

STEPPING UP FOR WATER RESOURCE PROTECTION

Protecting and improving water quality health is a four season job. Central New York water resources strengthen our local economy and provide innumerable recreational and aesthetic benefits. These resources are threatened by stormwater runoff that degrades water quality and poses a threat to human health and wildlife. Stormwater runoff occurs when rain and melting snow is unable to seep into the ground. Instead, it flows over the ground washing pollutants, such as oil and gas, bacteria, metals, soil and litter, into our lakes, streams and wetlands.

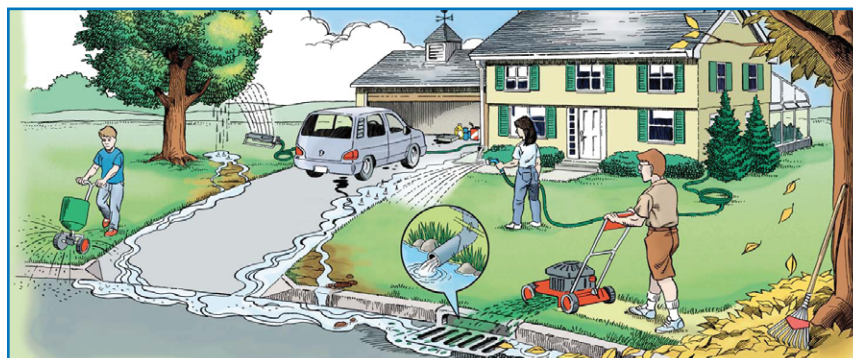
The control of stormwater runoff is a national, state and local priority. Keeping stormwater on site and out of storm drains protects the quality of our lakes and streams and saves taxpayer dollars by reducing municipal maintenance and repair costs for drainage ditches, bridges and roads. Throughout New York State, municipalities are making provisions that allow for the use of permeable paving materials on public projects. Developers are incorporating green space in new developments and avoiding the removal of vegetation that naturally slows and absorbs stormwater runoff. Municipal turf management programs are focused on eliminating the use of pesticides and chemical fertilizers. Roadway maintenance crews routinely remove trash and debris from storm drains and culverts. Not only do these efforts help to reduce stormwater backups, road hazards and the threat of flooding, they also help to improve the quality of stormwater runoff entering local lakes and streams.

STORMWATER RUNOFF ISN'T NEW. WHY ALL THE FUSS?

Over time, urban and suburban landscapes have replaced forests, wetlands and fields. Urban and suburban landscapes are largely covered by impervious surfaces such as sidewalks, parking lots, driveways, roads and buildings. Rain and snowmelt flow into storm drains instead of seeping into the soil. This stormwater runoff picks up and transports surface pollutants such as soil particles and litter, oil and gas, metals and a host of other potentially toxic chemicals directly into nearby waterbodies without the benefit of treatment.

Stormwater runoff is a source of water pollution in local lakes and streams. In Central New York, phosphorus from lawn fertilizers and sediment from lawns, gardens, home improvement and construction projects contributes to water quality problems. Other common pollutants include pathogens and bacteria from pet and animal waste, street litter, and toxins such as gasoline, oil, solvents and common household and automotive chemicals. Pollutants in lakes and streams contribute to algal blooms, degrade drinking water quality and can cause human illness, harm aquatic life and make water unsafe for recreational use. Increased runoff after a heavy rainfall or rapid snowmelt in the spring can also lead to dangerous flooding and expensive repairs for municipalities and homeowners. Leaves raked into stormwater catch basins can block the flow of stormwater in the fall, causing localized flooding. Leaves, grass and other lawn and garden waste contain phosphorus and should be kept out of the storm sewer.

Heavy rainstorms contribute to the problems associated with stormwater runoff. Through the process of erosion, soil particles become dislodged and are carried by stormwater runoff to nearby waterbodies. The soil transports phosphorus and other pollutants to lakes and streams, which degrades water quality. Sediment "plumes," often visible in lakes after rainstorms, choke out valuable habitat for fish and other aquatic life. When suspended in lake water, soil particles prevent the penetration of sunlight, which prohibits the growth of aquatic vegetation that supports fisheries and other aquatic life. Sunlight that is absorbed by suspended sediment in surface water can increase water temperature, which in turn can affect water chemistry.



Life can be messy. Municipal storm sewer systems provide a direct pathway for common household pollutants to enter our lakes and streams through stormwater and household irrigation runoff. When working outside, remember, only rain down the drain!

UNDERSTANDING HARMFUL ALGAL BLOOMS (HABS)

Several lakes in Central New York have experienced harmful algal blooms in the past few years. This condition is often featured in local newspapers when it causes the closure of bathing beaches or when it threatens public drinking water supplies.

Algae are an important part of the aquatic food web, although certain types of algae can grow quickly and form blooms that can cover large portions of a lake. Although these blooms are a nuisance to swimming and recreation, they are not necessarily harmful. Some species of algae and bacteria, however, can produce toxins that can be harmful to people and animals that come into contact with or drink the affected water. Blooms that produce—or have the potential to produce—toxins are referred to as harmful algal blooms (HABs). HABs often occur in nutrient-rich waters, particularly when temperatures are

warm and winds are calm. In Central New York, HABs can persist through the month of September and into October if conditions are favorable.

