

Glen Lake Questions and Answers, 2015 CSLAP

Q1. What is the condition of our lake this year?

A1. Water quality conditions in Glen Lake were close to normal in 2015, and continue to be mostly favorable due to relatively high water clarity and low algae levels. Low nutrient levels that indicate a low susceptibility to shoreline blue green algae blooms, and no shoreline blooms have been reported. The lake manages for nuisance weed growth.

Q2. Is there anything new that showed up in the testing this year?

A2. Chloride testing results are typical of lakes with high impacts from road salt runoff, although no biological impacts have been measured or reported at the lake.

Q3. How does the condition of our lake this year compare with other lakes in the area?

A3. Glen Lake had higher water clarity, and lower nutrient levels and algae levels, than other nearby lakes. No shoreline blooms have been reported. Aquatic plant coverage was similar to weed growth in many nearby lakes, although this coverage is highly dependent on active management.

Q4. Are there any trends in our lake's condition?

A4. Water clarity has dropped over the last two decades, despite the lack of clear changes in nutrient or algae levels. This may be due to higher color (from organic matter), more suspended material, or algae that are not well represented in this sampling. Conductivity readings have increased since the mid 2000s, suggesting some material loading to the lake. pH readings have been stable in recent years, but are substantially lower than in the period prior to 2002.

Q5. Should we be concerned about the condition of our lake? Are we close to a tipping point?

A5. Water quality conditions continue to be favorable in the lake, but the drop in water clarity (and rise in conductivity) may indicate a growing (if still low) susceptibility to shoreline algae blooms. Any potential sources of soluble nutrients or erodible materials (contributing to the conductivity rise) should be investigated.

Q6. Are any actions indicated, based on the trends and this year's results?

A6. Individual stewardship activities such as pumping your septic system, growing a buffer of native plants next to the water bodies, and reducing erosion from shoreline properties and runoff into the lake will help to maintain lake health by reducing nutrient and sediment loading to the lake. Visiting boats should be inspected to reduce the risk of new invasive species, since nearby lakes harbor several invasive plants not presently found in the lake.

Lake Use				
	PWL	Average Year	2015	Primary issue
Potable Water				Not applicable
Swimming				No impacts
Recreation				No impacts
Aquatic Life				Invasive animals
Aesthetics				Poor perception
Habitat				Invasive plants
Fish Consumption				

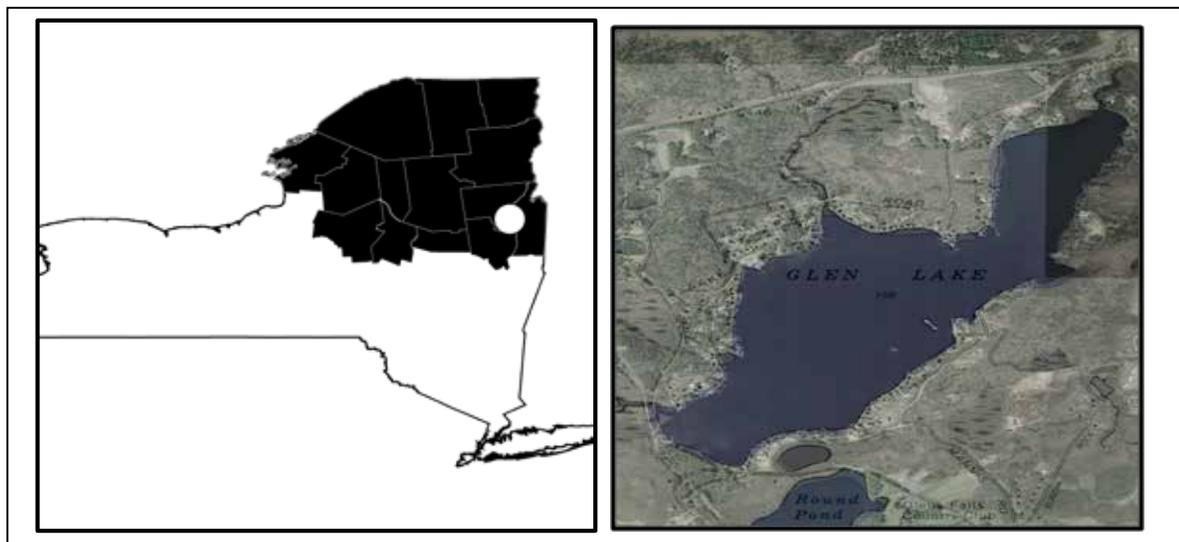
 Supported / Good
 Threatened / Fair
 Stressed / Poor
 Impaired
 Not Known

CSLAP 2015 Lake Water Quality Summary: Glen Lake

General Lake Information

Location	Town of Glens Falls
County	Warren
Basin	Lake Champlain
Size	243.5 hectares (601.4 acres)
Lake Origins	Augmented by 4ft by 118ft earthen dam (1965)
Watershed Area	3,400 hectares (8,398 acres)
Retention Time	0.6 years
Mean Depth	5.6 meters
Sounding Depth	15 meters
Public Access?	cartop launch
Major Tributaries	no named tribs
Lake Tributary To...	unnamed outlet to Halfway Creek to Champlain Canal to Lake Champlain
WQ Classification	B(T) (contact recreation-swimming)
Lake Outlet Latitude	43.375
Lake Outlet Longitude	-73.663
Sampling Years	1986-1990, 1993-1995, 1997-2015
2015 Samplers	Paul Derby and Lorraine Stein
Main Contact	Paul Derby

Lake Map



Background

Glen Lake is a 320 acre, class B(T) lake found in the Town of Queensbury in Warren County, in the south-eastern Adirondacks region of New York State. It was first sampled as part of CSLAP in 1986.

It is one of 12 CSLAP lakes among the nearly 300 lakes and ponds found in Warren County, and one of 17 CSLAP lakes among the nearly 650 lakes and ponds in the Lake Champlain drainage basin.

Lake Uses

Glen Lake is a Class B(T) lake; this means that the best intended use for the lake is for contact recreation—swimming and bathing—and non-contact recreation—boating and aesthetics. The (T) designation indicates that the lake should support trout survival. The lake is used by lake residents and visitors for a variety of recreational purposes.

