

## Issues on Song Lake

### THE LOVELY INVADER; PURPLE LOOSESTRIFE

The Purple Plague, Marsh Monster, and Beautiful Killer are various names for this pretty, pesky plant. This invasive perennial grows in wetlands, roadsides, ditches, and shorelines. It is here in Song Lake too. The thick stems and roots of this plant are so tough that it not only crowds out the native plants, reducing food, shelter and nesting sites for birds, turtles, frogs and other wildlife, but also makes areas impassable for boats.

A native of Europe, *Lythrum salicaria* thrives in North America because there are no natural enemies here. It was introduced in the 1800's for bee keeping and as an ornamental and medicinal plant. It also found its way through ship ballasts and sheep's wool.

It may not be possible to eradicate loosestrife, but there are ways to reduce its rapid spread. One measure that can be taken is to cut the plants before they flower, thereby reducing seeding. This plant produces thousands of seeds that are in the soil and easily spread on muddy boots and equipment. This is one more hitchhiker to watch for on boats and boots.

The USDA has approved the use of three species of beetles as biological controls for purple loosestrife. *Galerucella calmariensis*, *Galerucella pusilla*, *Hylobius transversovittatus*, and *Nanophyes marmoratus* are the plant's native control. These European beetles feed exclusively on purple loosestrife and do not impact other species. Since they feed only on loosestrife, their populations will increase and decrease with the availability of the plant. After release, it may take three to 15 years to impact the infestations, but trials throughout the US and Canada, have found biological controls to be 95% successful.

As we work to produce a watershed management plan for Song Lake, we will need to be mindful of the steps to take regarding control of loosestrife.

For more information, these sites are recommended:

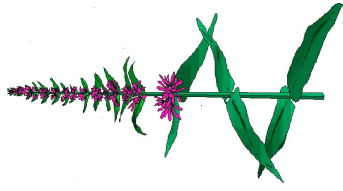
<http://www.invasive.org/eastern/>

<http://www.invasive.org/eastern/biocontrol/11PurpleLoosestrife.html>

<http://www.dnr.cornell.edu/EXT/ext/publications.htm>

<http://www.great-lakes.net/envt/flora-fauna/invasive/>

<http://www.ipcnys.org/loosestrf.html>



Handmade signs are available for posting at your landing site. 19-1/2 "tall and 15-1/2" wide, they are made of light, durable plastic that can easily be hung from metal or wooden posts. If you are interested in finding out how you can obtain one, call Tarki at 696-5262

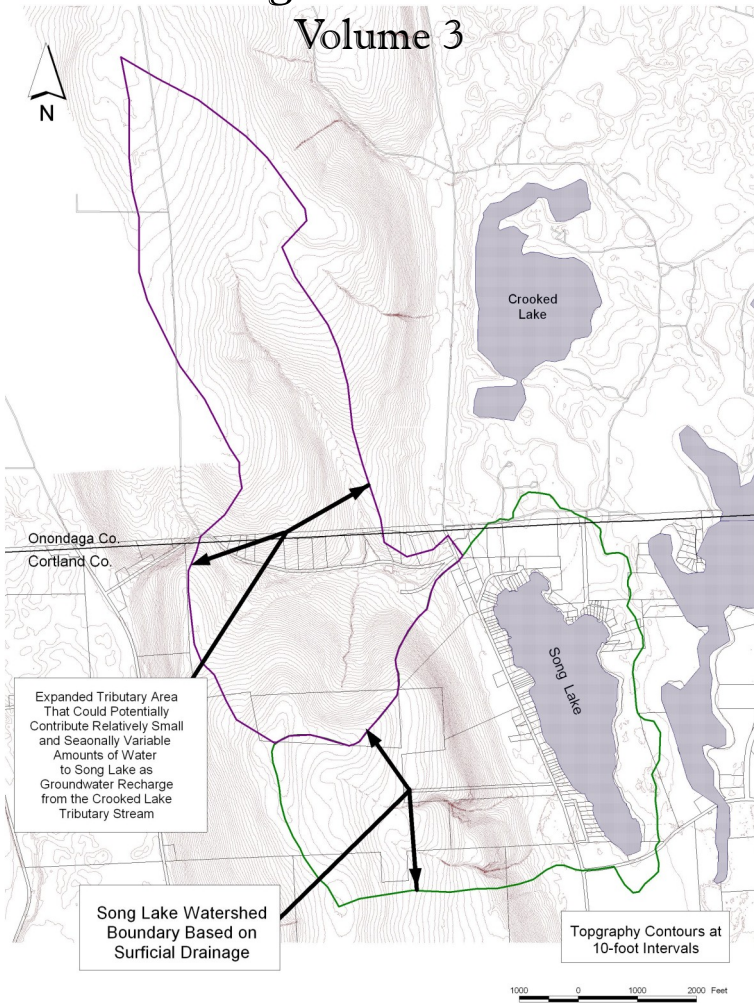
### What is a Subsurface Watershed?

