implement the law, the New York State Department of Environmental Conservation has issued two general permits, one for MS4s in urbanized areas and one for construction activities. The permits are part of the State Pollutant Discharge Elimination System (SPDES).

**This program has environmental benefits.** New York State has made significant progress toward improving the overall quality of the State's water resources by controlling major point sources of water pollution, such as industrial stormwater discharges. Despite this progress, *non-point* sources of water pollution such as contaminated stormwater runoff, continue to pose significant water quality threats Statewide. Controlling these non-point sources of pollution will require an approach to resource management that is dramatically different from those taken in the past. The stormwater control program represents a major shift toward just such an approach that builds on New York State's successful past efforts.



Water from rain or melting snow runs off land, carrying litter, soil, bacteria and other pollutants into our bays, rivers and lakes. This pollution source can be a significant contributor to beach and shellfish bed closures, spoiled fishing and swimming, excessive weed growth, and destruction of aquatic habitat. Large amounts of stormwater rushing off paved surfaces can flood yards, streets and basements.

The NYSDEC stormwater program will help correct these problems, protecting and restoring our valuable environmental resources.

### **MS4 Stormwater Management Program Requirements**

MS4s must develop, implement, and enforce a Stormwater Management Program (SWMP) designed to reduce the discharge of pollutants from small MS4s to the maximum extent practicable (MEP). "**Maximum Extent Practicable**" (**MEP**) is a technology-based standard established by Congress in the Clean Water Act. Since no precise definition of MEP exists, it allows for maximum flexibility on the part of MS4 operators as they develop their programs. (40CFR 122.2; See also Stormwater Phase II Compliance Assistance Guide EPA 833-R-00-002, March 2000)

In New York State, the first Phase II MS4 stormwater general permit (GP-02-02) was a five-year permit, effective January 8, 2003 through January 8, 2008. Small MS4s were required to have their Stormwater Management Programs fully implemented by January 8, 2008. Onondaga County's SWMP has met the requirements of the first permit cycle, and is now being updated to

meet additional requirements of the new general permit ([GP-0-08-002](#)), which commenced May 1, 2008 and will conclude April 30, 2010.

### **Six Minimum Control Measures (MCMs)**

SWMPs must include six minimum control measures. For each of these six minimum measures, MS4s must identify measurable goals and implement management practices to achieve those measurable goals. The six minimum measures include:

1. [Public Education and Outreach](#)
2. [Public Involvement and Participation](#)
3. [Illicit Discharge Detection and Elimination](#)
4. [Construction Site Runoff Control](#)
5. [Post-Construction Stormwater Management](#)
6. [Pollution Prevention and Good Housekeeping for Municipal Operations](#)

### **Onondaga County Stormwater Management Program (SWMP) Plan Requirements**

Onondaga County has developed, and is implementing, a Stormwater Management Program designed to address pollutants of concern (POCs) and reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), protect water quality, satisfy water quality requirements of the NYS Environmental Conservation Law and federal Clean Water Act.

The SWMP Plan includes measurable goals for the management practices in the Plan. Measurable goals assist the County with assessing the status and progress of the program. They include schedules and milestones for development and implementation of each management practice, and quantifiable goals to address progress over time, such as removing a given volume or weight of debris and sediment from County roads each year, or providing a specific number of educational materials to County residents. The measurable goals also describe and quantify how the County will address pollutants of concern.

The current Phase II MS4 stormwater general permit became effective May 1, 2008. In the new permit, Onondaga County and the other regulated MS4s in the Onondaga Lake Watershed are also required to implement a Watershed Improvement Strategy – additional stormwater management practices in the portion of the MS4 within the Onondaga Lake Watershed – toward achieving compliance with [Total Maximum Daily Load \(TMDL\)](#) requirements established by the DEC and approved by the U.S. Environmental Protection Agency to meet waste load allocations of the pollutant of concern, phosphorus, to Onondaga Lake.

The County will comply with the Watershed Improvement Strategy through heightened stormwater management design criteria ("[Enhanced Phosphorus Removal Design Standards](#)") for new construction projects undertaken by the County, a turf management program limiting fertilizer applications containing phosphorus on County-owned property, targeted public education and outreach efforts, and planning, scheduling and implementing a retrofit program to reduce phosphorus loading to Onondaga Lake.

The retrofit program will utilize watershed planning and modeling of phosphorus loading in stormwater runoff from various land uses to establish procedures to help identify County-owned sites for retrofitting existing stormwater management facilities or implementing new stormwater management practices. Project selection will be based on erosion and/or pollutant loading,

phosphorus reduction potential of the retrofit practice, the use of proven technology, and economic feasibility. The retrofit program plan and schedule must be developed by March 9, 2011, and then implemented after acceptance by the NYSDEC.

More information on the Onondaga Lake TMDL and other efforts Onondaga County is undertaking to meet waste load allocations can be found at the [Onondaga Lake Improvement Project](#) website.

### **Syracuse Urbanized Area Automatically Designated MS4s**

The term "urbanized area" refers to a land area comprising one or more central places and the adjacent densely settled surrounding area(s) that together have a minimum residential population of 50,000 and a minimum average population density of 1,000 people per square mile. The Syracuse Urban Area (SUA) includes portions of 31 municipalities in Madison, Onondaga and Oswego Counties.

#### **Onondaga County**

Baldwinsville (V)  
Camillus (T)  
Camillus (V)  
Cicero (T)  
Clay (T)  
DeWitt (T)  
East Syracuse (V)  
Fayetteville (V)  
Geddes (T)  
LaFayette (T)  
Liverpool (V)  
Lysander (T)  
Manlius (T)

Manlius (V)  
Marcellus (T)  
Marcellus (V)  
Minoa (V)  
North Syracuse (V)  
Onondaga (T)  
Pompey (T)  
Salina (T)  
Solvay (V)  
Syracuse (C)  
Van Buren (T)

#### **Onondaga County**

#### **Madison County**

Sullivan (T)  
Madison County

#### **Oswego County\***

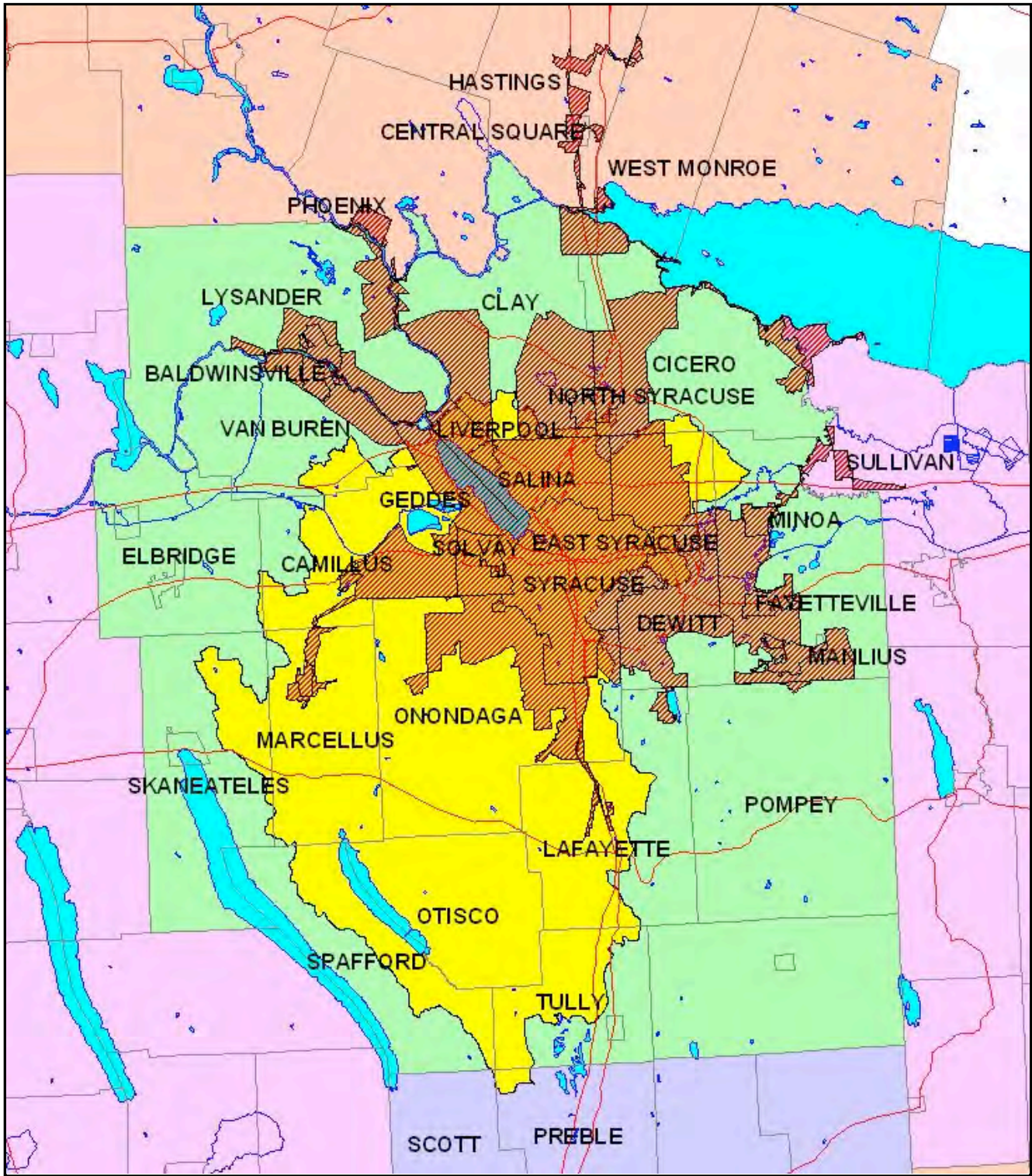
Central Square (V)  
Hastings (T)  
Phoenix (V)  
West Monroe (T)


\* Town of Schroepfel was granted a waiver by NYSDEC and is not subject to Phase II MS4 permit requirements.

Regulated communities in the SUA worked together to establish common standards for mapping stormwater outfalls, developed common procedures for inspecting construction sites and partnered with the Central New York Regional Planning and Development Board to secure grants that are providing funding for municipal staff training and other required program components such as GIS outfall mapping. These efforts and others have reduced duplicative efforts and increased compliance cost sharing opportunities. In other words, intermunicipal cooperation and coordination has improved the effectiveness and efficiency of stormwater management efforts throughout the participating municipalities.



### Syracuse Urban Area MS4s



 Syracuse Urban Area

 Onondaga Lake Watershed

 Onondaga County

4 miles 

N ↑



<b>Pollutants of Concern Associated with Stormwater in Onondaga County</b>					
<b>Water body/ Segment Name</b>	<b>Watershed</b>	<b>Cause/Pollutant</b>		<b>Source of Pollutant</b>	
		<b>Major</b>	<b>Minor</b>	<b>Primary</b>	<b>Secondary</b>
<b>Bloody Brook</b>	Onondaga Lake	Pathogens		CSOs, Urban Runoff	
<b>Geddes Brook</b>	Onondaga Lake	Ammonia		Urban Runoff	
<b>Harbor Brook</b>	Onondaga Lake	Pathogens	Phosphorus, Ammonia	CSOs, Urban Runoff	
<b>Ley Creek</b>	Onondaga Lake	Pathogens	Phosphorus, Ammonia, Cyanide	CSOs, Urban Runoff	
<b>Ninemile Creek</b>	Onondaga Lake	Pathogens	Phosphorus	CSOs	Urban Runoff
<b>Onondaga Lake and Outlet</b>	Onondaga Lake	Dioxin, Mercury, PCBs	Dissolved Oxygen/Oxygen Demand	CSOs, Contaminated Sediment	Industrial, Agricultural, Stormwater Runoff
<b>Onondaga Lake Watershed</b>	Onondaga Lake	Pathogens, Phosphorus, Ammonia, Mercury, Sediment	Dissolved Oxygen/Oxygen Demand, Cyanide, Turbidity, Pathogens	CSOs, Industrial, Urban Runoff	Agriculture, Streambank Erosion, Construction
<b>Syracuse Urban Area</b>	Oneida Lake, Onondaga Lake, Seneca River, Oswego River	Phosphorus	Silt/Sediment	Construction site runoff and runoff from impervious surfaces	

*Note: The relationship between major pollutants and primary sources is not exclusive. Major pollutants do not solely come from primary sources. Similarly, primary sources do not solely contribute primary pollutants.*

Source: New York State 2008 Section 303(d) List of Impaired/TMDL Waters

## Stormwater Pollutants of Concern and Their Sources

Storm water runoff from impervious surfaces carries large amounts of various pollutants to the surface waters of the United States. These pollutants include nutrients, silt/sediment, pathogens, oil/grease, metals, debris and litter. Of particular concern to the water bodies in the Syracuse Urbanized Area (SUA), are phosphorus and sediment.