Glen Lake is stocked annually by the state, with 1,000 6 inch rainbow trout and 2,600 9 inch rainbow trout stocked annually. It is not known if private stocking occurs.

General statewide fishing regulations are applicable in Glen Lake. In addition, open season for trout lasts from April 1st through October 15th, with no size limit, but a daily take limit of 5 fish. Ice fishing is permitted.

Historical Water Quality Data

CSLAP sampling was conducted on Glen Lake each year from 1986 to 1990, 1993 to 1995, and 1997 to 2015. The CSLAP reports for each of the past several years can be found on the NYSFOLA website at <http://nysfola.mylaketown.com>. The most recent CSLAP report and scorecard for Glen Lake can also be found on the NYSDEC web page at <http://www.dec.ny.gov/lands/77831.html>.

Glen Lake has been sampled by the NYSDEC as part of several major NYS monitoring programs, including the Lake Classification and Inventory (LCI) survey from 1982 and 1987, ambient lake monitoring by the NYSDEC in 1976, and the federal Environmental Monitoring and Assessment Program (EMAP) in 1991. These results indicate water quality conditions generally similar to those measured through CSLAP, including results from programs conducted simultaneously with CSLAP (demonstrating the representativeness of CSLAP results).

Lake Association and Management History

Glen Lake is served by the Glen Lake Association, which has been involved in a wide variety of lake management activities, including:

- septic pumpouts in cooperation with the Warren County SWCD
- aquatic plant management, including mapping and fund raising, etc
- lake education
- working toward creation aquatic plant management tax district

More information about the Glen Lake Association website can be found at <http://www.ny-glenlake.org/>.

Summary of 2015 CSLAP Sampling Results

Evaluation of 2015 Annual Results Relative to 1986-2014

The summer (mid-June through mid-September) average readings are compared to historical averages for all CSLAP sampling seasons in the “Lake Condition Summary” table, and are compared to individual historical CSLAP sampling seasons in the “Long Term Data Plots –Glen Lake” section in Appendix C.

Evaluation of Eutrophication Indicators

Phosphorus samples (surface and bottom) in 2015 were extremely high, most likely due to a contaminated bottle set (a similar issue in a few other CSLAP lakes, probably due to a bad “lot”), so these results will not be considered. Both chlorophyll *a* and Secchi disk transparency were close to normal in 2015, suggesting that phosphorus readings were also (probably) similar in 2015. Water clarity readings did drop from the mid-1990s to 2014, but rebounded in 2015. However, neither phosphorus nor chlorophyll *a* exhibited similar changes, indicating that the drop in water clarity was due to factors other than algae. This might include water brownness (“color”), which has been higher in recent years.

Lake productivity usually decreases slightly from June through August, as indicated by a summer decrease in algae and nutrient levels and a resulting increase in water transparency, and then increases slightly in the fall. This seasonal decrease in lake productivity was also apparent in each of the last several years, and appears to be a “normal” phenomenon in the lake.

The lake continues to be characterized as *mesoligotrophic*, based on water clarity, chlorophyll *a* (both typical of *mesotrophic* lakes) and total phosphorus (typical of *oligotrophic* lakes). The trophic state index (TSI) analysis indicates that algae levels at times are higher than in other lakes with similar nutrient levels. This suggests that the lake may be susceptible to small increases in phosphorus. Overall trophic conditions are summarized in the Lake Scorecard and Lake Condition Summary Table.

Evaluation of Potable Water Indicators

Algae levels are usually not high enough to render the lake susceptible to taste and odor compounds or elevated DBP (disinfection by product) compounds that could affect the potability of the water, and the lake is not classified for use for drinking water. Deepwater ammonia readings are higher than those at the lake surface, but these readings were lower than usual in 2015 and should not trigger any potable water impacts for deep potable water intakes (although they do suggest deepwater oxygen deficits are persistent). Deepwater phosphorus readings have decreased since the late 2000s. Potable water conditions, at least as measurable through CSLAP, are summarized in the Lake Scorecard and Lake Condition Summary Table.

Evaluation of Limnological Indicators

Color readings were much lower than normal in 2014 and 2015, although these readings have been substantially higher since 2002. This corresponds to the change in laboratories, suggesting that this change is not “real”. pH readings have decreased since the mid-1980s, and these readings were lower than normal in 2014 and 2015. On the other hand, conductivity readings were higher than normal in each of the last few years, and these readings have increased over time, particularly since the mid-2000s. NO_x readings were lower than normal in 2014 and 2014, and these readings have also decreased slightly since the mid-2000s. The decrease in pH and increase in conductivity appear to be the most statistically significant of these changes.

Chloride levels in the 2015 samples, collected for the first time through CSLAP and cited in Appendix A, ranged from 70 to 77 mg/l. These values fall within the “major” road salt runoff levels cited by the New Hampshire DES. These readings are well below the state potable water quality standard of 250 mg/l but above the range of values found in most NYS lakes. These readings suggest a moderate to high likelihood of biological impacts from road salt. Additional data will help to determine if these represent normal readings for the lake.

Overall limnological conditions are summarized in the Lake Scorecard and Lake Condition Summary Table.

Evaluation of Biological Condition

Phytoplankton, zooplankton, and macroinvertebrate data have not been collected through CSLAP at Glen Lake. The fluoroprobe screening samples analyzed by SUNY ESF in the last three years showed low algae levels in all samples and a low percentage of blue green algae in most samples. As with the “regular” chlorophyll samples, the fluoroprobe data shows a seasonal decrease in algae levels. The algal community appears to be comprised of a mix of algae species. No shoreline blooms have been reported or sampled over the last several years, including 2015.

The CSLAP macrophyte surveys show some aquatic plant community diversity, and identified nine different aquatic plant species at the lake, including one exotic plant species (*Myriophyllum spicatum*, or Eurasian watermilfoil). Two other exotic plants (*Potamogeton crispus*, curly-leaved pondweed, and *Najas minor*, brittle naiad) have also been reported in the lake. Zebra mussels were verified in the lake in 2004. The fish community was comprised of at least seven fish species, five of which are considered warmwater species, although rainbow trout are stocked in the lake.