Song Lake is predominately fed by groundwater and precipitation. According to the United States Geological Survey and Cortland County Soil and Water, the Song Lake subsurface watershed region includes the area shown on the cover map. For more information on the hydrology of Song Lake and the our neighboring lakes, go to <http://ny.usgs.gov> and download *Hydrogeology of the Tully Lakes Area in Southern Onondaga and Northern Cortland Counties*, New York, Kappel, Miller, and Hetcher; Publication WRIR 01-4166

Individuals and students interested in more information about Song Lake watershed planning are welcome to contact the Song Lake Watershed Project members: Deb Brock- 696-5549, Tony George -696-8045, Tarki Heath- 696-5262, or Marjie Grillo-696-5963.

## Our Song Lake Watershed

### Volume 3



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Tully, New York 13159

## LAKE FRIENDLY LANDSCAPING

To protect the water quality of Song Lake, it is important to understand how our landscaping decisions impact the lake. Toxins from pesticides and fertilizers easily runoff into the lake from unprotected shorelines. Excess weed growth from eutrophication can suffocate fish, trigger algal blooms and quickly reduce the quality of the water in our lake.

A healthy attitude about landscaping creates a healthy lake. Landscaping that encourages shoreline habitat with a buffer of native vegetation yet provides water access, will reduce pollution and erosion while creating a visually pleasing environment.

Consider creating three zones for your landscaping;<sup>1</sup>

**Riparian Zone** - This zone extends about two or more feet up the bank from the edge of the lake. Fluctuating water levels and the wave action from boats and wind impact this zone. Plants here must tolerate wet soils for long periods and have deep root systems to minimize erosion. Low-growing plants are best, so the view from your home or deck is unobstructed. Examples of plant varieties suitable for this zone are: Lady Fern, Sedges (many species), and Blue flag Iris.

**Lower Bank** - This two to 10 foot zone is adjacent to the riparian zone. The soil here tends to be moist but not wet. Your plan for this zone should include at least three shrubs (such as Vernal Witch-hazel, Winterberry, Witherod Viburnum, Spicebush and Red Chokeberry) and two ground cover varieties (such as Cinnamon Fern or Sensitive Fern).

**Upper Bank** - This zone extends from the end of the lower bank zone toward your home. The landscape here should include at least three shrubs (such as Serviceberry or Low Bush Blueberry) and two ground cover plants (such as Creeping Juniper, Sweetfern, or Bearberry). Mixed throughout the upper and lower bank zones should be at least two varieties of shade trees and two types of shade and cover plants to create a multi-layered canopy. Some good choices for shade trees are: Red Maple, Pin Oak, River Birch or Black Elderberry.

Some native plants that are recommended for gardening in wet areas include; Turtlehead, Cardinal Flowers, Blue flag Iris, Marsh Marigold, Swamp Azalea, Sweet Pepperbush, Tussock Sedge and Jack-in-the-Pulpit.

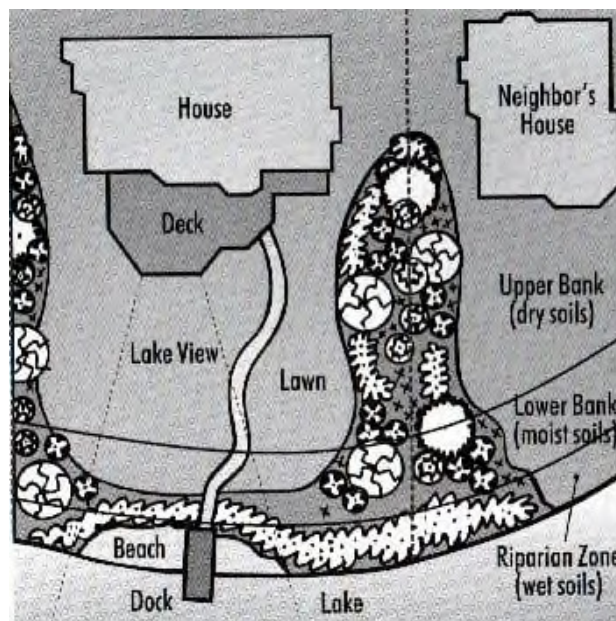
To find out more about the availability of natives for our area, contact Wild Ones', Janet Allen at (315) 487-5742 (<http://www.hgcny.org/>), Daniel Segal (607) 533-7193 at The Plantsmen Nursery (<http://plantsmen.com>), Terry Ettinger at [www.tlehc.com](http://www.tlehc.com), or contact our own local gardeners: Deb Brock at 696-5549 and Marjie Grillo at 696-5963.

