

SLPID

2022 SPRING NEWSLETTER

SLPID, PO Box 2551, Malta, NY 12020 | www.SLPID.org



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SPRING AND SUMMER

Property Maintenance for a Healthy Lake

A healthy lake and ecosystem are imperative for maintaining property values. Securing the ecological and economic benefits of maintaining a healthy lake is clear, and there are minor solutions for how property owners have a significant impact. Various studies have proven that property values on lakes with clear and clean water are significantly higher than those with biological and chemical pollution. What you and your neighbor do to protect water quality affects all those who live adjacent to water bodies.

The Saratoga Lake community is intimately tied to the lake's ecosystem and arguably our most precious resource. Property owners can help prevent shoreline erosion, which in turn prevents nutrient load into the lake, increasing lake weed growth, dangerous HABs (Harmful Algal Blooms), and more.

This newsletter is all about being mindful and reducing the impact by gardening smarter, enhancing your riparian habitat, and sharing ideas with neighbors through outreach.



SLPID needs your help. We hope to increase our “Take the Pledge” across the lake. Please visit the SLPID website to “Take the Pledge” and sign up for email notifications. By doing so, you will receive emails on upcoming education and outreach programs held in the lake community.

Read more on page 10

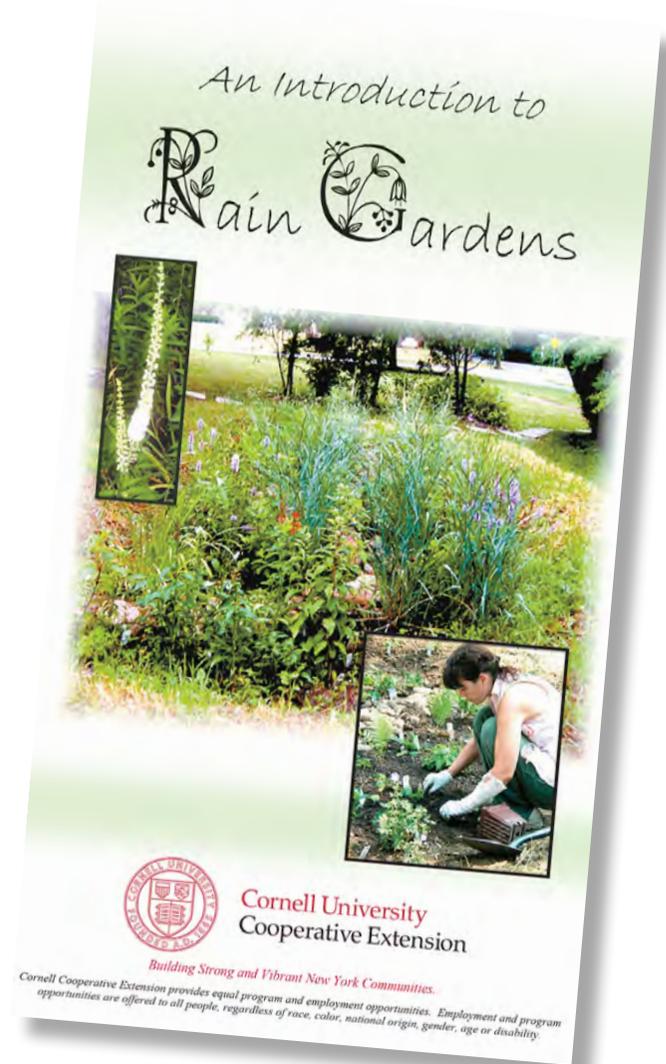


GARDEN FOR CLEANER WATER

One of the largest sources of stormwater run-off is from our everyday activities as property owners. Fortunately, there are easy steps we can take. Rain gardens are easy and fun way to contribute.

What is a Rain Garden?

Rain gardens are where form meets function and the gutter meets the ground. Simply put, rain gardens are gardens that are specifically designed to soak up rain water, mainly from roofs, but also from driveways and patios. Rain gardens look like regular flower gardens but they are more. When it rains, a rain garden fills with a few inches of water and allows the water to slowly filter into the ground rather than running off to the storm drains. Compared to a patch of lawn, a rain garden allows



Garden for Cleaner Water

What is stormwater runoff?
Stormwater runoff is the water that runs over and off the land during a rainstorm or snowmelt, rather than soaking in.