Biological conditions in the lake are summarized in the Lake Scorecard and Lake Condition Summary Table.

Evaluation of Lake Perception

Water quality and recreational assessments were close to normal in 2015, as expected given the stable water quality conditions. These assessments have degraded slightly since the mid-2000s, roughly corresponding to the long-term drop in water clarity. Aquatic plant coverage in 2015 was close to the long-term average, although this varies from year to year in response to the extent of Eurasian watermilfoil growth and plant management actions (endothall used in 2015).

Lake perception improves slightly during the typical summer, consistent with a slight seasonal decrease in lake productivity; this was mostly apparent in each of the last three years. Overall lake perception is summarized in the Lake Scorecard and Lake Condition Summary Table.

Evaluation of Local Climate Change

Air and water temperatures were higher than normal in 2015, and surface water temperatures may have increased slightly since over the last thirty years. Deepwater temperatures do not appear to have changed significantly. It is not known if this slight apparent increase in surface temperatures is an indication of local climate change or if this represents normal variability.

Evaluation of Algal Toxins

Algal toxin levels can vary significantly within blooms and from shoreline to lake, and the absence of toxins in a sample does not indicate safe swimming conditions. Fluoroprobe readings have been well below the thresholds for harmful algal blooms (HABs) in the open water, and no shoreline bloom have been reported in recent years. No detectable toxins have been measured in any routine lake samples.

Lake Condition Summary

Category	Indicator	Min	Annual Avg	Max	2015 Avg	Classification	2015 Change?	Long-term Change?
Eutrophication Indicators	Water Clarity	2.13	4.67	7.88	4.53	Mesotrophic	Within Normal Range	Decreasing Slightly
	Chlorophyll <i>a</i>	0.07	3.03	43.30	3.05	Mesotrophic	Within Normal Range	No Change
	Total Phosphorus	0.002	0.009	0.017		Oligotrophic		No Change
Potable Water Indicators	Hypolimnetic Ammonia	0.01	0.25	0.89	0.19	Elevated Deepwater NH4	Lower Than Normal	Not known
	Hypolimnetic Arsenic							Not known
	Hypolimnetic Iron							Not known
	Hypolimnetic Manganese							Not known
Limnological Indicators	Hypolimnetic Phosphorus	0.006	0.031	0.145		Close to Surface TP Readings		Not known
	Nitrate + Nitrite	0.00	0.02	0.13	0.01	Low NOx	Lower Than Normal	No Change
	Ammonia	0.00	0.03	0.25	0.04	Low Ammonia	Within Normal Range	No Change
	Total Nitrogen	0.13	0.37	0.99	0.47	Low Total Nitrogen	Within Normal Range	No Change
	pH	6.66	7.81	8.41	7.51	Alkaline	Within Normal Range	Decreasing Significantly
	Specific Conductance	153	317	424	386	Hardwater	Higher than Normal	Increasing Slightly
	True Color	1	14	49	6	Intermediate Color	Lower Than Normal	Increasing Slightly
Lake Perception	Calcium	10.9	31.5	37.3	24.3	Highly Susceptible to Zebra Mussels	Lower Than Normal	No Change
	WQ Assessment	1	2.3	4	2.3	Not Quite Crystal Clear	Within Normal Range	No Change
	Aquatic Plant Coverage	1	2.7	4	2.9	Surface Plant Growth	Within Normal Range	Slightly Increasing
	Recreational Assessment	1	2.3	4	2.4	Excellent	Within Normal Range	No Change

Category	Indicator	Min	Annual Avg	Max	2015 Avg	Classification	2015 Change?	Long-term Change?
Biological Condition	Phytoplankton					Open water-low blue green algae biomass	Not known	Not known
	Macrophytes					Fair quality of the aquatic plant community	Not known	Not known
	Zooplankton					Not measured through CSLAP	Not known	Not known
	Macroinvertebrates					Not measured through CSLAP	Not known	Not known
	Fish					Warmwater fisheries	Not known	Not known
	Invasive Species					Zebra mussels, Eurasian watermilfoil, curly leafed pondweed, brittle naiad	Not known	Not known
Local Climate Change	Air Temperature	6	21.3	31	23.1		Within Normal Range	No Change
	Water Temperature	5	22.7	29	24.8		Within Normal Range	No Change
Harmful Algal Blooms	Open Water Phycocyanin	0	8	90	3	No readings indicate high risk of BGA	Not known	Not known
	Open Water FP Chl.a	0	2	3	1	No readings indicate high algae levels	Not known	Not known
	Open Water FP BG Chl.a	0	0	2	0	No readings indicate high BGA levels	Not known	Not known
	Open Water Microcystis	<DL	<DL	0.9	<DL	Low to undetectable open water toxins	Not known	Not known
	Open Water Anatoxin a	<DL	<DL	<DL	<DL	Open water Anatoxin-a consistently not detectable	Not known	Not known
	Shoreline Phycocyanin					No shoreline blooms sampled for PC	Not known	Not known
	Shoreline FP Chl.a					No shoreline blooms sampled for FP	Not known	Not known
	Shoreline FP BG Chl.a					No shoreline blooms sampled for FP	Not known	Not known
	Shoreline Microcystis					No shoreline bloom MC-LR data	Not known	Not known
	Shoreline Anatoxin a					No shoreline bloom anatoxin data	Not known	Not known

Evaluation of Lake Condition Impacts to Lake Uses

The 2008 NYSDEC Priority Waterbody Listings (PWL) for the Lake Champlain drainage basin indicate that no use impairments occur at the lake. The PWL listing for the lake is in Appendix B.

Potable Water (Drinking Water)

The CSLAP dataset at Glen Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, is inadequate to evaluate the use of the lake for potable water, and the lake is not classified for this purpose. The limited CSLAP dataset do not show any impacts for this use, but potable water use is not authorized.

