A sunset over a body of water with a city skyline in the distance. The sun is low on the horizon, casting a bright glow and reflecting on the water. The sky is filled with soft, wispy clouds, and the water shows gentle ripples. The city skyline is visible as a dark silhouette against the bright horizon.

Swimming through Silver Lake Myths: Diving for the Truth

**Silver Lake Water Quality
Program**

**The Silver Lake Association
Water Quality Committee**

Myth 1: There Was a Sea Serpent



In July 1855 several local residents reported seeing a large serpent monster on Silver Lake. This news circulated widely and a Buffalo journalist published a story attracting national attention. Hundreds of curious folks visited the area and hotel, livery, and concession stand business boomed.

Some years later, a fire swept through a hotel owned by A.B. Walker. There among the hotel's ashes was the charred remains of the monster – a paper Mache and steel fake sea serpent.



Facts: There never was a sea serpent; Mr. Walker and several others conspired to create the hoax as a way to attract patrons to area establishments.

Myth 2: Quick Fixes Exist

There must be simple ways to make the lake all better.



Mechanical dredging



Weed harvesting



Renovate treatments



Aeration

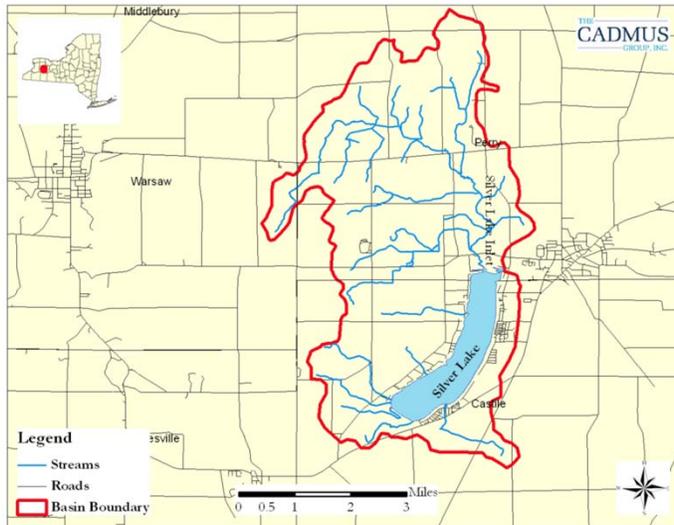


Alum treatments

Facts: All just address symptoms, they are expensive (\$500K - >\$5M), and they are not permanent (2 months – 3 years).

Some, over time, actually make the problem much worse!

Myth 3: Silver Lake's Water is Used by Everyone



Silver Lake watershed



**Village of Perry
Water Plant**

Facts: There are just a few municipal users...

- **Village of Perry & Water Districts (Gardeau, Perry Center, Silver Lake Institute)**
Permitted: 2 MGPD for residents
Estimated: ~480,000 GPD
(2.9% of lake volume annually)
Splash Pad: 30,000 – 40,000 G/hot day
- **Wastewater Treatment Plant (Sewer)**
Permitted: 2 MGPD
Estimated: ~ 646,000 GPD
(3.9% of lake volume annually)
- **Mt. Morris**
Permitted: 1.5 MGPD
Estimated: ~520,000 GPD
(3.2% of lake volume annually)
- **LeRoy (disconnected)**

Myth 4: “Our” Water is Being Stolen



Corn field



Cows in bunks



Golf course

Facts: There are non-municipal users...

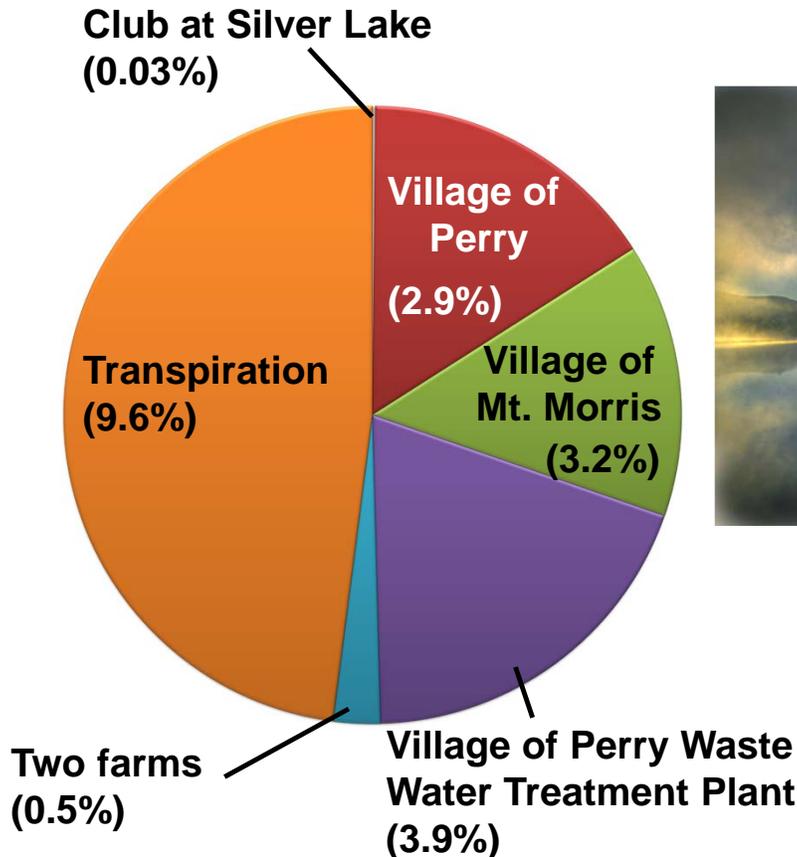
- **Agriculture**

Without a permit: $\leq 100,000$ GPD per farm
Estimated: $\sim 40,000$ GPD per farm
(0.49% of lake volume annually)
Cow can consume 30 – 50 GPD