### ▪ Phosphorus (and other nutrients)

Phosphorus is the nutrient of greatest concern because it promotes weed and algae growth in lakes and streams. Excessive weed growth clogs waterways and blocks sunlight. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms can't exist in water with low dissolved oxygen levels. Some sources of nutrients are fertilizer, human and animal waste, and detergents.



### ▪ Silt and Sediment

Large amounts of silt and sediment, when dislodged and swept by storm water into water bodies, can disrupt ecosystems and drinking water supplies. Storm water runoff that contains sediment can deposit harmful amounts of silt in sensitive areas such as wetlands, wildlife preserves, and stream and lake bottoms, harming habitat needed by aquatic insects and plants. Sediment blocks sunlight needed by aquatic plants to grow and can carry toxic chemicals that deplete oxygen in water bodies. Sediment also clogs drinking water intake pipes. Silt and sediment in surface waters generally are the result of soil erosion from construction sites, lawns, and gardening/landscaping activities.



### ▪ Toxic Substances

Toxic substances may enter surface waters either dissolved in runoff or attached to sediment or organic materials. The principal concerns in surface water are their entry into the food chain, bioaccumulation, toxic effect on fish, wildlife and microorganisms, habitat degradation, and contamination of public water supply sources. Some toxic substances that may be present in residential areas, businesses and construction sites are listed below:

Residential: Pet waste, vehicle fluids (oil, gas and antifreeze) paint, pesticides, solvents, batteries, hazardous wastes, street litter, soap from car washing, and swimming pool discharges.

Businesses: Fuel, soap from equipment washing, waste process water and hazardous liquids.

Construction: Sediment, wash water from concrete mixers, used oil and solvents, vehicle fuels and pesticides.

### ▪ Pathogens (bacteria, viruses)

Bacteria and viruses include infectious agents and disease producing organisms normally associated with human and animal wastes, leakage from sewers and seepage from septic tanks.

These organisms can cause disease in humans and animals when present in drinking water and contact recreation water bodies. Biological contaminants come from organic matter, animal waste and litter.

▪ **Oxygen demanding Organics (decaying plant and animal matter, food waste, human and animal waste)**

Organic materials (natural or synthetic) may enter surface waters dissolved or suspended in runoff. Natural decomposition of these materials may deplete dissolved oxygen supplies in the surface waters. Dissolved oxygen (DO) becomes reduced below the threshold necessary to maintain aquatic life, impairing or killing fish and other aquatic plants and animals.



▪ **Oil and Grease (petroleum products)**

Oil and grease may be toxic to aquatic life, even in small amounts. Oil and grease in storm drains can generally be traced to automotive leaks and spills or improper disposal of used oil and automotive products into storm drains.

▪ **Metals (lead, mercury, copper and cadmium)**

Metals in water can be toxic to aquatic life, humans and other animals that drink from surface waters. Metals come from vehicle exhaust, weathered paint, metal plating, tires, discarded auto parts, and motor oil.

▪ **Thermal Stress (sunlight)**

Direct sunlight exposure to urban streams which lack shade may elevate stream temperatures, which can exceed fish tolerance limits, reduce survival and lower resistance to disease. Street, parking lot and roof surfaces which have been heated by sunlight may transport thermal energy to a stream during a storm event, adding stress to biota. Cold water fish (such as trout) may be eliminated, or the habitat may become marginally supportive of the fishery.

▪ **Floating litter (litter)**

Floating litter in water may be contaminated with toxic chemicals and bacteria and can cause death to aquatic animals and birds. Commonly observed floatables include cigarette butts, plastic containers, wrappers and cans. Ducks and geese often become caught in plastic six-pack rings, which can strangle them. Floatables are generally the result of careless handling or littering.

### Sources of Contamination

**Street Pavement:** The components of road surfaces, including breakup and degradation of asphalt, tar, and other oil-based substances are sources of contamination in urban runoff.

**Motor Vehicles:** Fuels and lubricants spill or leak, particles are worn off from tires or brake linings, exhaust emissions collect on the road surface, and corrosion products or broken parts fall from vehicles. While the quantity of material deposited from individual vehicles may be small, the combined impact from numerous vehicles is significant. Automotive service stations tend to have high concentrations of the above contaminants.

**Atmospheric Fallout:** Air pollutants include dust, contaminants and particles from stacks and vents, from automobiles and planes, and from exposed land. The airborne matter settles on the land surface and washes off as contaminated runoff.

**Vegetation:** Leaves, grass clippings, and other plant materials that fall or are deposited on urban land may become part of the runoff problem. Quantities depend on the geographic location, season, landscaping practices, and disposal methods.

**Spills:** Producers and manufacturers must store and use large quantities of hazardous substances to supply the goods we demand. Sometimes - through mismanagement, neglect, or accidents - these substances leak or spill into groundwater and surface waters. Consumer products such as paint thinner, lacquers, detergents, etc., also find their way into storm drainage systems.

**Litter:** This consists of various kinds of discarded refuse items, packaging materials, and animal droppings. Although the quantities may be small, the pollutant sources can be significant and may be the most visible form of urban runoff.

**Anti Skid Compounds and Chemicals:** In the northeast, urban areas employ large amounts of substances designed to melt ice in the winter. Salts, sand, and ash are the commonly used agents. It is impossible to keep the substances from washing into storm drains.

**Lawn Care:** A variety of chemicals may be used as fertilizers, pesticides and herbicides. Many of these substances will become part of urban stormwater runoff when improperly stored or applied.

**Construction Sites:** Soil erosion from land disturbed by construction is a highly visible source of sediment in stormwater runoff. Construction methods and control measures influence stormwater quantity and quality. Storm Sewers tend to accumulate deposits of silt and sediment that will eventually be dislodged and transported by storm flows. Suspended solids are small soil particles that make the receiving water cloudy.

**Combined Sewer Overflows:** Wet-weather discharges into water bodies from combined sewer systems carry sanitary and storm flows that exceed the capacity of sewage treatment plants during large storms. Combined sewer overflows contribute pathogens and nutrients to the waterways in older cities like Syracuse.

**Home Septic Systems:** Failing or poorly designed and/or located systems are more likely to overflow during wet weather periods. Sewage may then be carried with runoff into receiving waters.

*Some information in the Introduction was developed by the Central New York Regional Planning and Development Board*

## Public Education and Outreach on Storm Water Impacts Minimum Control Measure 1

People appreciate their local waterways. They use them for swimming, boating and fishing. We are fortunate that we can enjoy several lakes, rivers and streams in Onondaga County for world-class trout and warm-water fishing, as well as canoeing, motor-boating, birding, swimming and for drinking water. We also have several hundred acres of valuable wetlands that provide wildlife habitat and water quality improvement.

Stormwater runoff can impact these water resources in many ways. Implementing this minimum measure will help the residents of Onondaga County understand what they can do to protect and restore the health of their water resources. Public education is a key component to any effective stormwater management program. Well-planned public education and outreach programs will support and help achieve the goals of the other minimum control measures.

### Requirements:

To meet the requirements of Minimum Control Measure 1, Onondaga County must plan and conduct an ongoing public education and outreach program that describes: the impacts of stormwater discharges on water bodies, the pollutants of concern and their sources, and steps contributors of stormwater and non-stormwater discharges can take to reduce the pollutants.

The County must develop measurable goals and select appropriate education and outreach activities to ensure the reduction of all pollutants of concern in stormwater discharges to the maximum extent practicable. The measurable goals must be periodically modified as needed so that the program continues to be effective.

The activities and management practices chosen have been determined from the program goal, identified pollutants, the audience to reach, information to convey and what the audience should do as a result.

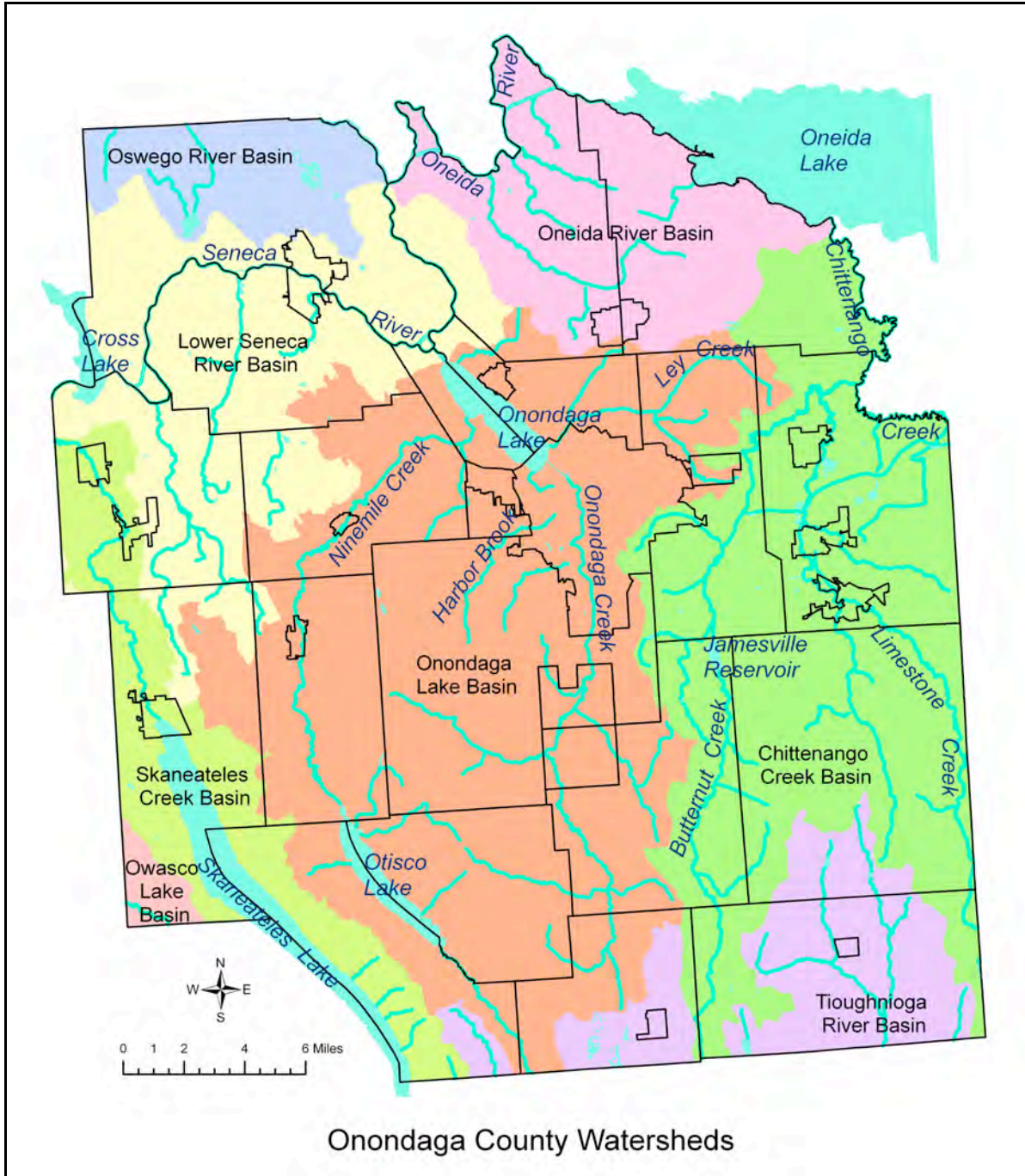
### Activities and Practices:

The County established and continues to maintain a working relationship with the [Central New York Regional Planning and Development Board](#) (CNYRPDB) to develop and conduct an education and outreach program that can be used by the County to satisfy the public education and outreach requirements of the permit. As part of the effort, CNYRPDB has also identified new grant opportunities and applied for funds to conduct education and outreach efforts. The County continues to work with the CNYRPDB to identify audiences in need of additional, targeted information and to distribute fact sheets and brochures as appropriate.

The Public Education and Outreach component of Onondaga County's Stormwater Management Program includes flyers and brochures, a library of educational materials available online, videos and DVDs, speakers to community groups, and displays at public events, County facilities and parks. The Program also includes education on proper disposal of household hazardous waste and a mercury thermometer exchange program.