Public Bathing

The CSLAP dataset at Glen Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggests that public bathing, if conducted at a public swimming beach, should be supported based on water chemistry data, but may be *threatened* by excessive filamentous algae (not evaluated through CSLAP), excessive weeds, and by the perception of poor water quality. These impacts may vary from year to year. Additional information about bacteria levels is needed to determine if pathogens impact swimming.

Recreation (Swimming and Non-Contact Uses)

The CSLAP dataset on Glen Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggest that recreation should be supported, although this use may at times be *threatened* by excessive weeds. It is not known if these impacts are associated with native or exotic plants.

Aquatic Life

The CSLAP dataset on Glen Lake, including water chemistry data and physical measurements, suggest that aquatic life may be *threatened* by the presence of zebra mussels and depressed deepwater oxygen. Additional data are needed to evaluate the food and habitat conditions for aquatic organisms in the lake.

Aesthetics and Habitat

The CSLAP dataset on Glen Lake, including volunteer samplers' perception data, suggest that aesthetics may occasionally be only *fair* due to poor perception associated with excessive (filamentous) algae and excessive weeds. Habitat may be only *fair* due to excessive invasive weeds, although impacts are reduced by active management.

Fish Consumption

There is no fish consumption advisory in Glen Lake.

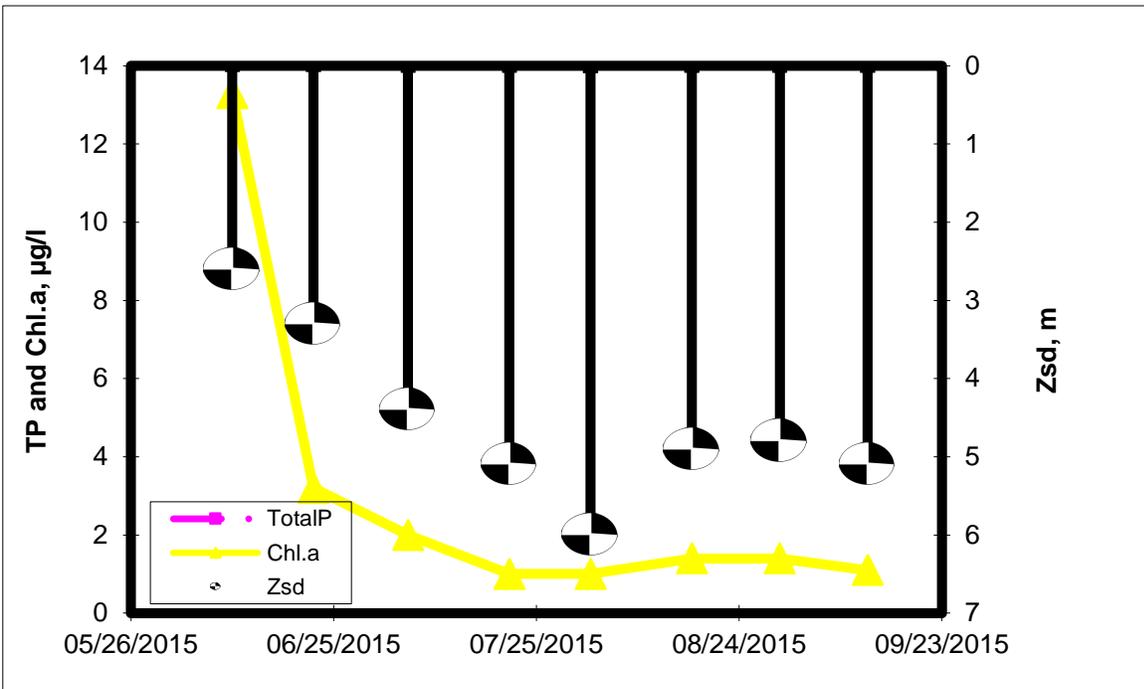
Additional Comments and Recommendations

It is not known if benthic algae are continuing to affect aquatic life, recreational use, or lake aesthetics. This cannot be easily evaluated through CSLAP. The lake association is advised to look for external (watershed runoff) sources of organic matter or conductivity that may be causing the measured increase in water color, particularly since this may be affecting water clarity.

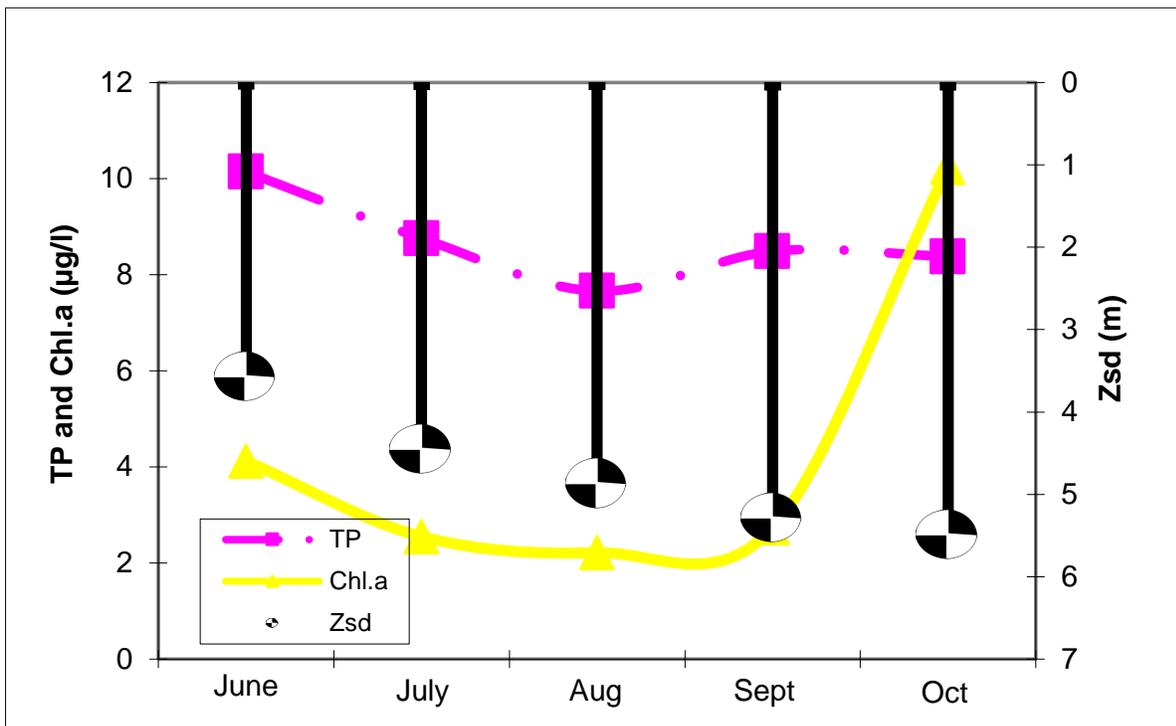
Aquatic Plant IDs-2015

None submitted for identification.