Other sites of interest: [www.gardening.cornell.edu](http://www.gardening.cornell.edu) and <http://hosts.cce.cornell.edu>

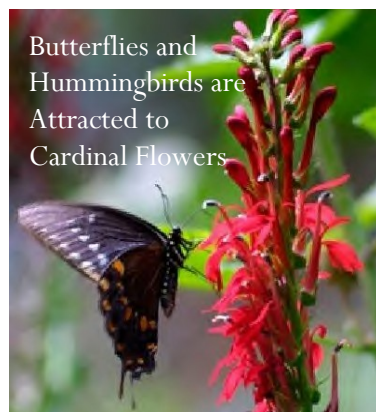
Buying: Baltimore Wood's Annual Plant Sale; 315-673-1350. Native trees and Shrubs from the NY State DEC at Saratoga Tree Nursery, 2369 Route 50, Saratoga Springs, New York 12866-4738 (Phone: 518-587-1120)

Recommended reading: Native Plants of the Northeast by Donald J. Leopold

1) Department of Ecology, State of Washington at <http://www.ecy.wa.gov/programs/wq/plants/lakes/landscaping.htm>



Butterflies and Hummingbirds are Attracted to Cardinal Flowers



## WISHES FOR A HAPPY AND HEALTHY JULY 4TH

With A Note on Fireworks

Nothing says "celebration" quite like fireworks; and pyrotechnics on the 4th of July is a common practice. As we enjoy the festivities of Independence Day, it is also important to understand the concerns over such displays. Understanding the chemicals involved, and their affect on the environment has increased with concerns for both air and water contamination.

The water contaminate in question is called perchlorate. Perchlorates can come from natural sources such as lightning discharges as well as some agricultural sources of fertilizers, however, the perchlorate in fireworks are powerful oxidants; the same as used in solid rocket fuel. In a recent, three-year study<sup>1</sup> it was found that within 14 hours after firework displays over a lake, the perchlorate levels rose 24 to 1, 028 times the original level. The levels peaked at 24 hours, taking from 20 to 80 days for them to recede to the pre-fireworks, background levels.

Perchlorates do pose human-health concerns, and the EPA continues to study the link between exposure and adverse neurodevelopmental outcomes in children. According to the Agency for Toxic Substances and Disease Registry<sup>2</sup>, "High levels of perchlorates can affect the thyroid gland, which in turn can alter the function of many organs in the body. Developing organisms can be especially susceptible." They also pose risks to wildlife. Levels as low as 100 Micrograms per liter have proven to cause thyroid problems in fish. Parents of very young children and pregnant mothers should be mindful of the timing of their water exposure after firework displays.

Fireworks also negatively impact air quality by dispersing high levels of smoke and dust, combined with heavy metals, organic compounds and gasses. Those with asthma or other health problems should be especially careful of their proximity to the displays. The Walt Disney Company became concerned about the impact of their fireworks on human health and air quality. The company has pioneered new technology that uses environmentally friendly compressed air instead of gunpowder. These same concerns have caused many municipalities to opt for laser light displays instead of fireworks.

So, as we celebrate this year's 4th of July, with or without fireworks, let's all be good neighbors and good stewards; mindful of how our activities impact our surroundings and each others' health.

<sup>1</sup> *Perchlorate Behavior in a Municipal Lake Following Fireworks Displays*, Wilkins, Fine and Burnett, USEPA National Risk Management Research Laboratory, 2007

<sup>2</sup> Agency for Toxic Substances and Disease Registry, **Perchlorates**, Sept. 2005

Also consult: U.S. Food and Drug Administration at, <http://www.cfsan.fda.gov/~dms/clo4qa.html#effects> and The American Pyrotechnic Association, at <http://www.americanpyro.com/index.html>

## WE WOULD LIKE YOUR OPINIONS ~ WE NEED YOUR SUPPORT

The production of these newsletters has been possible through the support of private sponsors and the Song Lake Property Owners Association. To continue, we need your support. To help sponsor our next issue, please contact Tarki Heath at 696-5262. Please let us know what you think of our newsletter. You can email your comments to Tarki at [SongLakelssues@aol.com](mailto:SongLakelssues@aol.com).