**Water bodies of Concern within the regulated MS4 area of Onondaga County:**

- Onondaga Lake
- Onondaga Creek
- Ley Creek
- Ninemile Creek
- Harbor Brook
- Oneida Lake
- Jamesville Reservoir

**Geographic Areas of Concern:**

- Onondaga Lake Watershed
- Combined Sewer Overflow Abatement Areas
- Ley Creek Drainage Area

**Target Audiences:**

- Onondaga County residents and businesses
- Schools, Colleges, Universities
- Environmental Organizations

## Public Education and Outreach on Storm Water Impacts

### *Achievements in 2003 – 2008*

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#### **Plan and Conduct an ongoing education and outreach program**

- The County worked with the CNYRPDB to develop and distribute two fact sheets and two brochures providing information on the stormwater permits and programs.
- The CNYRPDB investigated and made available to the public existing educational information relevant to stormwater management issues within the County.
- The County's Council on Environmental Health, the Citizens Advisory Board for the County's stormwater management program, has been tasked with assisting the County in an effort to plan and conduct an ongoing Phase II Stormwater public education and outreach program.
- The County implemented an Urban Best Management Practices (UBMP) project funded by the [Onondaga Lake Partnership](#). The program was comprised of the following three elements: 1) Work with educators in the Syracuse City School District; 2) Media; and 3) Expanded UBMP website. In 2006, the County purchased billboards and newspaper ads to provide the public with a list of practices to keep debris out of storm drains and help keep Onondaga Lake clean. The public was also directed to the website that was also updated and enhanced: <http://www.lake.onondaga.ny.us/ol9026.html>. The program developed under this OLP grant was completed in the summer of 2007.
- The County continued to implement the three-point plan initiated in 2001 to reduce litter in the community. Referred to as "Cleaner & Greener," the program is intended to set an example, promote community awareness and stimulate projects and activities to reduce litter in the community. While the program focus is appealing to many in the community for the aesthetic benefits it produces, there is a direct benefit to receiving waters due to a reduction in floatables. The County maintained a "Cleaner & Greener" component on its website to encourage enhanced public participation in litter reduction.
- The County continued to promote public awareness with its policies for litter and pet waste control in Onondaga Lake, Jamesville Beach and Oneida Shores Parks. The Onondaga County Parks Department maintained its programs of providing bags for pet waste, pet waste receptacles and informational displays in these parks to encourage sound pet waste management practices. The Department also maintained displays in the parks explaining the "Carry in/Carry out" policy to promote proper handling of trash.
- The County continued to participate in the annual Environmental Field Days Program conducted annually at Green Lakes State Park. The event provides interactive presentations to participating sixth grade students on the causes of non-point source urban pollution and how pollutants can be managed and controlled by individuals.
- The County provided Finger Lakes/Lake Ontario Watershed Protection Alliance funds to "Project Watershed," a not-for-profit organization, to conduct citizen/student monitoring of priority water bodies.
- In 2005 the County provided Finger Lakes/Lake Ontario Watershed Protection Alliance funds and technical/logistical input for implementing a storm drain stenciling project in concert with Cornell Cooperative Extension of Onondaga County and the CNYRPDB.
- Each year, the County carried out its annual Free Leaf Bag program to reduce sources of urban pollution to Onondaga Lake. Use of the biodegradable leaf bags keeps leaves out of the city sewers where they take up space, clog storm drains, disrupt treatment processes and cause

discharges from combined sewer overflows into Onondaga Creek and Harbor Brook. Since the program began in 2002, over 100,000 leaf bags have been distributed to City of Syracuse residents.

- The County Parks Department promoted community awareness at the [Rosamond Gifford Zoo](#), where drainage from the new “green building” is directed into two cisterns that drain into a retention pond. Water seeps slowly out of the retention pond back into the ground to keep water on the site and out of storm sewers. As part of a 9-sign informational program, the Parks Department added seven interpretive graphics to the landscaped area in front of the zoo to provide information about managing stormwater runoff from buildings on site.
- The County Parks Department promoted community awareness at the Rosamond Gifford Zoo through use of an [Onondaga Lake Partnership](#) mini-grant to develop an educational program on non-point source pollution and how to improve habitat for wildlife in the Onondaga Lake Watershed. Interpretive graphics generated through this project explain, among other things: 1) how plants help clean water and trap pollutants; and 2) how runoff from parking lots picks up pollutants from cars, and that by allowing the runoff to percolate through the soil it remains part of the natural water cycle rather than running into storm drains leading to surface waters.
- The County Parks Department promoted community and employee awareness at the Rosamond Gifford Zoo by developing approximately 50 one-page “Think Green” messages that cover environmental issues pertaining to land, air and water, and that are continually rotated on placards placed throughout buildings at the zoo. Many of these think green messages address stormwater pollution. Between 275,000 and 300,000 people visit the zoo every year.
- In 2007-08, the County finalized production of its educational DVD titled “[A Cleaner Onondaga Lake: How You Can Help.](#)” This 16 minute DVD was premiered at Onondaga Lake Day in June 2007 and shown at the OLP Annual Progress Meeting (November 2007) of the Onondaga Lake Partnership. The County advertised the DVD’s availability and has distributed copies to schools and community groups throughout the area, and it is used regularly at presentations to local groups by the OLP’s Speakers Bureau. Its emphasis is on keeping unwanted pollutants out of the stormwater system.
- Restaurants have been identified as a significant contributor of oil and grease to both storm drains and sanitary sewers. In 2008 the Department of Water Environment Protection developed a brochure entitled “[Avoid the Clog... Keep out the F.O.G.](#)” to educate food service operators of BMPs for fats, oils, grease and grease interceptors. It was mailed out to food service establishments in the sanitary district.
- On the recommendation of the County Council on Environmental Health, Finger Lakes-Lake Ontario Watershed Protection Alliance funds were provided to the Cornell Cooperative Extension of Onondaga County to design and have constructed a rain garden at the 2007 Parade of Homes. The Parade of Homes, a widely attended showcase for area home builders, is sponsored by the Home Builders Association of Central New York. The project was done through workshops as a public education component. Extension staff was assisted by volunteers from the Council and other interested parties to provide information on the rain garden concept and promote their use and utility during the Parade of Homes. The rain garden project was successfully carried out at the Parade of Homes between September 8 and September 23, 2007.
- In 2008 the Council on Environmental Health and County Parks cooperated with the Cornell Cooperative Extension of Onondaga County on the implementation of an Onondaga Lake Partnership mini-grant to demonstrate and promote the use of zero-phosphorous fertilizer at Onondaga Lake Park.

## Web Site

- The County Department of Water Environment Protection included a section on the Onondaga Lake Improvement Project website (<http://www.lake.onondaga.ny.us>) that offered tips on how residents can keep stormwater pollutants out of Onondaga Lake. The site, entitled: Cleaner Greener Neighborhoods Make a Clearer Bluer Lake, addresses yard waste, waste oil, solid waste, and the proper use of lawn care products.
- The CNYRPDB developed and continues to host a Stormwater Phase II Syracuse Urban Area website (<http://www.cnyrpdb.org/stormwater-phase2>). The site serves as an information dissemination, communication, education and public outreach tool.
- In 2005, the County Office of Environment established a Stormwater Outreach and Education component as part of its website at <http://www.ongov.net/Environment/stormwater.html>. Much of the information on the site was developed by the Central New York Regional Planning and Development Board.
- The County Department of Water Environment Protection included a section on the Onondaga Lake Improvement Project website that focuses on pollution prevention in general, with a special page entitled “P2 Starts in the Home,” which provides tips on how homeowners can do their part to reduce water pollution and includes additional pages that include: What is pollution prevention, P2 at work, P2 in healthcare, grease reduction, mercury reduction, silver management, anti-freeze: recycle it, and an “additional resources” page. (<http://www.ongov.net/WEP/we17.html>).
- The CNYRPDB maintained a list of all NYS and federal legislation referenced in the Phase II permits, all NYSDEC Phase II guidance materials and permits, individual books, pamphlets and manuals, training videos, training and education presentations and links to related internet websites. The holdings catalog is posted on the Board’s stormwater website and contact information is provided for requesting copies of the catalogued materials at [www.cnyrpdb.org/stormwater-phase2/library.asp](http://www.cnyrpdb.org/stormwater-phase2/library.asp).

## Media Campaign

- The CNYRPDB developed two feature length articles and submitted both for publication in regional (Post Standard) and local (Eagle Newspapers, CNY Environment) newspapers in August, September and October 2003 and March 2004. Articles were posted on the Board’s website for use and distribution by regulated MS4s. An additional article (An Overview of the Phase II Stormwater Regulatory Program) was developed, and posted on the Board’s website.
- The CNYRPDB prepared press releases for various meetings and workshops and submitted them for publication to all media outlets on 9/5/03 (Citizen Workshop); 2/17/04 (Think Spring); 3/16/04 (Municipal Training Workshop).
- The CNYRPDB developed one feature length article and one shorter informational piece and submitted both to all local and regional media outlets for publication during the second quarter of 2004. The Board also posted the articles on their stormwater website and provided an electronic copy to MS4s for local use and distribution.
- The Board prepared press releases for various meetings and workshops and submitted them for publication to all media outlets, including the Municipal Good Housekeeping workshop on March 30, 2005.



## Printed Material

- The CNYRPDB compiled information needed to concisely fill information gaps and produced two double-sided fact sheets: 1) [Reducing the Impacts of Stormwater Pollution/Ten Ways Homeowners Can Improve the Quality of Stormwater Runoff](#), 2) [Summary of Stormwater Runoff Pollutant Effects/Sources of Contamination in Urban Runoff](#); posted fact sheets as PDF files on the Board's stormwater website for use and distribution by regulated MS4s.
- The Board compiled comprehensive information needed to fill information gaps and produce two 3-panel brochures for target audiences (i.e., construction operators and homeowners); mailed brochure announcements and hard copy brochure masters to MS4s; posted brochures as PDF files on the Board's stormwater website for use and distribution by regulated MS4s.
- The County distributed copies of the brochure entitled "[Stormwater Pollution Prevention: The Influence of Construction Activities](#)" to applicants who receive County permits for construction activities impacting County facilities, primarily within or adjacent to County roads. The CNYRPDB developed the brochure and distributed 15,000 copies to all counties, cities, towns and villages within the SUA and the remainder of their 5-county Central New York region. This brochure also appears on the County website: <http://www.ongov.net/Environment/images/ConstructionBrochure.pdf>
- In 2005 the Council on Environmental Health developed a new brochure entitled: "Stop Pollution Before It Starts" to enhance general public understanding of residential stormwater protection practices and stormwater issues in general. This brochure is also distributed to residential applicants who receive County permits for construction activities impacting County facilities, and several hundred copies have been placed in various public locations. A copy also appears on the County website: <http://www.ongov.net/Environment/images/HomeownerBrochure.pdf>.
- In 2008, the Onondaga County Council on Environmental Health produced a brochure titled "[Is There a Pond Near Your Home?](#)" and distributed approximately 250 copies to municipalities and homeowners.

## Events and programs

- The CNYRPDB made formal Stormwater Phase II presentations at the FOCUS Greater Syracuse meeting (2/13/04) and the Izaak Walton League (IWL) conference (2/28/04). Presentations included a general description of stormwater issues and concerns, and described the overall requirements of the Phase II regulatory program. Additionally, the FOCUS presentation emphasized the logic and benefits of a regional compliance effort and the level of intermunicipal cooperation currently occurring within the SUA. The IWL presentation emphasized the requirements of Minimum Measure 2 and the need for citizen participation.
- On January 28, 2004 the Onondaga County Planning Federation hosted a one-hour course entitled "Stormwater Controls for Local Elected Officials," conducted by the NYS Departments of State and Environmental Conservation.
- On January 25, 2005 the Onondaga County Planning Federation hosted a one-hour course for municipal officials entitled "Stormwater Phase II: Revising Local Laws to Implement Community Stormwater Programs."
- On January 31, 2006 the Onondaga County Planning Federation hosted a one-hour course for municipal officials entitled "Protecting Water Resources through Local Regulations."



- On September 25, 2007 the Onondaga County Planning Federation, which, among other things, puts on programs for local officials appointed to town and village boards, included a two-hour course for municipal officials entitled “NY SPDES Stormwater General Permit Requirements.”
- The County Parks Department promoted community awareness at the Rosamond Gifford Zoo by conducting an event called “Eco-Expo,” the Zoo’s celebration of Earth Day. The event included a “green building tour,” which included information about the collection of water from building roofs. The event also featured the non-point source model funded by the OLP.
- On the recommendation of the County Council on Environmental Health, Finger Lakes-Lake Ontario Watershed Protection Alliance funds were provided to the Cornell Cooperative Extension of Onondaga County to initiate a “[Rain Catcher](#)” program in Onondaga County to include the following: rain garden presentations to community groups, the design and maintenance of a webpage on rain gardens, rain barrels, etc., and work with media to promote rain gardens, work with landscape, nursery professionals and the Homebuilders/Remodelers Association to increase knowledge of rain gardens and other practices.