What's the problem?

As stormwater runs over streets, parking lots, and lawns it can pick up and carry many kinds of materials that get washed into nearby streams and lakes. This leads to stormwater pollution!



Where do these pollutants come from?
Stormwater picks up contaminants that come from all of us-

- Fertilizers
- Pesticides
- Bacteria from pet waste
- Eroded soil
- Road salt
- Grass clippings
- Litter

Just to name a few!

Rain gardens capture and filter stormwater



Rain gardens are a beautiful and beneficial addition to any landscape. By capturing rain water, they help to reduce stormwater pollution and protect local streams, lakes, and rivers.



BEFORE:
Rainwater diverted off the roof flows into the yard.

Plant a Rain Garden of Your Own!

- Add beauty & interest to your yard.
- Contribute to cleaner water.
- Increase groundwater recharge.
- Provide habitat for butterflies & wildlife.



AFTER:
The gutter directs rain from the roof into a beautiful rain garden, which holds the water as it soaks into the ground. This rain garden is located at the Zen Center of Syracuse and helps to prevent stormwater from entering Onondaga Creek & Onondaga Lake.

The rain garden above is a demonstration project created by Cornell Cooperative Extension of Onondaga County. Funding was provided by an Onondaga Lake Partnership "Mini-Grant" through EPA Region II, & USDA Cooperative State Research, Education, and Extension Service Regional Water Quality Project, Region 2. This brochure was produced by Cornell Cooperative Extension of Onondaga County and has been re-printed with permission.

For more information about rain gardens, or how to design and construct one for your own yard, contact:

**SARATOGA COUNTY
CORNELL COOPERATIVE EXTENSION
INTERMUNICIPAL STORMWATER MANAGEMENT PROGRAM**

50 West High Street, Ballston Spa NY 12020

Phone: (518) 885-8995

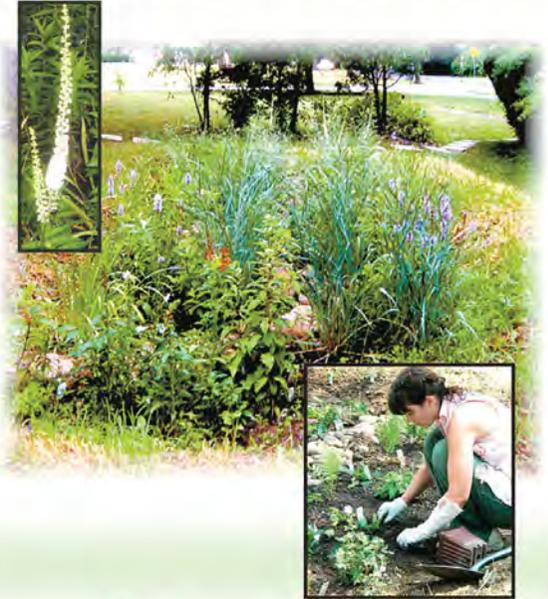
Email: brn5@cornell.edu

Web: www.saratogastormwater.org



An Introduction to

Rain Gardens



**Cornell University
Cooperative Extension**

Building Strong and Vibrant New York Communities.

Cornell Cooperative Extension provides equal program and employment opportunities. Employment and program opportunities are offered to all people, regardless of race, color, national origin, gender, age or disability.



Plan



Choosing a Spot

Rain gardens can be designed to catch water from a roof or even a driveway. When choosing a location for your garden, pick an area that is relatively flat or that has a slight slope. Keep the following considerations in mind:



- Rain gardens are **NOT** a solution to wet areas! The garden must have good drainage so that water can soak in within 24 hours after a rainfall. This will also prevent your garden from becoming a mosquito haven!
- The garden should be at least 10 feet away from the house.
- The garden should receive full or partial sunlight.
- Avoid the area over a septic system.
- The garden must include an overflow outlet that will transport excess rainfall to a proper location (not your neighbors lawn!).

