Central New York Stormwater Coalition
Protecting Our Waters

Gardens and Gutters

A Central New Yorker's Guide to Managing Stormwater Runoff

July 2022

This HABs Season, Know it—Avoid it—Report it

Harmful Algal Blooms (HABs) in freshwater are composed of cyanobacteria, or blue-green algae. Cyanobacteria are naturally present in low numbers in most freshwater systems but under specific conditions, including high nutrients, warm water temperatures and calm waters, the organisms grow rapidly and bloom. Many cyanobacteria produce toxins that pose a health risk to people and animals through contact with skin, eyes, nose or mouth.

Summer is prime time for enjoying our lakes and rivers with activities like boating and swimming. It is also summer weather that can create prime conditions for these Harmful Algal Blooms. Many of the changes our region is experiencing as a result of climate change, like increased air temperatures, longer summers and increased intensity of rain, further increase the risk of HABs in our lakes and rivers.

If you see a HAB, stay away from it and keep all pets away as well. If you do happen to come into contact with it be sure to rinse immediately, watch for symptoms, and seek medical attention if necessary.

Learn how to report suspected blooms to the DEC

https://www.dec.ny.gov/chemical/77118.html

Phosphorus

Phosphorus is an essential nutrient for life. Plants need it to grow but in excess it can wreak havoc on aquatic ecosystems. The natural phosphorus cycle is a slow biogeochemical process of cycling through rocks, soils and plants. However, introduction of human fertilizers and other land use activities disrupt this slow cycle and create opportunity for excessive amounts to enter the landscape and our waters.

Phosphorus is the limiting factor for algae growth, which means that an influx of phosphorus to water ways creates an environment for aquatic plants to grow more than they otherwise would, disrupting the ecosystem balance. This is not only a problem for the ecosystem but can become a public health issue. Phosphorus is the limiting factor for cyanobacteria, better known as harmful algae. These organisms flourish under warm, still water conditions with excess phosphorus.

Because nutrient pollution is a problem humans contribute to, actions taken at home can become part of a solution. **You can help prevent phosphorus pollution at home in three ways.**

1. Scoop the poop: Did you know pet waste is a significant source of phosphorus in run off? Always pick up after your dog immediately, even at home, to prevent it from being carried away in runoff.

2. Slow the flow: Managing stormwater where it falls and reducing the volume and velocity of flows can limit the opportunity for pollutants to travel to our lakes. Some simple options to reduce stormwater runoff include reducing impervious surfaces or using permeable pavers, landscaping with native plants and strategically placing rain gardens.

3. Skip fertilizer: It's actually against the law in NYS to use phosphorus fertilizers with a few specific exceptions. Work with natural processes to return nutrients to your soils, leaving grass clippings behind, mulching leaves back into your yard, or adding compost to garden beds.

Onondaga Lake Phosphorus Management

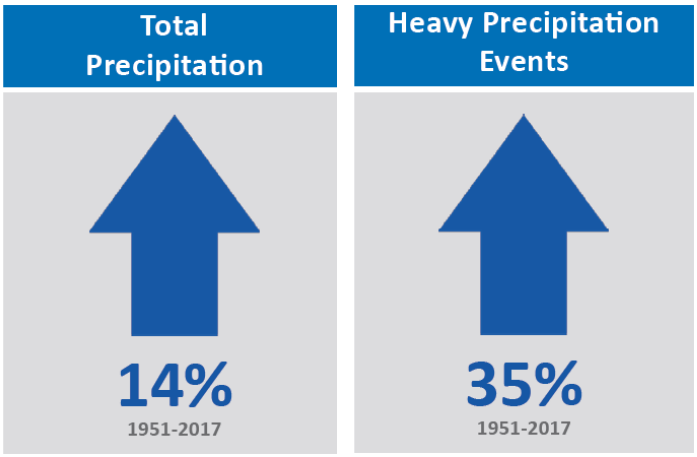
Onondaga Lake has a management plan specifically for phosphorus, a Total Daily Maximum Load (TMDL) Plan. Part of this plan requires all municipalities to facilitate reduction of phosphorus entering the lake through stormwater systems.

All MS4 municipalities in the Onondaga Lake Watershed are responsible for working towards this with enhanced reporting and monitoring standards as part of their general Stormwater Permit. This includes: Villages of Camillus, East Syracuse, Liverpool, Marcellus, North Syracuse and Solvay as well as the Towns of Camillus, Cicero, Clay, DeWitt, Geddes, La**F**ayette, Manlius, Marcellus, Onondaga, Salina, Van Buren and the City of Syracuse.

Preparing for the Rain

Much of our existing stormwater infrastructure was designed and built for different rain patterns than we are currently experiencing, and will continue to experience, as a result of climate change. Between the additional impervious surfaces brought by development and the higher volume of rain during rain events, there is greater potential for runoff. According to Great Lakes Integrated Sciences and Assessment (GLISA), there has been an observed 14% increase in rainfall between 1951-2017 and an observed 35% increase in the amount of rain falling during intense rain events during the same period. These trends are projected to continue.

Increased volumes of rain at one time can overwhelm our infrastructure leading to flooding, erosion and higher speed and volume flows of stormwater run off. This increases the risk that stormwater will deliver pollutants to our waters.



Change in total precipitation and heavy precipitation events for the Great Lakes region from 1951-2017. GLISA, 2019.

GLISA is a project of the National Oceanic and Atmospheric Administration (NOAA) to understand regional climate impacts and bridge the gap between science and decision making. You can learn more about their work at https://glisa.umich.edu/

Green Infrastructure Solutions

Our built environment needs some alterations to handle this. One piece of the puzzle is to make more space to let natural processes do their thing. Implementing **nature-based solutions** and **green infrastructure** manages water where it falls and reduces the amount of runoff generated and pollution transported. Nature-based solutions focus on restoring an ecosystem to allow the natural water cycle to function while Green infrastructure is a set of engineering strategies that mimic the natural water cycle. These strategies can be deployed at a variety of scales, including by private property and homeowners!

Some small-scale options for homeowners include:

* Install Rain Barrels
* Construct a rain garden
* Plant Vegetated buffers alongside sidewalks and driveways
* Introducing more native plants or trees to your landscape
* Replace impervious surfaces with permeable options or natural ground cover.

CNY Stormwater Coalition Upcoming Meetings:

September 20th

December 13th

Contact stormwater@cnyrpdb.org to join

CNY STORMWATER COALITION MEMBERS

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

The CNY Stormwater Coalition is coordinated by:

Central New York Regional Planning & Development Board

NYS Nutrient Run-off Law

As of 2012 NYS prohibits use of phosphate fertilizers to prevent phosphorus pollution in our waters. Always test soils before utilizing fertilizers and when shopping, look for the 0.

Tips to ditch your commercial fertilizers!

- Leave grass clippings on the lawn to naturally return nutrients to soils.
- Mow high to promote strong roots.
- Choose well adapted, low maintenance native plant and turf species.
- Make your own garden compost with kitchen scraps, egg shells and coffee grounds

Visit the CNY Stormwater website
https://www.cnyrpdb.org/stormwater

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