#### **Proper Disposal of Household Hazardous Waste**

- The County continued to support public participation in the bi-annual household hazardous waste cleanup days carried out by the Onondaga County Resource Recovery Agency.
- The County continued to carry out a pilot thermometer exchange program with Bristol-Myers Squibb and the Onondaga County Resources Recovery Agency to remove mercury thermometers from residences and distribute non-mercury thermometers.

## Public Education and Outreach on Storm Water Impacts

### Planned Efforts for 2009

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#### Plan and Conduct an ongoing education and outreach program

- A new initiative will begin in 2009 to promote the use of “Green Infrastructure” – management practices to reduce stormwater runoff through infiltration, increased vegetative cover, and rainwater reuse. Onondaga County’s “Save the Rain” program will include education and outreach elements for the general public, schools, community organizations, and municipalities. A primary goal of the program is to reduce stormwater runoff that is typically collected in storm drains, pipes, and storage and treatment facilities, by capturing runoff and allowing it to soak into the ground, evaporate or transpire from plants. Green Infrastructure practices also filter pollutants from stormwater, reduce combined sewer overflows by reducing the volume of runoff entering the piped conveyance system, and restore natural ecosystem functions.
- The County plans to continue to work in partnership with the Central New York Regional Planning and Development Board and other participating MS4s in the Syracuse urbanized area on Year Two of a public education and outreach, public participation, and municipal outreach and training project.
  - ◆ The CNYRPDB will conduct a follow-up to the 2007 Syracuse urbanized area stormwater public education survey to assess the effectiveness of ongoing regional education and outreach efforts and to identify areas in need of improvement. The survey will be distributed by direct mail to approximately 8500 residences. Additionally, the survey will be posted on the CNYRPDB web site.
  - ◆ Existing and new education materials will be distributed to primary target audiences identified in the public education survey. CNYRPDB will work with local school districts, libraries, landscape/nursery/garden shops, animal shelters, veterinary offices and others to distribute and post brochures, fact sheets and posters. Topics may include low phosphorus/no phosphorus fertilizer, soil testing, pet waste disposal, erosion control with native plants, the dangers of dumping materials into storm drains, etc. The materials will also be available on the CNYRPDB web site and available to MS4s for on-site distribution.
  - ◆ The CNYRPDB will provide three direct mailings to construction contractors and developers focusing on Enhanced Phosphorus Removal design standards and requirements for projects within regulated MS4 communities. Information will also be posted on the CNYRPDB web site and available to MS4s for on-site distribution.
- The County will continue to promote public awareness of stormwater pollutants, pathways, impacts and controls at County Parks and the Rosamond Gifford Zoo.
  - ◆ The Onondaga County Parks Department maintains its programs of providing bags for pet waste, pet waste receptacles and informational displays in Onondaga Lake, Jamesville Beach and Oneida Shores Parks to encourage sound pet waste management practices. The Department also maintains displays in the parks explaining the “Carry in/Carry out” policy to promote proper handling of trash.
  - ◆ The County Parks Department will continue to promote community awareness at the [Rosamond Gifford Zoo](#). A nine-sign informational program and seven interpretive graphics in the landscaped area in front of the zoo to provide information about managing stormwater runoff from buildings on site. Interpretative graphics generated through an [Onondaga Lake Partnership](#) mini-grant provide an educational program on non-point source pollution and

how to improve habitat for wildlife in the Onondaga Lake Watershed. “Think Green” messages that cover environmental issues pertaining to land, air and water, many messages addressing stormwater pollution, are continually rotated on placards placed throughout buildings at the zoo. Between 275,000 and 300,000 people visit the zoo every year.

- The County will continue to carry out its annual Free Leaf Bag program to reduce sources of urban pollution to Onondaga Lake. Use of the biodegradable leaf bags keeps leaves out of the city sewers where they take up space, clog storm drains, disrupt treatment processes and cause discharges from combined sewer overflows into Onondaga Creek and Harbor Brook.
- The educational DVD titled “[A Cleaner Onondaga Lake: How You Can Help](#)” is available for schools and community groups throughout the area, and will continue to be used regularly at presentations to local groups by the OLP’s Speakers Bureau. Its emphasis is on keeping unwanted pollutants out of the stormwater system.
- The Council on Environmental Health and County Parks, in cooperation with the Cornell Cooperative Extension of Onondaga County, will complete implementation of an Onondaga Lake Partnership mini-grant to demonstrate and promote the use of zero-phosphorous fertilizer at Onondaga Lake Park.

### Web Site

- The County’s new “Save the Rain” program will be featured on the County Department of Water Environment Protection website. The program focus is on Green Infrastructure stormwater management technology and reducing combined sewer overflows to local water bodies by directing stormwater into the ground rather than to piped conveyance systems.
- The County Department of Water Environment Protection includes a section on the Onondaga Lake Improvement Project website (<http://www.lake.onondaga.ny.us>) that offers tips on how residents can keep stormwater pollutants out of Onondaga Lake. The section is entitled “Cleaner Greener Neighborhoods Make a Clearer Bluer Lake.” The Department of Water Environment Protection will continue to make available on its web site a brochure entitled “[Avoid the Clog... Keep out the F.O.G.](#)” to educate food service operators of BMPs for fats, oils, grease and grease interceptors. A section entitled “P2 Starts in the Home” provides tips on how homeowners can do their part to reduce water pollution (<http://www.ongov.net/WEP/we17.html>).
- The CNYRPDB will continue to host a Stormwater Phase II Syracuse Urban Area website (<http://www.cnyrpd.org/stormwater-phase2>). The site serves as an information dissemination, communication, education and public outreach tool.
- The County Office of Environment continues to provide a Stormwater Outreach and Education component as part of its website at <http://www.ongov.net/Environment/stormwater.html>.
- The CNYRPDB continues to maintain a list of all NYS and federal legislation referenced in the Phase II permits, all NYSDEC Phase II guidance materials and permits, individual books, pamphlets and manuals, training videos, training and education presentations and links to related internet websites. The holdings catalog is posted on the Board’s stormwater website at [www.cnyrpd.org/stormwater-phase2/library.asp](http://www.cnyrpd.org/stormwater-phase2/library.asp).

### Media Campaign

- A media campaign will be implemented to introduce the County's "Save the Rain" program to the general public. Radio, TV, newspaper, and billboard advertisements will focus on Green Infrastructure stormwater management practices that residents can install and maintain on their own property, including rain gardens, rain barrels, porous pavement, and tree planting.
- The CNYRPDB stormwater assistance to MS4s project will include a stormwater supplement to the Syracuse Post-Standard, targeting the general public with information on stormwater pollutants, pathways, impacts and controls. Total distribution is estimated at 104,000 copies.
- Forty-two 30-second radio commercials will be prepared by the CNYRPDB and are planned to air during prime listening hours on WSYR and B104.7 over a one week period to promote general awareness about stormwater pollutants, pathways, impacts and controls.

### Printed Material

- "Save the Rain" brochures, posters and classroom education materials will be developed to promote the County's new Green Infrastructure program. The materials will be distributed at the Onondaga Lake Day event, at County Parks, the Rosamond Gifford Zoo, and available on the County's website.
- The County will continue to distribute the brochures titled "Stop Pollution Before It Starts," "Is There a Pond Near Your Home," "Stormwater Pollution Prevention: You Can Make a Difference," and "Stormwater Pollution Prevention: The Influence of Construction Activities" to the general public and construction contractors. The brochures are available on the County [Office of the Environment](#) website and the [CNYRPDB](#) website.
- The CNYRPDB will modify existing education materials and prepare new pieces to be distributed to local school districts, libraries, landscape/nursery/garden shops, animal shelters, veterinary offices and others to distribute and post brochures, fact sheets and posters. The materials will also be available on the CNYRPDB web site and available to MS4s for on-site distribution.
- The County Council on Environmental Health will continue to distribute the brochure titled "[Is There a Pond Near Your Home?](#)" and the information on the brochure will also appear in the Clay Insider newspaper in the spring.

### Events and programs

- The County's new "Save the Rain" program to promote Green Infrastructure will be featured in the Syracuse St. Patrick's Day parade with a float demonstrating rain barrels, green roofs, rain gardens and porous pavement.
- "Save the Rain" presentations will be delivered to community leaders and organizations to establish partnerships to encourage support for the program and facilitate implementation of Green Infrastructure practices.
- The County will continue to participate in the annual Environmental Field Days Program conducted annually at Green Lakes State Park.
- The County Parks Department will continue to promote community awareness at the Rosamond Gifford Zoo by conducting an event called "Eco-Expo," the Zoo's celebration of Earth Day.
- The Syracuse Onondaga County Planning Association included a session titled "MS4 Stormwater Permit Requirements & Better Site Design Principles" at its January 21, 2009 conference for local officials and will include additional stormwater training at the Fall 2009 conference.

- Cornell Cooperative Extension of Onondaga County will continue their "[Rain Catcher](#)" program in Onondaga County to promote the use of rain barrels and rain gardens through workshops and presentations to community groups.

#### **Proper Disposal of Household Hazardous Waste**

- The County will continue to support public participation in the bi-annual household hazardous waste cleanup days carried out by the Onondaga County Resource Recovery Agency.
- The County will continue to carry out a thermometer exchange program with Bristol-Myers Squibb and the Onondaga County Resources Recovery Agency to remove mercury thermometers from residences and distribute non-mercury thermometers.



## Public Involvement/Participation Minimum Control Measure 2

Cleaning up stormwater pollution is a difficult task because there is no single source, no single solution and, no single responsible party. We all contribute to the problem and we all have a role to play in the solution.

MS4s can reap the benefit of a stronger program and higher levels of compliance if they involve people in planning and implementing the Stormwater Management Program (SWMP) right from the beginning. Important partnerships can be cultivated for planning and implementing the program through public involvement activities. An involved public will be more likely to support a stormwater program both in terms of helping implement the program and sustaining it in the long run.



### Requirements:

Onondaga County must comply with State and local public notice requirements when implementing a public involvement/participation program. The County will comply with public participation and involvement provisions of the Clean Water Act whenever applicable.

The County is required to design and conduct a public involvement/participation program that: identifies key individuals and groups who are interested in or affected by the stormwater permitting program, identifies the type of input the MS4 will seek from them, and describes activities the MS4 will undertake to provide program access and gather needed input.

Onondaga County is required to report to the NYSDEC by June 1 each year on the progress and effectiveness of the Stormwater Management Program, and provide an opportunity for the public to comment on the Program and the Annual Report. The Annual Report is available on the County web site at: <http://www.ongov.net/Environment>.

Prior to submitting the annual report, the County is required to announce that the draft annual report is available for public review and comment, post the draft report in a format that is available to the public (for example, on the County's web site), and provide an opportunity for the public to request an open public meeting to ask questions about and make comments on the report. The County is required to include a summary of comments and intended responses in the final annual report and make the final report available for public inspection. Beginning in 2009, the County also must make the SWMP available for public inspection.

As a component of this minimum control measure, the County must develop measurable goals and select appropriate public involvement activities to ensure the reduction of all pollutants of concern in stormwater discharges to the maximum extent practicable. The County will periodically assess and modify the measurable goals as needed.

## Activities and Practices:

To accomplish the public involvement/participation goals, the County designated the Onondaga County Council on Environmental Health as the citizen advisory entity. The Council maintains a list of stakeholders who would like to be apprised of milestones and give input to environmental management decisions, and the Council participates in and encourages citizen volunteer programs for activities like beach cleanups, picking up litter, stream monitoring and field surveys, and storm drain stenciling.



The County worked with the [Central New York Regional Planning and Development Board](#) to solicit initial stakeholder input on stormwater issues, concerns and suggestions for effectively incorporating the general public into stormwater management planning and implementation efforts.

The CNYRPDB encourages schools, community groups and individuals to become involved in cleaning streams, roadsides, and beaches, stenciling storm drains, planting trees, composting, using less fertilizers and

pesticides, and other stormwater stewardship activities through the [Watershed Stewardship Program](#). Volunteers can receive a little extra recognition and a chance to win Wegman's gift cards.