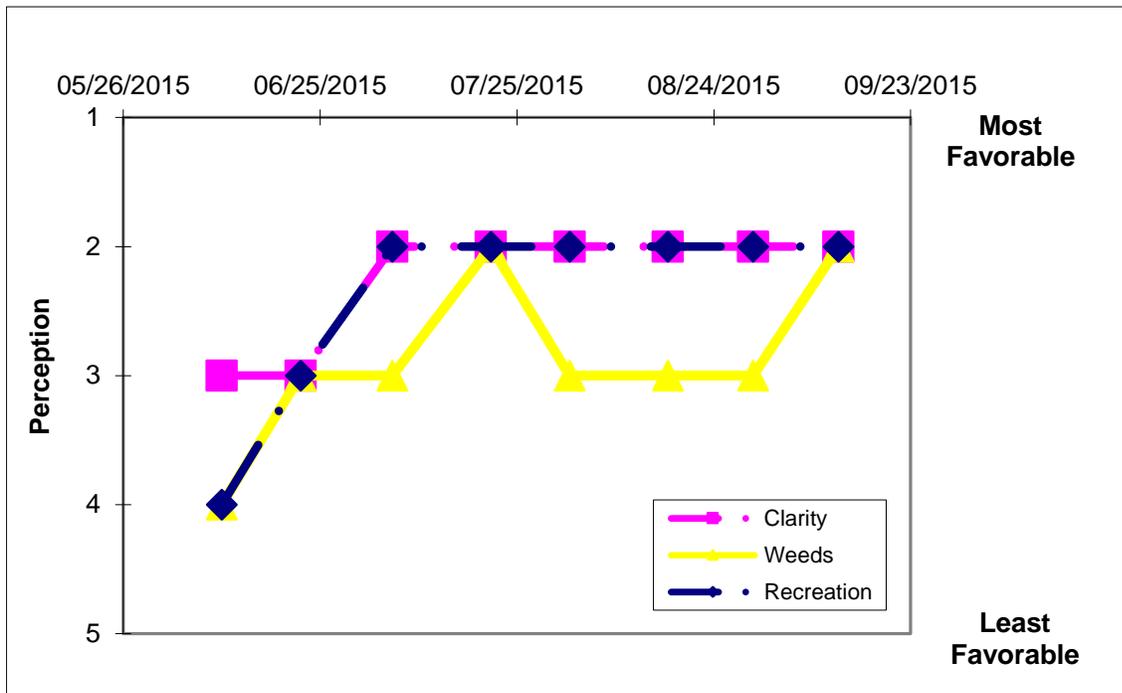
Time Series: Trophic Indicators, 2015



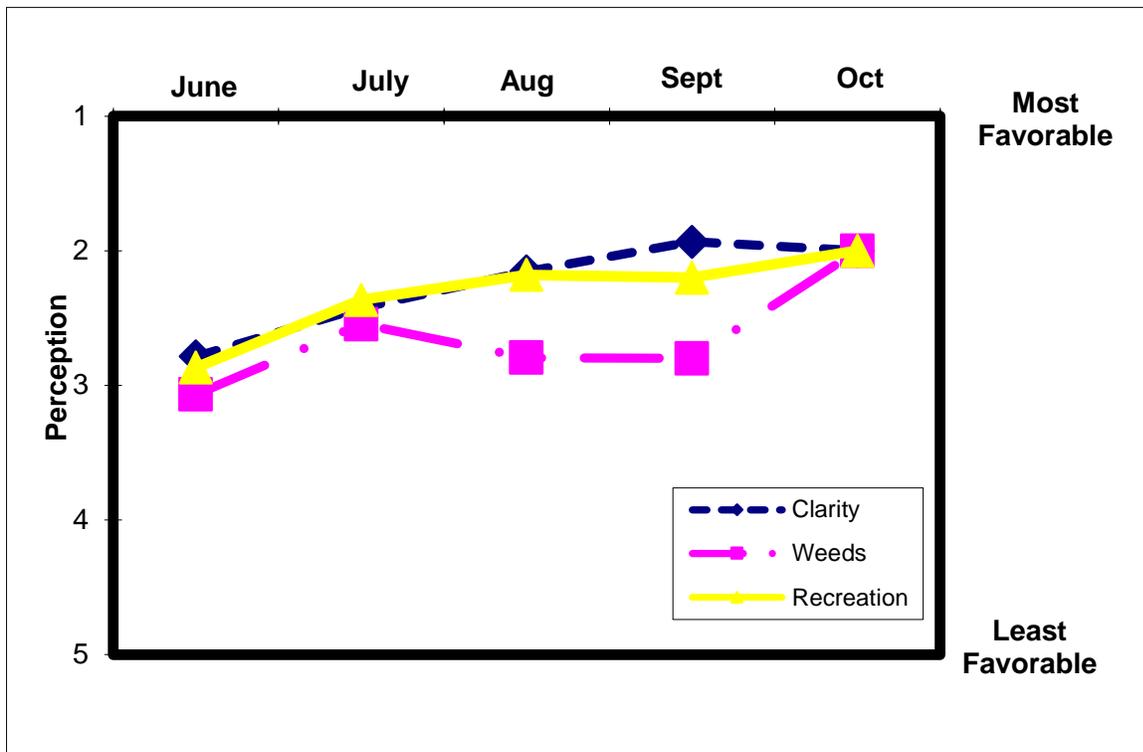
Time Series: Trophic Indicators, Typical Year (1986-2015)