Prepare

How Big?

The size of your garden will depend upon 3 main factors:

1. The size of the drainage area.
2. The type of soils on the site.
3. The depth of the garden.

A typical residential rain garden ranges from 100 to 300 square feet. Call Cornell Cooperative Extension for assistance in calculating the dimensions of your garden.



Ready to Dig?

- Use string to outline the shape of your garden.
- On a slope, more digging will be required on the uphill side. Use extra soil to build a berm on the downhill side.
- The bottom of the garden must be flat & level.
- Don't forget to make an overflow for heavy rain events!



Plant Selection

Choose plants that have a variety of heights, textures, and bloom times. It is important to select plants that can tolerate both wet and dry conditions, and that are suited to the sun/shade exposure of your garden.

Tip: Dig each hole 2x the width of the plant plug. The hole should be deep enough so that the crown of the plug is level with the ground.



Before you dig call **Dig Safe NY** (1-800-962-7962) to locate any underground utility lines!



EROSION OF THE SHORELINE

Saratoga Lake is a popular recreational lake. It is easy for shorefront property owners to blame recreational boaters for shoreline erosion by wake action. However, some of these factors solely depend on nature, whereas human actions can influence other processes. Property owners can correct and avoid shoreline erosion and to what extent erosion and its consequences occur. There are three primary sources of erosion, each of which can vary in their extent and time.

Terrestrial Forces: Soil slumping, soil creep, frost action, wind erosion, sheet flow erosion rills, and gullies

Aquatic Forces: Splash, wave action, longshore drift, ice push.

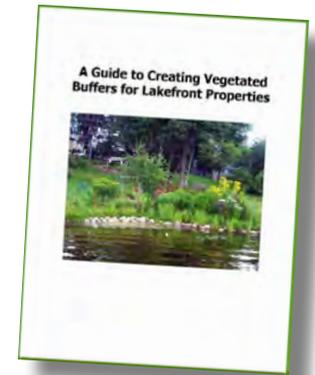
Human Activities: Lake-level control, stormwater runoff, removal of natural vegetation.

Terrestrial and aquatic forces occur naturally, and although we still might need to make efforts to mitigate them from time to time, we have much more control over the actions we take as people. There is currently a need to improve our decisions to better the lake we enjoy.

In terms of what we are doing to the lake, that has a negative effect:

- ▶ Building impervious surfaces such as parking lots, driveways, and roofs increase stormwater runoff into the lake. Since the rain can't penetrate the surface and be absorbed like it usually would be, it collects on the surface then is delivered in a higher volume over a more concentrated area of soil, causing more earth to erode.
- ▶ Another essential aspect would be to keep natural vegetation with mixed shrubs, trees, and grasses on the shoreline. If these native species are removed and replaced with turf/ lawn grass to the lake's edge, the more extended root systems holding the soil are no longer there. These root systems are critical for keeping the soil in place by reaching deep into the ground and keeping the earth secure from runoff.
- ▶ Soil is more likely to get washed away into the lake with grass landscape along with the nutrient load contributing to shoreline erosion, sedimentation build-up, excessive weed growth, excessive algae growth, harm to the aquatic life, and decline in property values.

The online BUFFER BOOK is a great resource specifically for Saratoga Lake residents as a thoughtful guide. If anyone wishes a hardcopy of the BUFFER BOOK, please email SLPID at cristina.connolly@slpid.org



PROPERTY OWNER SHORELINE PROTECTION

Saratoga Lake has a primarily sensitive shoreline with minimal natural protections, such as a rocky or well-forested/vegetated shoreline. Many streams and wetlands along the shoreline contribute significant natural resource value to the lake. These resources also have sensitive shorelines, and even minor disturbances can have a major impact. This condition makes it essential to maintain the natural shoreline to the greatest extent possible. Impacts of filling or dredging adding fill or dredging material from the lake, wetlands, and streams can yield significant adverse impacts to fish nests and small animal and amphibian passage between the water and the shore. In addition, erosion and sedimentation can result in severe and long-lasting environmental damage.