- **Golf course**

Estimated: 200,000 GPWk (July & August)
(0.03% of lake volume annually)

Myth 5: Silver Lake's Water Just Disappears



Transpiration



Mother Nature

Silver Lake annual water loss, use distribution chart

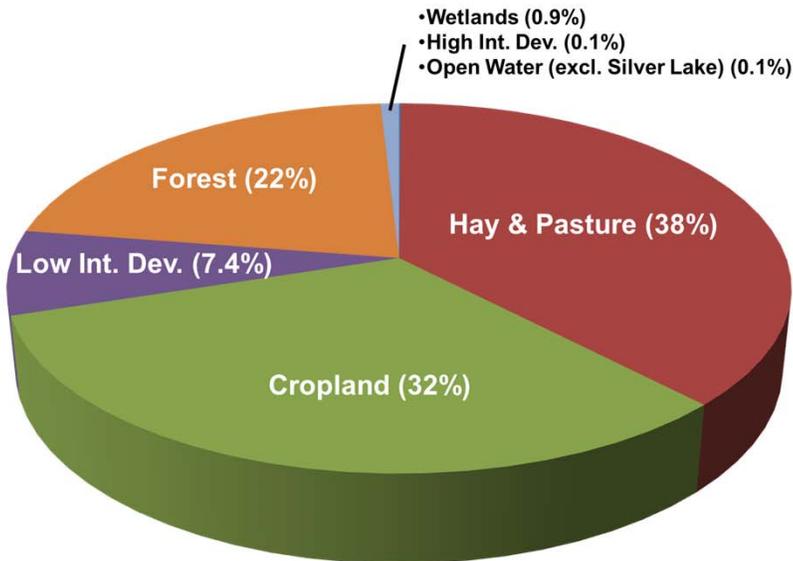
Facts: Mother Nature plays a major role.

Water enters largely by way of eight tributaries with the inlet being the largest.

Water leaves Silver Lake by multiple pathways (see chart).

The largest water loss pathway is Transpiration (i.e., evaporation) – nearly 10% of the lake's volume annually.

Myth 6: Nobody Watches Silver Lake



Silver Lake watershed land use and distribution chart



CSLAP sampling and assessment

Agencies

Town of Perry:

<http://www.townofperry.com/>

Village of Perry:

<http://www.villageofperry.com/>

Town of Castile: <http://castileny.com/>

Wyoming County:

<http://www.wyomingco.net/>

Wyoming County Soil & Water Conservation District:

<http://www.wcsacd.org/>

NYS DEC (Region 9):

<http://www.dec.ny.gov/about/619.html>

Army Corp of Engineers (Buffalo District):

<http://www.lrb.usace.army.mil/>

New York State Parks (Letchworth)

<http://nysparks.com/parks/79/details.aspx>

Citizens Statewide Lake Assessment Program (CSLAP) & New York State Federation of Lake Associations (NYSFOLA)

<http://www.dec.ny.gov/chemical/81796.html>

Facts: Silver Lake is overseen by numerous state and local agencies plus volunteer organizations like the Silver Lake Association.

Water is tested by the Wyoming County Health Department and via CSLAP.

Drinking water is processed by the Village of Perry Water Treatment Plant.

Myth 7: Silver Lake is a Mess



Typical spring day at Silver Lake



Natural foam formation



Example of an algae bloom



Example of a sediment laden area

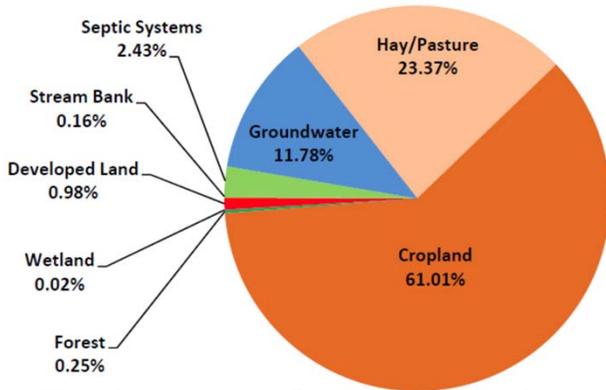
Facts: Silver Lake is beautiful the vast majority of the year.

Not every observation is unnatural, bad.

At times during some years, there can be algae blooms. Some of these blooms produce toxins (confirmed only by CSLAP testing).

Some areas are prone to difficult navigation due to sediment build-up, deposition.

Myth 8: There is Nothing I Can Do to Help Silver Lake



Estimated Sources of Total Phosphorus Loading for Silver Lake*

* 2010 Silver Lake TMDL, Cadmus Group

- Primary pollutant entering Silver Lake is phosphorous.
- Phosphorous influx can lead to plant growth, algae blooms, and poor fish habitat.
- Phosphorous largely enters lakes via water influx.
- Phosphorus influx is controllable.



Examples of poor (left) and good (right) shoreline buffer plantings



Attractive, functional shoreline buffer plantings



Septic fields



No P fertilizers



Collect water

Facts: Numerous phosphorous sources.

Controlling water and nutrient influx is very effective, attractive and long-lasting.