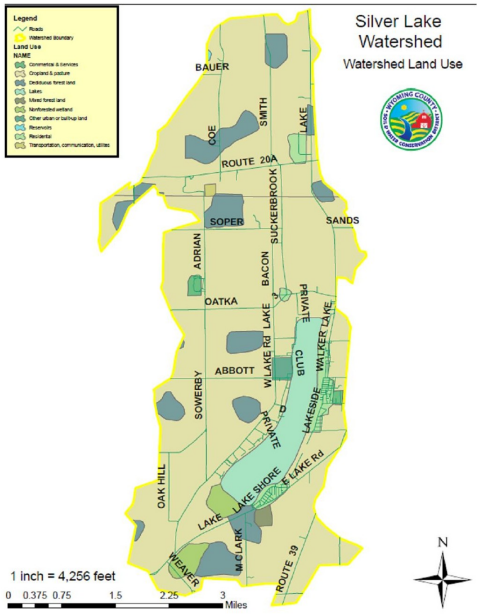
Summer 2014

Fresh water makes up a tiny fraction of earth's total water supply and humans, as well as many other species, require fresh water for food, drinking, spawning, and for myriad other life functions. Given this, protecting fresh water is crucial. Numerous lakes, reservoirs, and streams are used as drinking water sources; however, they are also utilized for recreational purposes (boating, fishing, and/or swimming).

Silver Lake (836 acres) had its origins several thousand years ago when retreating glaciers left our area. Not surprisingly, Silver Lake provides many recreational opportunities and is a water source for several townships. Although Silver Lake is modest in size (about 3 miles x 0.5 miles), its watershed is much, much larger than the lake itself. The Silver Lake watershed's size and complexity make maintaining its water quality a multi-faceted challenge.

Water quality can be impacted by non-point source or point source pollution. Nutrient loading (specifically phosphorus and nitrates) and sedimentation are two common types of non-point source pollution that affect water quality. Excess nutrients, typically found in fertilizers, are washed from lawns, gardens, and farm fields during rain events, get into ditches, and eventually reach Silver Lake.



Nutrients like phosphorus and nitrogen, in excessive amounts, cause weeds and algae to grow at astonishing rates and can cause "taste and odor problems" in the drinking water, degrade the aquatic habitat, and can lead to harmful algae blooms (HABs). When the weeds and algae die and begin to decompose, a significant amount of dissolved oxygen, which is necessary for fish to breathe, is consumed creating anoxic (little to no dissolved oxygen) conditions. Fish are then unable to breathe and they die.

Sediments are a second form of non-point source pollution. Sediments from roads, ditches, stream banks, and/or shoreline erosion affect water quality by increasing water turbidity (cloudiness), decreasing water clarity. This can inhibit respiratory capabilities of aquatic species, creates poor visibility conditions for fish, and affects fish spawning.

In addition to non-point source pollution, point source pollution also affects water quality. Common forms of point source pollution include sewage and factory/plant discharge. Sewage introduction can arise from broken pipes (leaks) and animal waste. Factory discharge can carry contaminated waste water along tributaries, into Silver Lake. These types of pollution introduce excess nutrients, sediment, and harmful chemicals which can create unsafe drinking water, dangerous water conditions, and poor aquatic habitat.

Monitoring water quality is essential to track changes and to identify the water body's needs. Monitoring also allows one to determine what is being loaded into the water body from within the watershed. From that information, management and mitigation strategies can be developed to address issues and improve water quality. Silver Lake is monitored regularly by several agencies and groups including, but not limited to, the Wyoming County Health Department, the Wyoming County Water and Soil Conservation District, and the Citizens Statewide Lake Assessment Program (CSLAP).

If you reside anywhere in the Silver Lake watershed district there are several simple steps you can take to help improve Silver Lake's water quality. Examples of efforts that can help improve the Silver Lake water quality are provided on the SLA website. Additional tips will become available over time and they will also be available on the Silver Lake Association web site: http://silverlakeassociation-wny.org/

Please take time periodically to check the SLA web site to educate yourself about water quality and Silver Lake. Thank you,

Silver Lake Association Water Quality Committee