David Coburn, Director of the County's Office of Environment, is identified as the primary contact person on the County's Notice of Intent. The County Office of Environment's website (<http://www.ongov.net/Environment>), which features a stormwater outreach and education component, includes the County's Stormwater Management Plan and Annual Report for public review.

## **Public Involvement/Participation**

### ***Achievements in 2003 - 2008***

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#### **Public involvement and participation**

- The County encouraged community participation and cooperation in annual Earth Day litter cleanup activities each year.
- In June 2007, the County Executive designated the County's Council on Environmental Health, a Citizens Advisory Board to the County, as the County's official Stormwater Management Plan Citizens Advisory Board. The Council has been tasked with assisting the County in its efforts to plan and conduct ongoing Phase II Stormwater public education and outreach projects.
- In August 2007, Cornell Cooperative Extension of Onondaga County's Onondaga Earth Corps hosted a Trash to Tree Cleanup along Onondaga Creek to raise money to plant trees on the City's south side.

#### **Stakeholder Meetings**

- In 2003, CNYRPDB planned, publicized and held 2 workshops: 1) Workshop on Citizen Involvement/Volunteer Opportunities with the Stormwater Phase II Program was held in Liverpool on 9/10/03 and brought together representatives of 15 MS4s and 11 stakeholder groups to: discuss the purpose and need for utilizing volunteers to increase Phase II compliance; identify current/planned volunteer opportunities relevant to Phase II as well as other potentially relevant groups/activities; discuss the feasibility of developing a regional stormwater volunteer coalition; and 2) Spring Cleaning and Clean Water Public Education Workshop was held in Clay on 3/4/03. Various informational presentations and tabletop displays with a "clean stormwater" theme were geared and presented for the general public. Attendees were encouraged to consider participating in volunteer programs to assist in the Phase II effort and various materials encouraging such participation were developed or modified, and distributed at the workshops.

#### **Public presentation and comments received on the County's SWMP and Annual Report**

- The County conducted an annual public meeting in May of each year to accept public comment on its SWMP Annual Report and prepared a responsiveness summary based on public input that is received. The County's Annual Report is available at:  
<http://www.ongov.net/Environment/images/SWMPReport.pdf>
- Each year the County sent a news release to all local newspapers, television and radio stations announcing the availability of the County's Stormwater Management Plan/Annual Report at area libraries and on the County website for review and public comment. The County's Council on Environmental Health provided the County with a list of specific organizations that should receive and be invited to comment on the County's Stormwater Management Plan. Copies of the Annual Report are sent to all of the organizations on this list.

## Public Involvement/Participation

### *Planned Efforts for 2009*

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#### **Public involvement and participation**

- Onondaga County's new "Save the Rain" program will include opportunities for community organizations and school groups to participate in implementing Green Infrastructure stormwater management practices by installing rain gardens and rain barrels and planting trees.
- The County will continue to work in partnership with the Central New York Regional Planning and Development Board and other participating MS4s in the Syracuse urbanized area on Year Two of a public education and outreach, public participation, and municipal outreach and training project.
  - ◆ The CNYRPDB will conduct a follow-up to the 2007 Syracuse urbanized area stormwater public education survey to assess the effectiveness of ongoing regional education and outreach efforts and to identify areas in need of improvement. The survey will be distributed by direct mail to approximately 8500 residences. Additionally, the survey will be posted on the CNYRPDB web site.
- The County will continue to encourage community participation and cooperation in annual Earth Day litter cleanup activities each year.
- The County's Council on Environmental Health, a Citizens Advisory Board to the County, will continue to act as the County's official Stormwater Management Plan Citizens Advisory Board. The Council has been tasked with assisting the County in its efforts to plan and conduct ongoing Phase II Stormwater public education and outreach projects.

#### **Public presentation and comments received on the County's SWMP and Annual Report**

- The County will continue to send a news release to all local newspapers, television and radio stations announcing the availability of the County's Stormwater Management Plan/ Annual Report at area libraries and on the County website for review and public comment. The County will continue to send copies of the Annual Report to a list of specific organizations provided by the Council on Environmental Health and invite them to comment on the County's Stormwater Management Plan.
- The County will conduct a public meeting when requested by the public to accept comment on its SWMP Annual Report and will continue to prepare a responsiveness summary based on public input that is received. The County's current Annual Report is available at:  
<http://www.ongov.net/Environment/images/SWMPReport.pdf>

## Illicit Discharge Detection and Elimination (IDDE) Minimum Control Measure 3

A significant portion of flows from municipal separate storm sewer systems (MS4s) are not directly attributable to precipitation runoff. They are due to inappropriate, or illicit, discharges and connections to the MS4. Illicit discharges enter the system through direct or indirect connections. The result is inadequately treated stormwater discharges that contribute high levels of pollutants, including heavy metals, toxics, oil and grease, viruses, and bacteria to receiving water bodies.



### Requirements:

Under this minimum control measure, Onondaga County must develop, implement and enforce a program to detect and eliminate illicit discharges into the MS4, including illegal dumping, and develop and maintain a map showing the location of all stormwater outfalls within the County's urbanized area and the names and location of all surface waters that receive discharges from those outfalls. (A stormwater outfall is defined as any point where a storm sewer system discharges to either the waters of the U.S. or to another MS4. Outfalls include discharges from pipes, ditches, swales, and other points of concentrated flow.)

The program must include: an ordinance or other regulatory mechanism prohibiting illicit discharges into the storm sewer system; procedures for identifying priority areas of concern (geographic, audiences, or otherwise) for the IDDE program; description of priority areas of concern, available equipment, staff, funding, etc.; procedures for identifying and locating illicit discharges (trackdown); procedures for eliminating illicit discharges; and procedures for documenting actions. The County's program also contains components to inform public employees, businesses and the general public of hazards associated with illegal discharges and improper disposal of waste.

The County is also required to conduct an inspection, or outfall reconnaissance inventory, as described in the EPA publication [Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessment](#), addressing every outfall within the County's jurisdiction in the urbanized area at least once every five years, with reasonable progress each year.

By March 9, 2010, the County must also show progress on mapping the boundaries of the County's storm sewersheds – determined using a Geographic Information System (GIS) or other tools, even if they extend outside of the urbanized area – to facilitate

### What is an "Illicit Discharge"?

Federal regulations define an illicit discharge as "...any discharge to an MS4 that is not composed entirely of stormwater..." with some exceptions. These exceptions include discharges from SPDES-permitted industrial sources and discharges from fire-fighting activities. Illicit discharges are considered "illicit" because MS4s are not designed to accept, process, or discharge such non-stormwater wastes. Sources of illicit discharges include: sanitary wastewater piped to storm drains, leaking septic tanks, car wash wastewaters, improper oil disposal, radiator flushing disposal, laundry wastewaters, and auto or household toxics dumped into storm drains.



trackdown of illicit discharges. The County must also map new outfalls as they are constructed or discovered within the urbanized area.

As with other minimum control measures, the County must develop appropriate measurable goals, and assess and modify them as needed to protect the quality of Onondaga County's water bodies to the maximum extent practicable. The County reports to the NYSDEC annually the number of illicit discharges detected and eliminated, the percent of outfalls for which an outfall reconnaissance inventory has been performed, the status of storm sewer system mapping, and results of activities to inform the public of hazards associated with illegal discharges and improper disposal of waste.

### **Activities and Practices:**

The County investigated the adequacy and/or suitability of existing regulatory controls available to the County to prohibit and eliminate illicit discharges to County stormwater conveyance systems. It was determined that the County Sanitary Code, Plumbing Code and Sewer Use Ordinance, in concert with State Environmental Regulations, are sufficient to enable the County to prohibit illicit discharges to the County stormwater systems. The County also assessed the adequacy of existing County department illicit discharge detection procedures, and existing policies and procedures to respond to illicit or unusual discharges to County systems.

Through intermunicipal agreements, in 2009 the County is initiating a 1-year pilot project to provide stormwater outfall reconnaissance inventory for MS4s in the urbanized area at no cost, and trackdown and lab analysis of discharge samples at cost. At least 20% of each participating MS4's outfalls will be inspected during the first year of the program. In addition to the outfall inspections, the County has extended its sewer maintenance 24-hour hotline to include stormwater illicit discharges. The County will be taking reports of illicit discharges and, upon request, conducting investigations on behalf of participating MS4s.

Septic system cross-connections and failing septic systems are the most common illicit discharge complaints. When the 24-hour Stormwater Illicit Discharge Hotline appears in the 2009 Syracuse area phone books, Onondaga County Department of Water Environment Protection will be taking reports and tracking illicit discharge reports county-wide; this will give municipalities a better understanding of the geographic areas of concern and which types of discharges to focus education efforts on.

## Illicit Discharge Detection and Elimination

### *Achievements in 2003 - 2008*

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#### **Develop, implement and enforce a program to detect, identify and eliminate illicit discharges, including illegal dumping, into the MS4**

- The County investigated the nature and extent of illicit discharges to County stormwater conveyances systems.
  - ◆ It was determined that in 2003 the County Health Department received 17 such complaints, most of which were related to sewage from septic systems.
  - ◆ In 2004 the County Health Department received 7 such complaints with respect to highway road ditches, most of which were related to sewage from septic systems and Water Environment Protection investigated three unusual discharges to Bear Trap Creek, Tributary 5A and Ley Creek.
  - ◆ In 2005 the County Health Department investigated 62 complaints, mostly dealing with faulty/failing septic systems and Water Environment Protection investigated five unusual discharges.
  - ◆ In 2006 the County Health Department investigated 65 complaints, mostly dealing with faulty/failing septic systems and Water Environment Protection investigated five unusual discharges.
  - ◆ In 2007 the County Health Department investigated 50 complaints, mostly dealing with faulty/failing septic systems and Water Environment Protection investigated nine unusual discharges.
- The County Department of Water Environment Protection (WEP) conducted weekly inspections of critical areas along drainage district channels and flood retention basins to identify and remove blockages, litter and debris, and report unusual discharges of water to the NYSDEC Division of Water. The Department continued to deploy laboratory services field technicians to sample the source of unusual discharges.
  - ◆ In 2006, the WEP Stream Maintenance Staff spent 6075 hours performing channel inspections/debris removal for the following drainage districts: Bear-Trap, Bloody Brook, Harbor Brook, Meadowbrook, North Ley Creek, Sanders, South Ley Creek, and Teall Brook. A total of 1364 cubic yards of debris was removed from the above noted drainage districts.
  - ◆ In 2007, the WEP Stream Maintenance Staff spent 5908 hours performing channel inspections/debris removal for the following drainage districts: Bear-Trap, Bloody Brook, Harbor Brook, Meadowbrook, North Ley Creek, Sanders, South Ley Creek, and Teall Brook. A total of 1465 cubic yards of debris was removed from the above noted drainage districts. The Department continued to deploy laboratory services field technicians to sample the source of unusual discharges.
- The Department of Water Environment Protection incorporated the following routine activities into their normal requirements for identifying and reporting illicit discharges to County stormwater conveyance systems: 1) inflow/infiltration monitoring and investigation, including identification and correction of cross-connections; 2) emergency storm response measures; 3) routine stream inspection, patrol and maintenance within the four County drainage districts; and 4) routine response to complaints of sewer blockage, backup, odor, spills, utility excavation damage, or other unusual discharges.

- The County Department of Water Environment Protection has two procedures associated with unusual discharges. The first, "Unusual Discharge Reporting Procedures for OCDWEP Personnel," is posted on all department bulletin boards. Its purpose is to direct the response of department personnel when a discharge of unknown material is discovered entering any County POTW, associated collection system or stream. The second, "Procedures for Receipt of Unusual Discharge Calls at the OCDWEP Board," is posted at both METRO and the Oak Orchard Boards for guidance to the operators. The purpose is to provide operators with an Engineering and Lab Services (ELS) notification list to relay unusual discharge information and provide guidance in completing Unusual Discharge Notification Report forms. The ELS Division is the primary WEP point of contact for unusual discharges and investigates each reported event.
- The County Parks Department incorporated the following routine activities into their procedures for identifying and reporting illicit discharges to County stormwater conveyance systems: 1) change of season maintenance activities; 2) operations during special events; and 3) routine maintenance operations, such as mowing, post-storm cleanups, ranger patrols, etc.
- The County Department of Transportation notified the County Health Department when engineering personnel, survey crews, road maintenance crews, section crew leaders and foremen in the field observed apparent illicit sewage discharges to County stormwater conveyances.
- The County Parks Department provided boaters on Onondaga Lake with a commercial boat pump-out system.
- The County Parks Department provided a recreational vehicle dump station at County Park campgrounds.
- The County Department of Water Environment Protection accepted RV waste at no cost at the Metropolitan Syracuse Wastewater Treatment Plant.