In addition to health issues, HABs cause unpleasant appearances and odors which create economic hardship for shoreline businesses that depend on tourism and recreation. HABs also cause problems for fish and other aquatic organisms by reducing oxygen levels.

The only way to tell the difference between a harmful and a non-harmful algal bloom is through laboratory analysis. To be safe, the New York State Department of Environmental Conservation (NYS DEC) recommends that people, pets and livestock avoid coming in contact with or drinking water from a lake or stream showing any visible sign of an algal bloom.

SIMPLE FACTS ABOUT A COMPLICATED PROBLEM

Although scientists are still learning about what triggers HABs, there are many things that we currently know to be true:

- Blue green algal blooms, or HABs, are not algae. They are a fast growing and ancient bacteria called Cyanobacteria. Cyanobacteria can produce microcystin, a toxin that is harmful to humans and wildlife.
- HABs are commonly associated with high-nutrient waterbodies, but in recent years, HABs have been confirmed in waterbodies with relatively low nutrient levels, including Skaneateles Lake, one of the cleanest and clearest lakes in the state.
- The only definitive way to identify the presence of harmful bacteria in an algal bloom is through laboratory testing. People, pets and livestock should avoid contact with any floating mats, scums or discolored water.
- Never drink, prepare food, cook or make ice with untreated surface water, whether or not algal blooms are present. In addition to toxins, untreated surface water may contain bacteria, parasites or viruses that could cause illness if consumed.
- In-home water treatments such as boiling, filtering or disinfecting with chlorine or ultraviolet (UV) light do not protect people from HAB toxins.
- Individuals can help reduce the flow of nutrients into surface waters by controlling stormwater runoff through the use of vegetation and shoreline buffers, reducing the use of fertilizer and through routine maintenance of residential septic systems.

Scientists and resource managers are working hard to understand and address the contributing factors behind the apparent recent increase in HAB occurrences. This complex issue is further complicated by the impacts of climate change and the role of aquatic invasive species.

WARNING

Avoid Harmful Blue-green Algae Blooms

while swimming, fishing and boating



Keep kids and pets away from areas with blooms or scum.
Swim, fish and boat in areas with no blooms or scum.

Contact can make people and animals sick.

If contact occurs, rinse with clean water.
If symptoms occur, contact a medical provider.



Blooms can look like streaks, spilled paint, pea soup, floating clumps or dots.

Learn more: www.health.ny.gov/HarmfulAlgae and on.ny.gov/hab

TOO MUCH OF A GOOD THING

Phosphorus is an essential nutrient for plant growth, but it can be harmful in ponds, streams and lakes if it's present in excessive amounts. Stormwater runoff from rain and melting snow transports phosphorus from lawns, gardens and agricultural fields to ponds, rivers, lakes and streams. High phosphorus levels in surface water can accelerate the growth of aquatic plants which block waterways and negatively impact swimming, boating and fishing. Nutrients, such as phosphorus and nitrogen, also contribute to harmful algal blooms and create low oxygen conditions that can kill fish and other aquatic life. More than 100 waterbodies in New York State cannot be used for drinking, fishing or swimming due to conditions caused by high nutrient levels.

IMPACTS ON LOCAL ECONOMIES

According to the EPA, phosphorus and nitrogen are among the top water pollutants in the country, degrading over 100,000 river and stream miles and over 3.5 million acres of lakes, reservoirs and ponds.

Nutrient pollution can harm more than water quality. It can also harm local economies through high treatment costs for drinking water, reduced income from recreation and tourism, and reduced property values along polluted waterways. The most cost effective way to address nutrient pollution is to eliminate it at the source.

WHAT CAN BE DONE?

In suburban and urban areas, most nutrient pollution originates as stormwater runoff from fertilized lawns. Other sources include septic tank leachate, discharges from municipal wastewater treatment plants and animal waste from pets and livestock. You can help reduce nutrient pollution by using only phosphorus-free lawn and plant fertilizer. Be sure to routinely check and pump your septic tank. Never place plant or animal waste into a storm drain. Plant native bushes and trees to slow stormwater runoff from your property. If you are a boater, remember to always pump boat waste to an onshore facility. If you think your lawn might need extra phosphorus, be sure to test your soil before applying fertilizer. Soil tests are available through commercial laboratories. Home tests are inexpensive and can be purchased at your local garden center, but they tend to be less accurate than laboratory analysis and they do not offer fertilizer recommendations.

