

## Our Winter Lake

During the winter, it's difficult to imagine how life continues beneath the icy surface, but indeed it does. Floating ice forms a barrier with an insulating layer between the warmer underlying water and the colder air above a lake. Water under the ice typically stays very cold, but above freezing - about 39°F most of the winter months. Most lake organisms (phytoplankton/algae, zooplankton, and fish) are cold-blooded. The metabolism of these organisms slows down compared to warmer summer months. The ice forms a barrier to the fluctuation of gasses and energy flowing into and out of the lake, so oxygen levels may fall during the winter. Lower oxygen can harm the organisms, however, algae continue to photosynthesize and produce oxygen as long as there is some light. With the right balance, oxygen is being created as it is being consumed.

## Welcome Back, SUNY - ESF!

**We had several students on the lake in October and November. Here are some of their wonderful projects, as described by Professor Kimberly Schulz.**

- ↔ One group will be looking for lake chubsuckers while evaluating the number of grass carp in the lake. They will also be watching for rudd\* (an invasive fish) in the lake, as one may have been caught earlier in the season.
- ↔ One student is going to try to compare fish (yellow perch) pathogens in Song Lake vs. Onondaga Lake.
- ↔ One large group of students is going to co-ordinate sampling 15-20 sites around Song Lake. These sites will be marked very accurately with GPS and they plan to provide a spatial map. They will measure: temperature, pH, conductivity, turbidity, oxygen, nitrogen, phosphorus, chlorophyll and the zooplankton at each site.
- ↔ One group will estimate the amount of phosphorus that is being released from the average home on the shore versus the undeveloped areas. They will then estimate how much the P levels in the lake would increase if the lake were more developed. Then they will incubate algae from the lake with those P levels to estimate the effects on algae.
- ↔ One group will investigate the potential for Song Lake water to naturally reduce fecal pathogens (like E. coli) through natural predators and how possible future increases in lake turbidity (sedimentation or other particles) would affect this natural clearing potential. (NOTE: no species will be introduced into the lake for any of these projects.)

**These 18 students will present their findings at the final poster session on December 14 (Wednesday) from 5:15-7:15. Everyone is invited! More information will be sent to the community through our e-news.**

## More on the lake chubsucker

The verdict is still out, and we await the NYS DEC decision. In the meantime, Dr. Schulz, Eric Bauer & Amanda Ranger will electroshock some local creeks for "creek" chubsuckers. They will use these as a genetic comparison with our 'lake' chubsuckers. These tests will take place over the winter and continue with tagging and recapturing next spring and summer.

## ICE FISHING

Just as with open water fishing, all anglers must use certified bait and follow the state regulations for fishing, including having a license and marking their tipups.

**STOP** If we do have rudd \* in Song Lake, it most likely came from bait fish that was lost, or tossed. So, don't be shy. We live on the lake and have a right to know who's fishing and to be sure they are following the same best management practices we do. If you see an angler you don't know, be neighborly and ask about their permission to access.

# Our Song Lake Watershed

Volume 11

[www.songlakewatershed.org](http://www.songlakewatershed.org)



## C-SLAP UPDATE

We have just completed our fifth year of water quality testing through the Citizen's Statewide Lake Assessment Program, or CSLAP. All reports are available on our website under [Resources](#). This data, and more, will be used to develop our [Watershed Management Plan](#). The Watershed and Environment Committee is focusing its work this winter to compile that plan. More soon!

## C-OFOKLA UPDATE

The Song Lake Property Owners Association is a founding member of the Cortland-Onondaga Federation of Kettle Lake Associations, Inc. (C-OFOKLA). The next board meeting is scheduled for January 16<sup>th</sup>. If you would like to participate, please contact Tarki at 315-696-5262 or Karen Lang at 607- 423-4653. To find out more, go to the website at [www.cofokla.org](http://www.cofokla.org)

## Check, Control and Capture

Check pollutants at their source – be aware of fertilizers, household toxins, eroding soils, and malfunctioning septic systems.

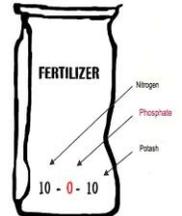
Control the amount of runoff that carries pollutants into waterway- minimize the hard surfaces that create runoff.

Capture and cleanse pollutant-carrying runoff before it reaches the waterway- shoreline buffers, rain barrels or rain gardens.