Time Series: Lake Perception Indicators, 2015



Time Series: Lake Perception Indicators, Typical Year (1986-2015)



Appendix A- CSLAP Water Quality Sampling Results for Glen Lake

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
8	Glen L	6/26/1986	15.0	3.50	1.5	0.013	0.03				5	8.05	255		1.91	
8	Glen L	7/4/1986	15.0	4.25	1.5	0.012	0.03				10	7.98	252		1.85	
8	Glen L	7/9/1986	15.0	4.13	1.5	0.008	0.03				10	7.98	257		1.63	
8	Glen L	7/16/1986	15.0	4.63	1.5	0.007					2	7.97	262			
8	Glen L	7/24/1986	15.3	5.63	1.5	0.006	0.03				10	8.28	264			
8	Glen L	7/31/1986	15.0	5.75	1.5	0.008	0.03				6	8.10	260		1.11	
8	Glen L	8/7/1986	15.0	5.63	1.5	0.007	0.03				10	8.22	263		1.51	
8	Glen L	8/13/1986	15.0	5.50	1.5	0.006	0.03				6	8.11	263		1.30	
8	Glen L	8/20/1986	15.0	5.50	1.5	0.008	0.03				6	8.30	264		1.37	
8	Glen L	8/29/1986	15.0	5.38	1.5	0.007	0.03				2	8.10			2.05	
8	Glen L	9/3/1986	15.0	5.75	1.5	0.006	0.03				13	8.00	282		1.06	
8	Glen L	9/11/1986	15.0	5.38	1.5	0.007	0.03				3	8.15	280		1.18	
8	Glen L	9/24/1986	15.0	6.75	1.5	0.009	0.03				10	7.72	269		1.30	
8	Glen L	6/18/1987	15.0	4.13	1.5	0.005	0.01				8	8.23	270		3.90	
8	Glen L	7/3/1987	15.0	4.00	1.5	0.010	0.01				10	8.02	262		8.30	
8	Glen L	7/16/1987	15.0	7.38	1.5	0.002	0.01				11	7.82	270		3.80	
8	Glen L	7/29/1987	15.0	6.00	1.5	0.009					10	7.97	277		3.00	
8	Glen L	8/16/1987	15.0	5.38	1.5	0.010	0.01				6	8.26	279		5.30	
8	Glen L	8/25/1987	3.0	3.00	1.5	0.009					10	8.05	276			
8	Glen L	8/31/1987	15.0	6.50	1.5	0.005	0.01				9	8.19	273			
8	Glen L	9/23/1987	15.0	4.88	1.5	0.012					9	7.80	283		14.60	
8	Glen L	10/7/1987	15.0	4.63	1.5	0.012	0.03				11	7.86	272		10.50	
8	Glen L	6/16/1988	15.0	4.00	1.5	0.012	0.01				11	8.17	281		6.14	
8	Glen L	6/24/1988	15.0	4.63	1.5	0.010	0.01				5	8.32	290		3.18	
8	Glen L	7/1/1988	15.0	4.38	1.5	0.012	0.01				9	8.15	290		3.03	
8	Glen L	7/13/1988	15.0	5.00	1.5	0.010					7	8.20	294		1.78	
8	Glen L	7/27/1988	15.0	5.63	1.5	0.007	0.01				10	8.19	287		2.15	
8	Glen L	8/11/1988	15.0	5.00	1.5	0.006					6	8.31	279		1.85	
8	Glen L	8/25/1988	15.0	5.50	1.5	0.007	0.01				6	7.70	303		2.44	
8	Glen L	9/7/1988	15.0	5.13	1.5	0.008					7	8.09	276		2.07	
8	Glen L	9/15/1988	15.0	5.25	1.5	0.014	0.01				7	8.07	272		2.00	
8	Glen L	9/26/1988	15.0	5.88	1.5	0.008	0.01				11	8.11	276		2.44	
8	Glen L	7/14/1989	15.0	5.00	1.5	0.009	0.01				15	7.88	272		1.96	
8	Glen L	7/21/1989	15.0	3.63	1.5	0.010					10	7.95	267		3.85	
8	Glen L	8/3/1989	13.0	5.00	1.5	0.009	0.01				8	7.71	277		1.70	
8	Glen L	8/3/1990	13.0	5.25	1.5	0.006	0.01				9	8.17	282		0.07	
8	Glen L	8/9/1990	15.0	5.25	1.5	0.006					8	8.11	272		6.93	
8	Glen L	8/14/1990	15.0	4.90	1.5	0.006	0.01				8	8.22	272		2.86	
8	Glen L	8/23/1990	15.0	4.13	1.5	0.010					17	7.96	272		3.03	
8	Glen L	9/6/1990	14.5	4.38	1.5	0.008	0.01				12	7.95	276		2.47	
8	Glen L	9/13/1990	15.0	4.63	1.5	0.009					12	8.37	253		1.33	
8	Glen L	8/6/1993	10.9	5.50	1.5	0.008					5	8.09	319		1.18	
8	Glen L	8/26/1993	12.5	4.80	1.5	0.009					3	8.34	319		2.01	
8	Glen L	10/3/1993	10.5	5.63	1.5	0.007					5	8.22	323		3.10	
8	Glen L	10/25/1993	12.5	5.25	1.5	0.009					7	8.38	328		1.77	
8	Glen L	7/12/1994	12.5	4.25	1.5	0.007	0.02				7	8.22	308		2.12	
8	Glen L	8/10/1994	12.5	5.13	1.5	0.006	0.01				10	8.29	302		1.88	
8	Glen L	9/18/1994	12.5	5.63	1.5	0.008	0.01				8	8.28	312		3.29	
8	Glen L	8/2/1995	12.5	6.13	1.5	0.007	0.01				5	8.35	350		1.86	
8	Glen L	8/31/1995	15.0	6.38	1.5	0.006	0.01				5	8.18	351		1.44	
8	Glen L	10/9/1995	13.0	6.38	1.5	0.004	0.01				5	8.19	353		1.61	
8	Glen L	11/1/1995	12.5	6.38	1.5	0.009	0.03				6	7.74	348		3.41	
8	Glen L	7/7/1996			1.5	0.010	0.01				5	8.37	324		5.30	
8	Glen L	7/29/1996	12.5	6.38	1.5	0.007	0.01				10	8.22	320		0.70	
8	Glen L	8/14/1996	12.5	6.13	1.5	0.008	0.01				5	8.12	322		2.00	
8	Glen L	8/27/1996	12.5	5.25	1.5	0.007	0.01				10	8.25	323		1.80	
8	Glen L	9/17/1996	12	6.50	1.5	0.011	0.01				10	8.20	328		3.20	
8	Glen L	10/1/1996	12	7.88	1.5	0.010					5	8.12	335		1.12	
8	Glen L	7/16/1997	12.5	4.13	1.5	0.009	0.01				10	8.05	321		3.01	
8	Glen L	7/29/1997	12.3	5.13	1.5	0.012	0.01				10	8.36	328		3.03	
8	Glen L	7/9/1998	12.3	4.13	1.5		0.01				15	8.00	307		3.25	
8	Glen L	7/21/1998	12.5	5.25	1.5		0.01				9	8.18	313		2.18	
8	Glen L	8/23/1998	14.0	5.63	1.5		0.01				6	8.18	327		2.28	