PLANNING TO FERTILIZE YOUR LAWN THIS FALL? NYS LAW RESTRICTS THE USE OF LAWN FERTILIZERS CONTAINING PHOSPHORUS

If you need to buy fertilizer, look for the three numbers on the bag. They refer to the percentage of nitrogen, phosphorus and potassium. Select the fertilizer with a "0" in the middle. This means it's phosphorus-free. Zero phosphorus means:

- **Zero pollution** - Phosphorus is one of the leading causes of water pollution. Even if you live far from a waterbody, excess phosphorus from your lawn can wash off and pollute lakes and streams, harming fish and ruining conditions for boating and swimming.
- **Zero waste** - Why pay for a chemical that your lawn doesn't need? Generally, only newly established lawns or those with poor soil need phosphorus. Phosphorus applied to a lawn that doesn't need it won't be used and can cause water pollution.
- **Zero hassle** - You won't need to fertilize as often. It's against the law to use phosphorus on lawns that don't need it. Be sure to check state and local laws that include information on selling and using lawn fertilizers.

Buying Fertilizer?



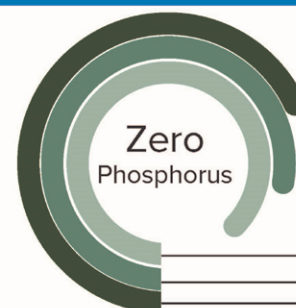
Department of
Environmental
Conservation

LOOK FOR THE ZERO.

Protect Your Waters



Check the fertilizer bag for a set of three numbers showing the percentage of nitrogen, phosphorus and potassium. Buy a bag with a "0" in the middle.



Zero pollution – phosphorus washes off lawns and pollutes lakes and streams

Zero waste – why pay for a chemical your lawn doesn't need (most don't)?

Zero hassle – it's against the law to use phosphorus on lawns that don't need it*



RESPONSIBLE PET CARE

Stepping in dog waste can be a nasty experience, but even worse is the knowledge that it may be polluting your drinking water, family swimming area or favorite fishing spot. When dog waste is left on the ground, rain or melting snow transports it to local lakes and streams where it negatively affects water quality. The waste contains fecal coliform bacteria and parasites that can cause human diseases and health problems.

Dog waste also contains nitrogen and phosphorus that promote the growth of unwanted algae and rooted aquatic plants in lakes and streams. In fact, dog waste has a higher phosphorus concentration than cow and swine manure and is considered to be a major contributor of pollution in urban watersheds.

Scooping your dog's waste isn't just a courtesy for those walking behind you; it keeps our water resources safe. Help keep our local lakes and streams clean (and your neighbors happy) by picking up after your dog.

THE CNY STORMWATER COALITION

The CNY Stormwater Coalition provides a regional approach to stormwater management and water resource protection. The Coalition is staffed and coordinated by the Central New York Regional Planning & Development Board. For additional information, visit the CNY Stormwater website at www.cnyrpd.org/stormwater.



CNY STORMWATER COALITION MEMBERS

Baldwinsville Village	Fayetteville Village	Marcellus Town	Salina Town
Camillus Town	Geddes Town	Marcellus Village	Solvay Village
Camillus Village	Hastings Town	Minoa Village	Sullivan Town
Central Square Village	LaFayette Town	North Syracuse Village	Syracuse City
Cicero Town	Liverpool Village	Onondaga County	Van Buren Town
Clay Town	Lysander Town	Onondaga Town	NYS Fairgrounds
DeWitt Town	Manlius Town	Phoenix Village	
East Syracuse Village	Manlius Village	Pompey Town	

ARE YOU AN ILLICIT DISCHARGER?

An illicit discharge is any discharge to roadway drainage ditches, municipal streets, catch basins, curbs, gutters, man-made channels or storm drains that are not entirely composed of stormwater. Illicit discharges can be intentional or unintentional. They can occur anywhere, and they don't have to be in liquid form. The introduction of any type of debris or litter—or anything other than stormwater runoff—into a storm sewer system qualifies as an illicit discharge and can create pollution, block drainage or contribute to flooding. Illicit discharges can contribute high levels of pollutants

to waterbodies. Pollutants commonly found in illicit discharges include raw sewage (viruses and bacteria), heavy metals, toxic chemicals, oil and grease, solvents and nutrients. Pollutant levels from illicit discharges have been shown in EPA studies to be high enough to degrade water quality, close beaches and threaten aquatic and human health. Illicit discharges are a problem because unlike wastewater that flows through a sanitary sewer pipe to a wastewater treatment plant, storm sewers discharge directly into our waterways without any treatment.

DON'T BE A STORMWATER SCOFFLAW

Practice good housekeeping—inside and out! Never dump wastewater, chemicals or trash on the ground or into a storm drain. Keep debris—including yard waste and leaf piles—from clogging your storm drains. If you have a pool, make sure to de-chlorinate the water before draining it for the winter and direct the drainage to a grassy area—not a paved surface or storm drain. If you wash your car at home, do so only on a grassed area, otherwise the soap and dirt you wash from your car

will enter into nearby lakes and streams via the closest storm drain.

In Onondaga County, if you see illegal dumping or illicit discharges, or anyone discharging any substance into a storm drain, call the Onondaga County Pollution Prevention Hotline at 315-435-3157. The hotline is staffed 24-hours a day, seven days a week. Outside of Onondaga County, report illicit discharges to your local code enforcement office or the NYS DEC.