We can do things to help protect our lake, and they are quite simple yet effective measures. The most promising approach is soft-armor or soft scaping. Soft armor utilizes deep root, native shrub plants on the shoreline. The shoreline needs to be as natural as possible. Lawns to the lake's edge, vertical sea walls, and extensive hardscape must be avoided.

Please be aware that a landowner who wants to excavate or place fill in navigable waters of Saratoga Lake, including adjacent and contiguous marshes and wetlands, is required to obtain a Protection of Waters Permit from NYSDEC before any work begins. To ensure the shoreline is kept in its natural condition to the greatest extent possible, the NYS Department of Environmental Conservation established a permit process to guide property owners who desire to add fill to their shorelines. The permit process contains standards designed to protect the natural environment, animal habitat, fisheries, and general water quality of the lake. A federal permit may also be required from the US Army Corps of Engineers. Federal permit requirements kick in when the fill requested reaches a certain threshold. The determination of whether additional permits, including a federal permit, is required occurs during the general permit process, which requires the applicant to complete a Joint Application Form to both DEC and ACOE.

Generally, Minor projects have shorter review time frames and require less public review.

Minor Excavation or Placement of Fill in Navigable Waters projects include:

- Fill of less than 100 cubic yards.
- Maintenance dredging occurring at least once every ten years.
- Excavation of an area of 5,000 square feet or less.
- Installation of riprap of less than 100 linear feet for each parcel of land.
- Repair or replacement, in-kind and in-place, of existing structures.

For further information, go to the following website to submit a permit: <https://www.dec.ny.gov/permits/6230.html>

Contact the NYSDEC Region 5 office in Warrensburg with questions about completing the application form and other required information for your application.

Contact permit administrator Beth Magee at 518-623-1282 <mailto:dep.r5@dec.ny.gov>



HARMFUL ALGAE BLOOM (HAB) PREVENTION

Many negative effects come from our influence on the soil, some of which can lead to dangerous situations with lake water quality. Phosphorus builds up on land from fertilizers applied to lawns and animal droppings. The increased runoff and erosion can deposit these nutrients in the lake in high amounts. This can lead to a Harmful Algal Bloom (HAB), which can lead to serious illness if contacted. Algal blooms flourish when favorable conditions present themselves. When the wind is slow and water temperature is up, blooms can blow up overnight.

HABs are scientifically known as cyanobacteria. They are photosynthesizing bacteria that naturally occur in the environment. Cyanobacteria have been in existence from the beginning and are a healthy part of our ecosystem. Blooms aren't always a bad sign. It expresses the environment's health in the water and even on the land. They even give back to the ecosystem by increasing the food supply. HABs are harmful when the cyanobacteria outcompete other organisms and become visibly dense. Some cyanobacteria can be a threat to humans and animals.

Impacts of Algal blooms have a vast effect on several parts of an ecosystem. It clogs fish gills, smothers vegetation, removes all oxygen in the surrounding area, and potentially contaminates drinking water. It may be deadly to smaller animals and pets and could cause sickness in people. HABs can also impact homeowners living near the water body that swim or boat. The water is deemed dangerous to swim or be in contact with while a bloom is occurring.

- * Most HAB growth may be stimulated by fertilizer runoff and household waste that pollute waterways. When a farmer or homeowner fertilizes his or her land, the nutrients in that fertilizer, specifically nitrogen and phosphorous, can end up in local water bodies.
- * This excess amount of nutrients in the water causes algae to reproduce rapidly and spread through surrounding areas. Runoff of nutrients can drain into a water body hundreds of miles away through ground and surface water. In a process called eutrophication, deposited excess nutrients feed the growth of algae that are eaten by bacteria. This decreases oxygen levels and increases carbon dioxide production.

WHAT YOU CAN DO:

- Even low phosphorous fertilizers stimulate growth of HABs. Homeowners and farmers can avoid fertilizer altogether or at the least, use less fertilizer for lawns, gardens, and farmland.
- Providing vegetative buffers on properties abutting the lake and its tributaries filters excessive harmful nutrients causing the bloom.
- The best approach for public safety and protection of domestic animals is to avoid contact with water that exhibits signs of a HAB occurring.
- Anyone who sees a bloom should report it to the New York State Department of Environmental Conservation (NYSDEC) <mailto:HABsInfo@dec.ny.gov> or call SLPID 518-223-3252. If you come into contact with a bloom, rinse the affected area off immediately and seek medical attention if symptoms begin to show.