**Develop and maintain a map showing the location of all outfalls and the names and location of all waters of the US that receive discharges from outfalls**

- County Departments investigated equipment and staffing needs to undertake outfall mapping requirements in order to develop a strategy and schedule for implementation.
  - ◆ The County worked with the Central New York Regional Planning and Development Board in its Phase II Stormwater Assistance Program which, through a GIS Working Group, is coordinating the efforts of other MS4s in the Syracuse Urban Area with regard to creating a common, standardized digital map and outfall database. The purpose of establishing the Working Group was to develop a set of recommendations to guide MS4s in meeting the mapping requirements of the Phase II stormwater permit, to develop recommendations on how additional Environmental Protection Fund grant money can be utilized to assist in meeting this requirement, and to determine a process for creating a Regional Map of the SUA.
  - ◆ Onondaga County DOT determined in 2004 that the most efficient and cost-effective way to complete outfall mapping along County highway infrastructure in the Syracuse Urban Area was to contract the work out. In 2004 a Request for Proposals to complete the work was issued and a vendor was selected.
  - ◆ The County Parks Department determined in 2004 that the most efficient and cost-effective way to complete outfall mapping within County Parks in the Syracuse Urban Area is to take advantage of State grant funds being made available through the Central New York Regional Planning and Development Board. In this grant-funded initiative, student interns will be

made available to the Parks Department to field verify outfall locations identified by Parks Department personnel from maps and design drawings.

- ◆ GIS outfall mapping along County highway infrastructure and with County parks in the Syracuse Urban Area was initiated in 2005 and completed in 2006.
- In 2008 the County assessed the feasibility of mapping priority storm sewersheds with the use of GPS, LiDAR and ArcHydro software.

**Inform public employees, businesses and the general public of hazards associated with illegal discharges and improper disposal of waste**

- The County Department of Transportation incorporated employee training on illicit discharges into their annual training program, and invited the Parks Department employees to participate in the training.
- The County Parks Department employees received training on illicit discharges annually from County DOT.
- The County Parks Department incorporated a presentation on the Department's illicit discharge policy, provides information on how to determine what is and what isn't an illicit discharge, and basic information on safety procedures to follow if an illicit discharge is discovered in their temporary employee orientation/training in the spring of 2007. The Parks Department also provides annual training to permanent Parks Department employees when they receive their right-to-know training.
- See Minimum Control Measure 1 for more information on informing businesses and the general public of hazards associated with illegal discharges and improper disposal of waste.

## **Illicit Discharge Detection and Elimination**

### ***Planned Efforts for 2009***

#### **Develop, implement and enforce a program to detect, identify and eliminate illicit discharges, including illegal dumping, into the MS4**

- Onondaga County investigates the nature and extent of illicit discharges to County stormwater conveyance systems. In the past, complaints have been reported to the Onondaga County Health Department for investigation. A new “Stormwater Discharge Hotline,” using the current 24-hour sewer maintenance hotline system, is being initiated in 2009 to accept citizen reports of illicit discharges. Complaints impacting non-County owned MS4s will be transmitted to the appropriate municipality. Complaint investigations for non-County MS4s will be handled by the Department of Water Environment Protection if requested by the participating municipalities. The Department will continue to sample, and perform laboratory tests if necessary, the source of unusual discharges.
- The County is providing stormwater outfall reconnaissance inventory inspections to participating MS4s in the Syracuse Urban Area in a 1-year pilot project beginning in 2009. A goal of at least 20% of each MS4’s outfalls will be inspected and field verified in the first year of the program.
- The County Department of Water Environment Protection will continue to conduct inspections of critical areas along drainage district channels and flood retention basins to identify and remove blockages, litter and debris, and report unusual discharges of water to the NYSDEC Division of Water. The Department will continue to deploy laboratory services field technicians to sample the source of unusual discharges.
- The Department of Water Environment Protection will continue to incorporate the following routine activities into their normal requirements for identifying and reporting illicit discharges to County stormwater conveyance systems: 1) inflow/infiltration monitoring and investigation; 2) identification and correction of cross-connections; 3) routine stream inspection, patrol and maintenance within the four County drainage districts; and 4) routine response to complaints of sewer blockage, backup, odor, spills, utility excavation damage, or other unusual discharges.
- The County Department of Water Environment Protection will continue two procedures associated with unusual discharges. The first, “Unusual Discharge Reporting Procedures for OCDWEP Personnel,” is posted on all department bulletin boards. Its purpose is to direct the response of department personnel when a discharge of unknown material is discovered entering any County POTW, associated collection system or stream. The second, “Procedures for Receipt of Unusual Discharge Calls at the OCDWEP Board,” is posted at both METRO and the Oak Orchard Boards for guidance to the operators.
- The County Parks Department will continue to incorporate the following routine activities into their procedures for identifying and reporting illicit discharges to County stormwater conveyance systems: 1) change of season maintenance activities; 2) operations during special events; and 3) routine maintenance operations, such as mowing, post-storm cleanups, ranger patrols, etc.
- The County Department of Transportation will continue to notify the County Health Department or WEP when engineering personnel, survey crews, road maintenance crews, section crew leaders and foremen in the field observe apparent illicit sewage discharges to County stormwater conveyances.
- The County Parks Department will continue to provide boaters on Onondaga Lake with a commercial boat pump-out system.



- The County Parks Department will continue to provide a recreational vehicle dump station at County Park campgrounds.
- The County Department of Water Environment Protection will continue to accept RV waste at no cost at the Metropolitan Syracuse Wastewater Treatment Plant.

**Develop and maintain a map showing the location of all outfalls and the names and location of all waters of the US that receive discharges from outfalls, and a map of the storm sewershed**

- GIS outfall mapping along County highway infrastructure and with County parks in the Syracuse Urban Area was initiated in 2005 and completed in 2006. Mapping of the outfalls on the Onondaga Community College campus will be conducted in 2009.
- In 2008 the County, using FL-LOWPA funds, initiated a pilot project mapping priority storm sewersheds with the use of GPS, LiDAR and ArcHydro software, and field truthing commenced.
  - ◆ The County will continue to work toward completion of storm sewershed mapping using the above mapping tools.

**Inform public employees, businesses and the general public of hazards associated with illegal discharges and improper disposal of waste**

- The County Department of Transportation will continue to incorporate employee training on illicit discharges into their annual training program, and invite the Parks Department employees to participate in the training.
- The County Parks Department will continue to incorporate a presentation on the Department's illicit discharge policy, and provide information on how to determine what is and what isn't an illicit discharge and basic information on safety procedures to follow if an illicit discharge is discovered, in their temporary employee orientation/training in the spring of 2009. The Parks Department also will continue to provide annual training to permanent Parks Department employees when they receive their right-to-know training.
- See Minimum Control Measure 1 for more information on informing businesses and the general public of hazards associated with illegal discharges and improper disposal of waste.

## Construction Site Runoff Control Minimum Control Measure 4

Though most communities welcome a certain level of development, construction sites can present a risk to water quality. Construction sites can be a significant source of sediment-laden runoff to MS4s, especially when installation and maintenance of erosion and sediment controls are not required or not adequately enforced. Proper stormwater management at construction sites will prevent loose soil and other pollution in stormwater runoff from causing significant degradation of our water bodies.

### Requirements for non-land use control MS4s:

The County's Construction Site Stormwater Runoff Control program applies to construction activities that occur on property owned, under easement to, within the right-of-way of, or under the maintenance jurisdiction of Onondaga County. Construction projects within the County boundaries, but not under Onondaga County ownership or jurisdiction, are regulated by the town, village or city MS4 they are located in.



Onondaga County is required to develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to the County's MS4 from the County's construction activities that result in a land disturbance of one acre or more.

The program must include a mechanism to require construction site contractors on County Construction projects to implement erosion and sediment control management practices and to control waste at the construction site that may cause adverse impacts to water quality. The County's program also includes procedures for site plan review to ensure consistency with State erosion and sediment control requirements and considers potential water quality impacts, provides opportunity for public comment on construction plans, and procedures for site inspections and enforcement of control measures.

To ensure the reduction of all pollutants of concern in construction stormwater discharges to the storm sewer system to the maximum extent practicable, County construction projects disturbing one acre or more must have a Stormwater Pollution Prevention Plan (SWPPP) prepared in compliance with the [NYS SPDES General Permit For Stormwater Discharges from Construction Activity](#) and the DEC's technical standards contained in the [New York State Stormwater Management Design Manual](#) and the [New York Standards and Specifications for Sediment and Erosion Control](#). To address phosphorus loading to Onondaga Lake, the County selects appropriate management practices to reduce phosphorus transport from construction sites.

All County employees involved in design and implementation of SWPPPs have received Erosion and Sediment Control training and, by April 30, 2010, all contractors on construction sites within

the County's jurisdiction will also be required to receive four hours of Erosion and Sediment Control training before they do any work on the site.

The County maintains an inventory of active construction sites and stormwater management facilities within the County's jurisdiction and reports annually to the DEC on the effectiveness of the program.

### **Activities and Practices:**

Onondaga County is a "traditional non-land use control MS4" for the purposes of complying with the SPDES Stormwater MS4 permit. As such, the County does not have laws governing construction site activities within the County. Local municipalities, however, do have laws and ordinances regulating erosion and sediment control and stormwater management on construction sites.

The County investigated existing and alternative mechanisms for instituting required erosion and sediment controls, construction site plan review, construction site waste management, site inspection and enforcement, and required education and training as it relates to County construction projects. It was determined that this could best be accomplished through County Executive Order. In 2004, such an Executive Order was drafted and subjected to interdepartmental review.

## **Construction Site Runoff Control**

### ***Achievements in 2003 – 2008***

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#### **Require development and implementation of erosion and sedimentation controls through a local law or other regulatory mechanism**

- A County Executive Order establishing County policy regarding construction site erosion and sediment controls and post-construction stormwater management for County-sponsored construction projects was issued in 2005. The Executive Order requires all projects: 1) to have a Stormwater Pollution Prevention Plan; 2) to have all erosion and sediment control components required by the stormwater construction general permit; 3) to have all components of post-construction stormwater management if required by the permit; 4) to meet the standards in the NYS Standards and Specifications for Erosion and Sediment Control and NYS Stormwater Management Design Manual; 5) to have contractor certification statements stating that the contractor will agree to comply with the terms and conditions of the SWPPP; 6) to properly operate and maintain stormwater facilities during and after construction; 7) to have their SWPPP certified by a licensed/certified individual when there is a deviation from technical standards or direct discharge to a 303(d) segment or TMDL watershed; and 8) to have waste management and control; and requires the County to have: 1) a process for review of all SWPPPs; 2) construction site inspections as required by the permit; 3) enforcement procedures during and after construction; 4) procedures for receipt and consideration of information submitted by the public.

#### **Provide opportunity for public comment on construction plans**

- The County continued to provide opportunities for public comment on County construction projects/plans through the [SEQR](#) process.

#### **Require construction site plan review, construction site waste management, site inspections and enforcement**

- The County conducted construction site plan review on County construction projects.
- Overall construction site waste management on County construction projects is a standard contract requirement.
- Site inspections during all County construction projects are a standard contract requirement.

#### **Education and training of construction site operators**

- All construction site operators for County construction projects were required by contract to be familiar with and comply with Phase II stormwater construction site runoff control requirements.
- In 2004, on behalf of MS4s in the SUA, the CNYRPDB conducted a workshop for elected officials and planning board members entitled “Stormwater Runoff and Erosion Control for Project Review Boards” in concert with the New York State Department of State.
- In 2004, 2005, 2006, 2007 and 2008 on behalf of MS4s in the SUA, the CNYRPDB, in concert with the NYSDEC, conducted training workshops on construction and post-construction regulations and requirements for developers, engineers, contractors and municipal staff.

- Boiler plate language has been incorporated into the conditions in County Requests for Proposals for construction projects to ensure that the engineer hired under an engineering services contract makes appropriate provisions with appropriate staff (CPESCs/PEs) to develop Erosion and Sediment Control and Stormwater Pollution Prevention Plans. The developed/ designed E&SC and SWPPP plans are then incorporated into the construction contract documents.
- Construction bid documents require compliance with the Phase II Stormwater General Permit. Boilerplate language appearing in all such documents now reads: "For construction projects that disturb more than one acre in total, construction contractors will be responsible for implementing stormwater runoff control measures in accordance with the specifications. All construction projects disturbing more than one acre must control stormwater runoff in full compliance with the SPDES general permit for stormwater discharge from construction activity. The selected contractor will certify their intent to comply with the County's stormwater management program."
- In 2005, 2006 and 2007, on behalf of MS4s in the SUA, the CNYRPDB hosted Construction Site Inspection training for municipal staff, consultants, contractors and developers.