Look for the “0” in the Middle

### 1/ Practice “Zero Phosphorus”

New York State already prohibits the use of phosphorus in most cleaning products, and more recently, has banned phosphorus in lawn fertilizers. Beginning January 2012 it will prohibit the distribution, sale, or use of phosphorus fertilizer on a lawn or non-agricultural turf (with minor exceptions). The law will also prohibit the application of fertilizers to lawns between December 1 and April 1, to any impervious surface, or within 20 feet of any surface water.



### 2/ If You Wouldn't Drink It, Don't Dump It!



Gasoline, oil, solvents, old paints, thinners, fertilizers, pesticides, cleaners and many other products need special handling to be disposed of properly. When they are poured into ditches, dumped on driveways or rinsed into the lake, it pollutes the lake and the groundwater. To find out about proper disposal in Cortland County, contact the supervisor of the Hazardous Waste Program, Donald R Chambers at [dchambers@cortland-co.org](mailto:dchambers@cortland-co.org) or (607) 753-5345.

Although it's difficult to eliminate the use of all of these products, we can minimize their use. There are many safer, non-toxic alternatives available, so before purchasing check out the healthier options at: <http://www.greenhome.com/>

### 3/ Minimize erosion

When you're planning a construction project, follow these steps to protect the lake:

Develop an erosion control plan. Be sure to preserve existing vegetation, build an access drive, install a sediment fence, protect soil piles, clean up sediment and replant the area.

Fence the construction area to limit construction activity to the necessary area of the site. This approach reduces erosion and soil compaction and can reduce the amount of sediment and phosphorus delivered to a lake by 18-fold.

Divert runoff around disturbed areas to minimize erosion. After constructions, establish vegetation as soon as possible. The less time bare soil is exposed, the less erosion you will create.



### 4/ Septics – Life Without A Sewer System

Because we live away from municipal sewage treatment, we are each responsible for our own waste management. This is a huge health and environmental responsibility. Just like a car, to prevent premature failure, maintenance, inspection and service is required for all septic systems. Inspection and pumping costs are minor compared to the cost for installing a new system.

#### Inspect and maintain your septic system regularly

Inspect your system every year

Pump your system out every three years – this is a “lakeside” minimum.

Always hire a licensed pumper, plumber or plumbing inspector.

Divert surface water away from the drain field.

Avoid driving or parking on the drain field to prevent soil compaction.

Keep the roots of trees and shrubs away from the drain field pipes to avoid obstructing drain lines. When a replacement septic system is needed, consider aerobic digesters, re-circulating sand filters and other effluent filtration systems that may do a better job of treating wastes and may be designed to remove nutrients and other contaminants.



## Check, Control and Capture

### Keep your septic system healthy

Avoid putting cooking grease, oils, coffee grounds, cigarettes, facial tissues, paper towels, sanitary napkins, tampons or disposable diapers down the drain or toilet as they may clog the drain field.

Avoid using a garbage disposal and compost your vegetable scraps instead.

Conserve water by using low-flow toilets, faucets and showerheads which will reduce the volume of water the system must filter and absorb.

### Be on the lookout for evidence of a malfunctioning septic system

Sewage backing up in the basement or drains  
Ponded water or wet areas over the drain field  
Bright green grass over the drain field  
A dense stand of aquatic plants along only your shore  
Sewage odors  
Bacteria or nitrate in nearby well water

Malfunctioning systems are especially harmful. Effluent from failed systems can result in direct contamination of well or surface water and could cause serious human health risks. Reasons for septic system failure may include advanced age, overloading, poor site placement and/or poor maintenance.

### **5/ Save the Rain and Reduce the Runoff**

Allowing water to soak in rather than run off your property filters out pollutants and replenishes our groundwater. Onondaga County is a national leader in its efforts to “Save the Rain.” Their website <http://savetherain.us/> is full of good information on stormwater management.



### Reduce the hard surfaces like rooftops and driveways on your property

When considering additions, decide how much extra space is really needed. Consider runoff from decks, sidewalks and parking areas. Pervious pavers are an option for areas that do not have heavy traffic.

### Reduce lawns to reduce runoff

Lawns absorb very little rainfall. Many studies have shown that lawns create much more runoff than wooded areas. As a consequence, the runoff from lawns can carry eight times more phosphorus to the lake than the runoff from similar sized wooded areas. By grading a lot for turf, the natural divots where water naturally ponds and has time to soak in are removed. The use of heavy equipment, vehicles, lawn mowers and foot traffic also compacts the soils during and after construction of the lawn. Of course, the removal of trees and shrubs causes more rain to hit the ground and run off rather than landing on leaves and branches.