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
8	Glen L	9/13/1998	14.0	6.13	1.5	0.008	0.01				6	8.17	335		1.88	
8	Glen L	9/20/1998	14.0	7.00	1.5	0.008	0.01				11	7.86	339		1.80	
8	Glen L	7/6/1999	14.0	5.63	1.5		0.01				12	7.91	373		2.44	
8	Glen L	7/22/1999	12.5	6.25	1.5	0.008	0.01				7	8.37	364		2.26	
8	Glen L	8/10/1999	13.5	6.13	1.5	0.011	0.01				4	8.26	365		3.75	
8	Glen L	8/17/1999	14.0	4.88	1.5	0.006	0.01				9	8.33	355		2.62	
8	Glen L	7/13/2000	14.5	6.63	1.5	0.015	0.05				12	8.05	331		1.80	
8	Glen L	8/1/2000		3.38	1.5	0.011	0.01				8	8.10	322		7.40	
8	Glen L	8/31/2000	14.0	4.63	1.5	0.009	0.01				10	8.30	329		2.97	
8	Glen L	6/21/2001	15.8	5.00	1.5	0.008	0.05				8	8.01	341		3.58	
8	Glen L	7/11/2001	15.5	4.63	1.5	0.017	0.01				8	8.23	345		7.70	
8	Glen L	8/1/2001	15.8	5.63		0.015	0.01				5	8.41	350		1.70	
8	Glen L	8/15/2001	16.0	5.38	1.5	0.010	0.01				7	8.38	357		1.29	
8	Glen L	07/16/02	15.0	5.38	1.5	0.009	0.02	0.07	0.44	48.06	10	8.36	379	10.9	1.13	
8	Glen L	08/07/02	15.0	4.50	1.5	0.008	0.01	0.01	0.48	57.31	9	8.41	371		2.53	
8	Glen L	08/29/02	14.5	6.63	1.5	0.006	0.01	0.25	0.98	159.65	9	8.28	366		1.74	
8	Glen L	09/03/02	14.0	6.13	1.5	0.010	0.00	0.01	0.42	41.86	10	8.39	357		1.17	
8	Glen L	08/27/03	15.0	4.13		0.011	0.00	0.01	0.39	36.61	16	7.98	369	33.0	5.156	
8	Glen L	09/24/03	16.0	6.13		0.016	0.01	0.01	0.16	10.29	11	8.00	358		1.55	
8	Glen L	6/25/2004	15.0	4.30	1.5	0.011	0.02	0.01	0.39	34.40	47	6.77	302	33.8	1.4	
8	Glen L	7/20/2004	12.0	4.90	1.5	0.007	0.02	0.01	0.26	38.73	23	6.66	363		0.8	
8	Glen L	8/10/2004		3.90	1.5	0.008	0.12	0.15	0.35	46.45	17	7.19	306		2.7	
8	Glen L	9/7/2004		3.80		0.006	0.01	0.01	0.20	33.87	23	7.43	328		2.9	
8	Glen L	8/10/2005		5.75		0.008	0.05	0.01	0.18	21.64	30	7.77	302	33.4	1.6	
8	Glen L	8/23/2005		4.38		0.008	0.04	0.01	0.17	20.95	34	7.52	258		1.4	
8	Glen L	9/8/2005		3.88		0.008	0.01	0.01	0.13	17.06	16	7.22	332		6.7	
8	Glen L	9/20/2005		2.75		0.009	0.01	0.01	0.16	17.62	18	7.53	327		2.7	
8	Glen L	10/1/2005		3.25		0.008	0.01	0.02	0.14	17.41	14	6.98	269	32.9	43.3	
8	Glen L	6/12/2006		3.38		0.008	0.13	0.02	0.55	148.99	19		263	30.4	4.17	
8	Glen L	7/4/2006		2.13		0.010	0.01	0.03	0.42	93.36	25	6.72	231		4.38	
8	Glen L	7/18/2006		4.25		0.006	0.02	0.06	0.73	257.69	12	7.94	281		1.08	
8	Glen L	8/1/2006		3.38		0.006	0.01	0.02	0.63	225.46	16	7.88	305		3.22	
8	Glen L	8/15/2006		3.13		0.009	0.01	0.02	0.55	131.15	9	7.49	299	31.0	2.69	
8	Glen L	8/28/2006		3.63		0.008	0.03	0.03	0.50	137.08	26	8.11	241		4.15	
8	Glen L	9/11/2006		4.88		0.006	0.02	0.01	0.40	159.18	14	7.20	216		3.03	
8	Glen L	9/26/2006		4.88		0.008	0.02	0.01	0.36	105.00	13	7.20	282		3.34	
8	Glen L	7/5/2007		2.75		0.013	0.01	0.02	0.53	89.6	25	7.54	328	31.7	4.41	
8	Glen L	7/20/2007		2.75		0.010	0.02	0.04	0.56	124.3	24	7.79	239		4.51	
8	Glen L	8/2/2007		4.13		0.007	0.04	0.02	0.66	216.7	25	7.68	353		1.59	
8	Glen L	8/14/2007		5.13		0.006	0.08	0.06	0.59	224.6	22	7.93	257		2.11	
8	Glen L	8/28/2007		5.88		0.006	0.00	0.02	0.50	182.8	23	7.58	351	33.0	1.65	
8	Glen L	9/12/2007		5.63		0.007	0.03	0.02	0.47	160.8	29	7.41	352		1.78	
8	Glen L	9/26/2007		7.13		0.008	0.03	0.03	0.57	168.0	1	7.26	323		1.31	
8	Glen L	7/7/2008		3.88		0.009	0.03	0.03	0.23	57.70	24	7.52	240	30.9	2.78	
8	Glen L	7/28/2008		4.13		0.007	0.01	0.15	0.30	89.14	22	7.83	227		2.18	
8	Glen L	8/5/2008		4.50		0.006	0.00	0.01	0.23	80.88	18	7.00	333		1.54	
8	Glen L	8/18/2008		5.38		0.007	0.00	0.02	0.21	67.51	20	7.53	301		1.74	
8	Glen L	9/1/2008		4.63		0.007	0.01	0.00	0.26	87.51	24	6.99	347	30.9	2.03	
8	Glen L	06/16/2009		3.50		0.010	0.04	0.02	0.34	79.28	23	7.86	330	34.6	9.08	
8	Glen L	06/29/2009	14.0	4.00		0.008	0.01	0.02	0.26	67.05	36	7.20	315		3.30	
8	Glen L	07/13/2009	14.0	2.63		0.010	0.00	0.02	0.23	50.67	42	7.22	309		2.90	
8	Glen L	07/27/2009	14.0	3.88		0.007	0.01	0.02	0.26	82.90	41	7.03	262		1.23	
8	Glen L	08/10/2009	14.0	3.25		0.007	0.01	0.02	0.31	94.72	15	7.72	346		0.90	
8	Glen L	08/24/2009	14.0	3.75		0.006	0.01	0.02	0.31	112.16	39	7.98	290		1.50	
8	Glen L	09/06/2009	14.0	4.88		0.006	0.02	0.02	0.20	80.80	49	7.93	153		0.20	
8	Glen L	06/01/2010				0.012	0.02	0.03			8	7.45	353	36.8	3.60	
8	Glen L	06/15/2010	15.0	3.50		0.017	0.03	0.03	0.32	42.18	34	7.49	275		0.20	
8	Glen L	06/30/2010	15.0	3.75		0.008	0.02	0.01	0.30	80.31	24	7.68	390		2.50	
8	Glen L	07/13/2010	15.0	4.00		0.007	0.01	0.01	0.25	80.56	29	7.93	359		1.50	
8	Glen L	07/19/2010	15.0	4.25		0.008	0.01	0.05	0.32	92.92	6	7.88	382	37.3	1.10	
8	Glen L	08/03/2010				0.006	0.01	0.03	0.34	122.62	13	7.40	397		1.20	
8	Glen L	08/21/2010	15.0	4.63		0.012	0.05	0.04	0.34	63.37	25	7.43	401		1.20	
8	Glen L	5/31/2011	15.0	3.13		0.010	0.01	0.05	0.19	43.77	19	7.17	311	29.8	2.20	
8	Glen L	6/27/2011	16.0	3.50		0.010	0.01	0.02	0.82	184.53	21	7.50	346		1.40	
8	Glen L	7/12/2011	16.0	3.25		0.008	0.02	0.04	0.39	110.57	26	7.88	320		1.80	
8	Glen L	7/27/2011	16.0	3.88		0.008	0.02	0.02	0.32	91.76	12	7.75	394		3.00	