This web page will help you to identify HABs is: <https://www.dec.ny.gov/chemical/81962.html>

SOURCES New York State Department of Environmental Conservation – dec.ny.gov National Ocean Service – oceanservice.noaa.gov Science Daily – sciencedaily.com



PROTECTING THE FISH AND AQUATIC LIFE

Stormwater run-off from properties also affects fish habitat. Erosion increases water turbidity (cloudiness), making it more difficult for fish to feed. It can also lead to reduced habitat for fish through sedimentation of particles covering plant material or gravel and shoreline rocks. Bass requires shallow water with clean gravel to build nests and successful rearing of young. Soil erosion can easily damage this vital habitat. Statistics show that property values on lakes with clear water are higher than on lakes with cloudy water. Maintaining property run-off from going into the lake through vegetative buffers, rain gardens, and rain barrels also helps the aquatic life, maintaining a healthy lake quality.

Saratoga Lake is a top-notch fishery in New York State in quality and quantity of fish. Competitive and recreational fishing opportunities are available on Saratoga Lake, making it the top 15 of all NY State lakes for anglers.



What FISH can be found in Saratoga Lake?

In the lake there are largemouth bass, smallmouth bass, yellow perch, brown bullhead, northern pike, redbreast sunfish, rock bass, walleye, black crappie, bluegill, chain pickerel, and pumpkinseed sunfish.

Images Sourced: Fish Found in Saratoga Lake, from All About Fishing www.aa-fishing.com



ENCOURAGE YOUR NEIGHBORS!

Like us on Facebook and send a message

The goal of **Take the Pledge** is to encourage property owners within the Saratoga Lake watershed to commit to a few sustainable actions and demonstrate that small efforts on your part have a significant reaction on the biodiversity and health of the lake.



As a property owner within the watershed, your direct and indirect actions have the most impact on algal growth, sediment run-off, bacteria, pathogens, and poisoning aquatic life and wildlife.

I PLEDGE:

TO MINIMIZE RUNOFF – Use “soft-scaping” and buffers around the lakefront and any slope or hillside that has a chance to runoff into the watershed.

Tip: Leave a buffer of grass, hedges or native flowers between the lakefront and lawn. You can reduce impermeable surfaces with natural walkways, patios and permeable or gravel driveways. Instead of concrete patios, use natural permeable materials with native plants integrated.



Saratoga Lake

TAKE THE PLEDGE

TO SAY NO TO FERTILIZERS – Most lawns naturally have adequate phosphorous for a healthy lawn and fertilizer is not needed. In accordance with NYS law, if you must use fertilizers, get a soil test done at the county Cooperative Extension office to ensure that you are only using the fertilizer that is needed.

DO NOT apply lawn fertilizer within 20 feet of any water body unless...

- There is at least a 10-foot buffer of shrubs, trees or other plants between the area you are fertilizing and the water OR
- Fertilizer can be applied no closer than 3 feet from the water using a device with a spreader guard, deflector shield or drop spreader.

Tip: Look for alternatives to fertilizers and if you do use them – never before a storm!

TO STOP THE POLLUTION – Do not throw leaves, lawn debris/clippings, or animal feces into the lake. All of these are high in phosphorous that can contribute to algal growth.

Tip: Always bag lawn debris for disposal or better yet, compost!

TO LIMIT HERBICIDE AND PESTICIDE USE – As well as harmful cleaning agents and other chemicals. If use is necessary, property owners can use integrated pest management practices that limits the use of herbicides and follow all instructions on labels. The bugs you see in and around the lake are also an important part of the ecosystem. Dangerous herbicide, pesticides and lawn chemicals can be toxic to aquatic life and promote the growth of algae and weeds.

Tip: Avoid all chemicals; they are also bad for you and your pets' health. Wash cars and boats away from the lake.