### Plant trees and shrubs or protect your existing wooded areas

Wooded areas develop a thick understory of small shrubs and plants and a “duff” layer. This duff protects soil from rain impact and absorbs water. Root systems keep the duff in place, not in the lake



### Direct downspouts onto your lawn or landscaping, not onto hard surfaces

#### Install a rain barrel

Collect water from your rooftop to water your trees, yard and gardens during dry periods.

The barrel should be covered to keep out silt, leaves and insects. For specific information on rain barrels, go to: <http://savetherain.us/green-infrastructure/rain-barrels/>

### Build a rain garden

Rain gardens are just what they sound like – areas that soak up rain water during wet times and serve as a beautiful garden all the time. They are landscaped areas planted with wildflowers and other native vegetation to replace areas of lawn. The gardens fill with a few inches of water and allow the water to slowly filter into the ground. The plants in the rain garden act as filters for the rain water, helping to slow the runoff and allowing it to soak into the ground rather than flowing out into storm sewers, ditches, or drainage ways on the way to lakes and streams. An excellent how-to manual published by the University of Wisconsin at: <http://savetherain.us/wordpress/wp-content/uploads/2010/10/rgmanual.pdf>

## Check, Control and Capture



<http://savetherain.us/green-infrastructure/rain->

Keeping rain on your property, where it naturally belongs, will help solve some of our water pollution problems. In addition to the benefits they provide to our water supply, rain gardens also provide wildlife habitat for birds, butterflies.

### Protect or restore your shoreline buffer

If you have native vegetation along your shoreline, consider yourself and the local wildlife fortunate. A mature native buffer represents many years of nature at work and discourages undesirable, exotic plants and animals while attracting songbirds, butterflies, turtles, frogs and other desirable flora and fauna.

If you have lawn to the water's edge, a simple, no-cost way to start restoring your shoreline is to stop mowing next to the water. Seeds in the soil will germinate and valuable native plants will begin to reappear. If you would like to play a more active role in restoring your shoreline, you can replant native trees, shrubs, grasses and wildflowers to attract songbirds and



butterflies. The main area where water runs off your property is the best location to start planting to improve water quality. You can create a natural, appealing waterfront landscape while eliminating expensive and time-consuming lawn care. **The Song Lake Association** has plants available for creating these lovely buffer zones. Call Tarki (315-96-5262) or Deb (315-696-5549) to find out more.

When natural shore-line vegetation is converted to high-maintenance, shallow-rooted turf grass we create a situation that increases shoreline erosion, pollutant runoff, and loss of wildlife habitat while inviting more destructive geese and swans. Natural shorelines provide important habitat for animals in the water and on the land. The trees, shrubs and plants help shelter and create privacy for both the homeowner and the lake user. Larger areas of natural shoreline provide more benefits; however, any amount of natural shoreline is better than none.

### Remove a retaining wall (seawall)

For most inland lakes, the wind speed, lake depth and 'fetch' (the longest straight-line distance from your property to another side of the lake) are not great enough to warrant a seawall as protection from the forces of waves and ice. Retaining walls and seawalls deflect wave energy downward which scours the bottom of the lake. The scouring action re-suspends sediments and phosphorus, resulting in a loss of habitat and degraded water quality.

When one property owner has a seawall and another doesn't, wave flanking can cause erosion on the other property. A bioengineered seawall (erosion control fabric and plantings) will control erosion while appearing natural; however, natural shorelines remain the best option for water quality and wildlife. If you are considering making any significant alterations to your existing shoreline, including construction or removal of property or walls, contact the NYS Department of Environmental Conservation to find out about current regulations and permitting. For more information on options to removing a retaining wall, go to: [www.dec.ny.gov/permits/67096.html](http://www.dec.ny.gov/permits/67096.html) and [www.vbco.org/downloads/lake\\_saving\\_booklet\\_seawalls\\_spring\\_2011\\_1.pdf](http://www.vbco.org/downloads/lake_saving_booklet_seawalls_spring_2011_1.pdf)

**This information comes from a variety of sources and publications from the DNR in Wisconsin, the University of Wisconsin Extension, DNR of Minnesota, and Onondaga County. Adapted.**

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### The Song Lake Watershed & Environment Committee

Please consider making a donation to the watershed fund. These funds provide the money needed for these newsletters, water quality testing and many other projects. We will continue to work on issues of importance to all those living on the lake and truly appreciate your support. To find out more about our work and that of the association please go to the website at, [www.songlakewatershed.org](http://www.songlakewatershed.org). We would love to hear from you with your ideas and insights. To provide feedback about our work, give us a call, or email your comments to [Songlakeassociation@gmail.com](mailto:Songlakeassociation@gmail.com)

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