## **Construction Site Runoff Control**

### ***Planned Efforts for 2009***

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#### **Require development and implementation of erosion and sedimentation controls through a local law or other regulatory mechanism**

- A County Executive Order establishing County policy and procedures regarding construction site erosion and sediment controls and post-construction stormwater management for County-sponsored construction projects will continue to be implemented and enforced.

#### **Provide opportunity for public comment on construction plans**

- The County will continue to provide opportunities for public comment on County construction projects/plans through the [SEQR](#) process.

#### **Require construction site plan review, construction site waste management, site inspections and enforcement**

- The County will continue to conduct construction site plan review and site inspections on County construction projects.
- Overall construction site waste management on County construction projects is a standard contract requirement.
- The County will continue to enforce its Executive Order regarding erosion and sediment controls.

#### **Education and training of construction site operators**

- All construction site operators for County construction projects will continue to be required by contract to be familiar with and comply with Phase II stormwater construction site runoff control requirements.
- County Requests for Proposals for construction projects will continue to include language to ensure that the engineer hired under an engineering services contract makes appropriate provisions with appropriate staff ([CPESCs](#)/PEs) to develop Erosion and Sediment Control and Stormwater Pollution Prevention Plans.
- Construction bid documents will continue to require compliance with the Phase II Stormwater General Permit.
- The CNYRPDB will conduct a workshop in 2009 for municipal highway and public works departments to address stormwater construction and MS4 permit requirements, roles and responsibilities, and erosion and sediment control practices.
- By April 30, 2010, all construction site operators on construction projects under the County's jurisdiction will be required to have at least one individual from each company on site on a daily basis who has received four hours of NYSDEC-endorsed Erosion and Sediment Control training. County Departments involved in erosion and sediment control installation or maintenance will be trained prior to commencing construction activities.

## **Post Construction Stormwater Management**

## Minimum Control Measure 5

As runoff flows over areas altered by development, it picks up pollutants such as oil and grease, heavy metals, pesticides, and fertilizers. New development and redevelopment projects offer the opportunity to implement structural and non-structural stormwater runoff controls and management strategies to reduce the amount of pollutants that run off the sites into lakes, rivers and streams. Prior planning and design for minimization of pollutants in post-construction stormwater discharges is a cost-effective approach to stormwater quality and quantity management for new development and redevelopment.

Stormwater management technologies are evolving, and Onondaga County is promoting the use of new treatment methods collectively called "Green Infrastructure" – including green roofs, stormwater planters, porous pavement, infiltration trenches and rain gardens – implemented on new construction and redeveloped sites within the urbanized area.

The main goals of the County's new Green Infrastructure program are to improve water quality in Onondaga Lake, and reduce the volume of stormwater runoff from developed sites into the streams that feed the lake. Combined sewer overflows will be reduced by infiltrating runoff rather than allowing it to drain into the sewer system. Reducing overland flow from impervious surfaces like parking lots, driveways and roofs, and directing the runoff into vegetated areas helps to restore natural stream flows and protects stream habitat and water quality.



### Requirements for non-land use control MS4s:

To meet the requirements of Minimum Control Measure 5, Onondaga County is tasked with developing and implementing a program that includes a combination of stormwater management practices that will protect water quality and reduce the discharge of pollutants to the MS4 to the maximum extent practicable, using a mechanism to address post-construction runoff from SPDES-permitted County construction sites, and ensuring adequate

long-term operation and maintenance of management practices, including monitoring if necessary. The County is also required to inspect permitted construction sites on properties within the County's jurisdiction (County construction projects) to ensure compliance with the State's stormwater regulations.

The County annually reports to the DEC on the effectiveness of the program and stormwater management practices and measurable goal assessment and modifications.

### Activities and Practices:

The County promotes using a combination of structural management practices (including practices from the [New York State Stormwater Management Design Manual](#)) and/or non-structural management practices (including open space preservation programs, Low Impact Development (LID), Better Site Design (BSD) and other Green Infrastructure practices) appropriate for construction sites, that will reduce the discharge of pollutants to the maximum extent practicable. With respect to the County's CSO (combined sewer overflow) abatement program, construction site developers in certain watersheds are encouraged to implement Green Infrastructure practices at both new and redeveloped sites, and the County will use Green Infrastructure practices on County construction projects whenever practicable.

## Post-Construction Stormwater Management

### *Achievements in 2003 – 2008*

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#### **Assess existing conditions throughout the MS4 and identify appropriate management practices to reduce pollutant discharges to the maximum extent practicable**

- In 2003, the Central New York Regional Planning and Development Board, on behalf of MS4s in the Syracuse Urban Area, identified stormwater pollutants of concern and their sources. The table on page 7 lists the [Pollutants of Concern](#), their sources, and the affected water bodies.

#### **Require development and implementation of post-construction stormwater management controls through a local law or other regulatory mechanism**

- The County is not responsible for enforcing post-construction stormwater management requirements on construction projects undertaken by an entity other than the County. It was determined that the appropriate mechanism for instituting such controls on County projects is through Executive Order and training.
- In 2005, a County Executive Order establishing County policy regarding construction site erosion and sediment controls and post-construction stormwater management for County-sponsored construction projects was issued. The Executive Order requires all projects: 1) to have a Stormwater Pollution Prevention Plan; 2) to have all erosion and sediment control components required by the stormwater construction general permit; 3) to have all components of post-construction stormwater management if required by the permit; 4) to meet the standards in the NYS Standards and Specifications for Erosion and Sediment Control and NYS Stormwater Management Design Manual; 5) to have contractor certification statements stating that the contractor will agree to comply with the terms and conditions of the SWPPP; 6) to properly operate and maintain stormwater facilities during and after construction; 7) to have their SWPPP certified by a licensed/certified individual when there is a deviation from technical standards or direct discharge to a 303(d) segment or TMDL watershed; and 8) to have waste management and control; and requires the County to have: 1) a process for review of all SWPPPs; 2) construction site inspections as required by the permit; 3) enforcement procedures during and after construction; 4) procedures for receipt and consideration of information submitted by the public.
- Boiler plate language has been incorporated into the conditions in County Requests for Proposals for construction projects to ensure that the engineer hired under an engineering services contract makes appropriate provisions with appropriate staff ([CPESCs/PEs](#)) to develop the Erosion and Sediment Control and Stormwater Pollution Prevention Plans. The developed/designed E&SC and SWPPP plans are then incorporated into the construction contract documents.
- Construction bid documents require compliance with the SPDES Stormwater General Permit. Boilerplate language appearing in all such documents now reads: "For construction projects that disturb more than one acre in total, construction contractors will be responsible for implementing stormwater runoff control measures in accordance with the specifications. All construction projects disturbing more than one acre must control stormwater runoff in full compliance with the SPDES general permit for stormwater discharge from construction activity. The selected contractor will certify their intent to comply with the County's stormwater management program."

#### **Develop a management practice inspection and maintenance program**

- In 2004, on behalf of MS4s in the SUA, the CNYRPDB conducted a workshop for elected officials and planning board members entitled “Stormwater Runoff and Erosion Control for Project Review Boards” in concert with the New York State Department of State.
- In 2004, 2005, 2006, 2007 and 2008 on behalf of MS4s in the SUA, the CNYRPDB, in concert with the NYSDEC, conducted training workshops on construction and post-construction regulations and requirements for developers, engineers, contractors and municipal staff.
- In 2005, 2006 and 2007, on behalf of MS4s in the SUA, the CNYRPDB hosted Construction Site Inspection training for municipal staff, consultants and developers.



## **Post-Construction Stormwater Management**

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### ***Planned Efforts for 2009***

#### **Require development and implementation of post-construction stormwater management controls through a local law or other regulatory mechanism**

- A County Executive Order establishing County policy and procedures regarding construction site erosion and sediment controls and post-construction stormwater management for County-sponsored construction projects will continue to be implemented and enforced.

#### **Develop a management practice inspection and maintenance program**

- The County will continue to inspect and maintain all stormwater management practices within the County's jurisdiction and develop an inventory of all stormwater management facilities discharging to the County's MS4.
- The CNYRPDB will be conducting a workshop in 2009 for municipal code enforcement officers to address stormwater construction and MS4 permit requirements, including site inspections and post-construction stormwater management practice operations and maintenance responsibilities.

#### **Encourage use of Low Impact Development, Better Site Design or Green Infrastructure practices**

- Onondaga County proposes to include an incentive program in the "Save the Rain" initiative to partially fund Green Infrastructure practices on construction sites within the combined sewer system in the City of Syracuse to promote infiltration of stormwater and reduce combined sewer overflows (CSOs). The program will include signage at project locations to educate passersby and to encourage continued implementation of Green Infrastructure technology.
- Onondaga Community College is working on a Sustainable Landscape Master Plan that will add rain gardens and vegetated swales that will both slow and filter stormwater runoff. The plan will be implemented over several years.

## Pollution Prevention/Good Housekeeping for Municipal Operations Minimum Control Measure 6

Municipal operation and maintenance activities can become sources of the pollutants that need to be minimized through the SWMP. Good housekeeping measures for municipal operations will reduce or prevent this pollution from entering nearby water bodies in stormwater runoff. Effective stormwater management programs should start with municipal employees. Municipal crews can be educated about the impacts of their work on stormwater quality to prevent pollution from municipal operations. Also, municipal crews can set a good example for citizens.

### Requirements:

This minimum control measure requires Onondaga County to develop and implement an operation and maintenance program to determine management practices, policies, and procedures to reduce and prevent the discharge of pollutants to the maximum extent practicable from County parks, campuses, open spaces, DOT maintenance garages, fleet and building maintenance facilities, and from County activities such as winter road maintenance, street sweeping, solid waste management, and stormwater system maintenance. The program includes annual pollution prevention and good housekeeping training for employees at County Parks, DOT, and Water Environment Protection facilities.



The County follows management practices identified in the [NYS Pollution Prevention and Good Housekeeping Assistance Document](#) and other guidance materials available from the EPA and New York State, and selects appropriate management practices to ensure the reduction of all pollutants of concern in stormwater discharges from County properties.

Onondaga County must report annually to the DEC the number of catch basins inspected, cleaned, repaired or replaced, miles of roads swept, the number of post-construction stormwater management facilities inspected and cleaned, and pounds of phosphorus applied in chemical fertilizer (a new addition to the reporting, beginning in 2009). The annual report also includes an evaluation of the effectiveness of the County's Pollution Prevention program.

### Activities and Practices:

In 2007-08, multi-media environmental compliance audits were performed at the County Department of Transportation's four highway garages and associated operations, and the Department of Water Environment Protection's Metropolitan Syracuse Wastewater Treatment Plant, consistent with the U.S. Environmental Protection Agency's Self-Audit Policy.

The County prioritizes pollution prevention and good housekeeping efforts based on potential to improve water quality, and facilities or operations most in need of modification or improvement. Pollution prevention policies such as petroleum storage and spill containment, and hazardous material storage and disposal procedures, have been implemented at all County facilities. Onondaga County Department of Transportation maintains enclosed or covered areas for its storage of road salt.

## **Pollution Prevention/Good Housekeeping for Municipal Operations**

### ***Achievements in 2003 – 2008***

#### **Develop and implement an operation and maintenance program to reduce and prevent pollution discharges from municipal operations**

- Pollutants addressed by the municipal pollution prevention program are: Phosphorus, Sediment, Automotive Products, Salt.
- The County continued to operate under the following County environmental policies that have been established by Executive Order: 1) Integrated Pest Management, to reduce the County's use of toxic pesticides; 2) Purchase and Use of Recycled Products, to promote recycling as a desirable alternative to disposal of waste; 3) Mercury-Containing Products, which calls for the reduction in use of, as well as recycling of, products containing mercury by the County.
- The County continued to operate under the directives issued by the County Executive as part of the County "Cleaner & Greener" program. These include: 1) All County departments are directed to ensure that optimum cleanliness standards are maintained at all County facilities; 2) Deploy six summer employees to clean and maintain the Downtown area housing County government and cultural facilities; and 3) Deploy Correctional Facility crews to perform highway cleanup.
- The County Department of Water Environment Protection performed a multi-media environmental compliance audit consistent with the U.S. Environmental Protection Agency's Self-Audit Policy in 2008.
- The County Department of Water Environment Protection continued to operate under its existing spill response policy and program which addresses any illegal or unusual discharges to the public sanitary and combined sewer systems and drainage district waterways.
- The Onondaga County Department of Water Environment Protection, in cooperation with Baker Commodities, provided free disposal of cooking grease to county residents at the Metropolitan Syracuse Wastewater Treatment Plant.
- The County Parks Department at Onondaga Lake Park continued to perform the following management practices: 1) annual street cleaning; 2) catch basin and storm drain system cleaning; 3) Integrated Pest Management practices; and 4) marina management.
- The County, as the local sponsor for the Onondaga Lake Partnership's Urban Best Management Practices Project, continued to cooperate with the U.S. Army Corps of Engineers and the City of Syracuse on project implementation. The project is designed to mitigate urban non-point source pollution (runoff) to tributaries of Onondaga Lake through development of best management practices within the City of Syracuse and Onondaga County. The project consists of four components: 1) a City catch basin inspection/repair program; 2) a City street sweeping study; 3) purchase of a new City street sweeper; and 4) public education and outreach. The program was completed in 2007.
- During 2004, the County DOT cleaned 29 miles of road ditches, installed 16 new catch basins, rebuilt 18 catch basins, cleaned 132 catch basins, picked up 74 miles of road debris and swept 105 miles of County roads/intersections.
- During 2005, the County DOT cleaned 36 miles of road ditches, installed 37 new catch basins, rebuilt 40 catch basins, picked up 59 miles of road debris and swept 72 miles of County roads/intersections.

- During 2006, the County DOT cleaned 27 miles of road ditches, installed 23 new catch basins, rebuilt 82 catch basins, picked up 107 miles of road debris and swept 143 miles of County roads/intersections.
- During 2007, the County DOT cleaned 18 miles of road ditches, installed 3 new catch basins, rebuilt 432 catch basins, picked up 32 miles of road debris and swept 85 miles of County roads/intersections.
- The County Department of Transportation continued to maintain enclosed or covered areas for its storage of road salt. The DOT constructed a new covered salt storage area for its North Area Garage in 2006.
- The County owns and operates two vac trucks, each supported by five people and a haul truck, and five street sweepers, each supported by a pickup truck, water truck and dump truck.
- The County DOT continued to operate under an existing department Hazardous Spill Policy and Procedure.
- A pilot project involving Onondaga County DOT, the City of Syracuse and the New York State DOT to utilize natural brine to improve wintertime highway safety through use of local salt brine resources was initiated in 2006 and continued in 2007. The purpose of the project is to test the viability and develop protocols for using natural brine from the Onondaga Creek valley-fill aquifer for winter highway maintenance (de-icing). If successful, the pilot project could lead to a reduction in (rock) salt mining operations and a reduction in the environmental impacts associated with road salt migrating from the point of application.
- The County Department of Transportation performed multi-media environmental compliance audits of its four highway garages and associated operations consistent with the U.S. Environmental Protection Agency's Self-Audit Policy in 2007-08.
- As a matter of policy, County Departments are required to follow the DEC NPS Management Practices Catalog.

#### **Include a municipal pollution prevention training component for staff**

- On March 19, 2003, the County Department of Water Environment Protection sponsored a special seminar on Pollution Prevention at Vehicle Maintenance Shops, conducted by State DEC personnel. County DOT was invited to participate in the seminar.
- In 2003, the County cooperated with Cornell Cooperative Extension in conducting a county-wide non-toxic pest management training program. Training sessions were offered to buildings and grounds, food service and physical plant level employees of Onondaga County, the City of Syracuse, towns, villages and school districts throughout Onondaga County. The program involved an eight-hour workshop covering four non-toxic pest management topics. Training covered both indoor and outdoor non-toxic pest management.
- The Central New York Regional Planning and Development Board planned and held a full day training workshop on March 30, 2004. The Board identified local experts in the field of pollution prevention and arranged for targeted presentations to address local pollution prevention training needs. A total of 24 regulated MS4s, 1 non-MS4 community, 4 departments from 2 regulated counties and 2 state agencies were represented at the training workshop.
- The Central New York Regional Planning and Development Board planned and held a full day training workshop on March 30, 2005. The Board identified local experts in the field of pollution

prevention and arranged for targeted presentations to address local pollution prevention training needs. The County's Department of Water Environment Protection presented information about pollution prevention to the attendees.

- The County Department of Water Environment Protection conducted spill prevention control and countermeasures (SPCC) plan training annually. In 2005, four two-hour training sessions were held. Sixty-six employees from ten County departments attended the training. In 2006, four two-hour training sessions were held. Eighty-two employees from ten County departments attended the training. In 2007, four two-hour training sessions were held. Seventy-six employees from ten County departments attended the training.
- The County Department of Water Environment Protection has put into place Spill Prevention Reports for each of their fourteen WEP facilities storing bulk process chemicals. These reports are reviewed and revised annually by WEP's Engineering and Lab Services (ELS) personnel, then reviewed and stamped by a Professional Engineer to ensure they are in general conformance with standard engineering practices. Training is conducted annually for WEP personnel to review the general content of the spill prevention reports. This training includes approximately 35 employees from the Operations, Flow Control, Maintenance, Instrumentation/Electrical and the ELS Section.
- A County employee from the Health Department's Division of Environmental Health has become a [Certified Professional in Erosion and Sediment Control and Storm Water Quality](#) (CPESC and CPSWQ).



## **Pollution Prevention/Good Housekeeping for Municipal Operations**

### ***Planned Efforts for 2009***

#### **Develop and implement an operation and maintenance program to reduce and prevent pollution discharges from municipal operations**

- Pollutants addressed by the municipal pollution prevention program are: Phosphorus, Sediment, Automotive Products, Salt, Pesticides and Mercury.
- The County will continue to operate under the following County environmental policies that have been established by Executive Order: 1) Integrated Pest Management, to reduce the County's use of toxic pesticides; 2) Purchase and Use of Recycled Products, to promote recycling as a desirable alternative to disposal of waste; 3) Mercury-Containing Products, which calls for the reduction in use of, as well as recycling of, products containing mercury by the County.
- The County is working on development of a green products purchasing initiative.
- The County Department of Water Environment Protection is implementing corrective measures identified in a multi-media environmental compliance audit consistent with the U.S. Environmental Protection Agency's Self-Audit Policy. All measures will be completed in 2009.
- The County Department of Water Environment Protection will continue to operate under its existing spill response policy and program which addresses any illegal or unusual discharges to the public sanitary and combined sewer systems and drainage district waterways.
- The Onondaga County Department of Water Environment Protection, in cooperation with Baker Commodities, will continue to provide free disposal of cooking grease to county residents at the Metropolitan Syracuse Wastewater Treatment Plant.
- The County Parks Department at Onondaga Lake Park will continue to perform the following management practices within County Parks: 1) annual street cleaning; 2) catch basin and storm drain system cleaning; 3) Integrated Pest Management practices; and 4) marina management.
- The County Department of Transportation will continue to clean road ditches, clean, rebuild and/or install new catch basins, pick up road debris and sweep County roads and intersections.
- The County owns and operates two vac trucks, each supported by five people and a haul truck, and five street sweepers, each supported by a pickup truck, water truck and dump truck.
- The County Department of Transportation will continue to maintain enclosed or covered areas for its storage of road salt.
- The County DOT continued to operate under an existing department Hazardous Spill Policy and Procedure.
- The County Department of Transportation will implement corrective measures identified in multi-media environmental compliance audits of its four highway garages and associated operations consistent with the U.S. Environmental Protection Agency's Self-Audit Policy in 2009, including wash bay wastewater holding tanks.

**Include a municipal pollution prevention training component for staff**

- On March 19, 2003, the County Department of Water Environment Protection sponsored a special seminar on Pollution Prevention at Vehicle Maintenance Shops, conducted by State DEC personnel. County DOT was invited to participate in the seminar.
- In 2003, the County cooperated with Cornell Cooperative Extension in conducting a county-wide non-toxic pest management training program. Training sessions were offered to buildings and grounds, food service and physical plant level employees of Onondaga County, the City of Syracuse, towns, villages and school districts throughout Onondaga County. The program involved an eight-hour workshop covering four non-toxic pest management topics. Training covered both indoor and outdoor non-toxic pest management.
- The Central New York Regional Planning and Development Board planned and held a full day Municipal Pollution Prevention training workshop on January 9, 2009. The Board identified local experts in the field of pollution prevention and arranged for targeted presentations to address local pollution prevention training needs. The County's Department of Water Environment Protection presented information about pollution prevention to the attendees.
- The County Departments of Water Environment Protection and Transportation will continue to conduct spill prevention control and countermeasures (SPCC) plan training annually.
- The County Department of Water Environment Protection will continue to complete Spill Prevention Reports for each of their fourteen WEP facilities storing bulk process chemicals. These reports are reviewed and revised annually by WEP's Engineering and Lab Services (ELS) personnel, then reviewed and stamped by a Professional Engineer to ensure they are in general conformance with standard engineering practices. Training will continue to be conducted annually for WEP personnel to review the general content of the spill prevention reports. This training includes approximately 35 employees from the Operations, Flow Control, Maintenance, Instrumentation/Electrical and the ELS Section.

## Additional Requirements for the Onondaga Lake Watershed

Onondaga County is required to implement additional watershed improvement strategies in the portion of the urbanized area within the Onondaga Lake Watershed to ensure reductions in the discharge of phosphorus to the lake from stormwater runoff and to work toward achieving compliance with the [Total Maximum Daily Load \(TMDL\)](#) set by the DEC and the U.S. EPA. The TMDL is the maximum amount of phosphorus that Onondaga Lake can receive from all point source discharges like industries and wastewater treatment plants, and non-point source discharges such as stormwater and farm runoff.

The County will be using the results of computer modeling of phosphorus sources and transport mechanisms – the pathways and methods by which the pollutant moves - in the Onondaga Lake Watershed to determine the need for and the best locations and treatment techniques to reduce phosphorus inputs to the lake from stormwater runoff.



Public Education and Outreach efforts include targeted education on sources of phosphorus in stormwater and ways to reduce phosphorus impacts to residents living within the Onondaga Lake Watershed and to staff working at County properties with the Watershed. Special exhibits are displayed at the annual Onondaga Lake Day, at the Rosamond Gifford Zoo and at Onondaga County Parks. The video "[A Cleaner Onondaga Lake: How You Can Help](#)" is available to teachers and clubs.

The County distributes free leaf bags to City of Syracuse residents to keep leaf litter – and phosphorus that leaches from the leaves – out of the combined sewer system that discharges into Onondaga Lake.

As of September 30, 2008, all construction projects within the Onondaga Lake Watershed applying for SPDES stormwater construction permits are now required to have a Stormwater Pollution Prevention Plan that includes stormwater management practices designed to reduce phosphorus in stormwater discharges from the site during and after construction. Planning currently underway for Onondaga County construction projects includes these Enhanced Phosphorus Removal design standards. The majority of new stormwater management practices in the Watershed will either be larger in size or incorporate infiltration practices to direct stormwater into the ground.

By March 9, 2011, Onondaga County will be required to develop and submit to the DEC a Stormwater Retrofit Program plan and schedule to reduce existing erosion and phosphorus loading problems within the urbanized area of the Onondaga Lake Watershed. A "retrofit" is a modification of an existing stormwater conveyance or treatment system to bring about reductions in a particular pollutant of concern in stormwater runoff. Retrofits can include disconnecting roof runoff from piped sewers and redirecting it to rain gardens or infiltration areas, installing cisterns or rain barrels, replacing asphalt, dirt or stone roads with pervious pavement, and converting dry

detention basins to wetland treatment systems. Retrofits will also be implemented under the County's new "Save the Rain" program promoting the use of Green Infrastructure stormwater management practices that reduce runoff volume.

The County's program will take into consideration the potential for the specific retrofit practice to effectively reduce phosphorus discharges, the use of proven design technology, and the economic feasibility of the proposed retrofit practice. In selecting locations to install stormwater retrofits, the County expects to work closely with the other MS4s within the Watershed, the [Onondaga Lake Partnership](#), and other stakeholders.

When the Retrofit Program plan has been accepted by the DEC, the County will be required to implement the plan and report on the progress annually.

The County is also required to reduce phosphorus loadings to the lake from its properties through a turf management program that limits applications of phosphorus-containing fertilizer to only those County-owned lands where soil tests indicate that phosphorus concentrations are inadequate. The program also includes planting native vegetation to lessen the use of chemicals to control vegetation and the frequency of mowing.