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a
8	Glen L	8/10/2011	16.0	3.50		0.009	0.02	0.03	0.38	92.11	25	7.76	326	33.4	2.80
8	Glen L	8/24/2011	16.0	3.88		0.007	0.01	0.02	0.41	130.09	27	7.69	262		2.20
8	Glen L	9/25/2011	16.0	4.38		0.008	0.03	0.03	0.24	63.05	24	7.31	331		3.00
8	Glen L	5/31/2012	16.0	3.30	1.5	0.016	0.05	0.03	0.48	66.56	7	8.40	236	36.4	11.60
8	Glen L	6/12/2012	16.0	2.95	1.5	0.014	0.01	0.01	0.24	38.86	27	7.13	287		6.10
8	Glen L	7/6/2012	16.0	3.00	1.5	0.011	0.02	0.04	0.37	78.15	20	7.09	367		2.50
8	Glen L	7/17/2012	16.0	3.55	1.5	0.007	0.01	0.03	0.32	97.64	29	7.75	379		3.10
8	Glen L	7/31/2012	16.0	3.55	1.5	0.009	0.01	0.02	0.37	89.47	7	7.13	378	35.5	2.00
8	Glen L	8/11/2012	16.0	3.70	1.5	0.007	0.01	0.12	0.30	99.49	7	6.97	374		1.60
8	Glen L	8/20/2012	16.0	3.70	1.5	0.008	0.01	0.04	0.31	91.81	29	7.27	334		1.70
8	Glen L	6/17/2013	16.0	2.85	1.0	0.011	0.02	0.03	0.38	78.78	25	7.42	366		5.00
8	Glen L	6/26/2013	16.0	2.75	1.5	0.009			0.33	78.34	12	7.96	367		3.10
8	Glen L	7/8/2013	16.0	3.05	1.5	0.009	0.01	0.02	0.27	69.29	24	7.59	356		1.90
8	Glen L	7/22/2013				0.007			0.28	90.53	32	7.37	375		0.80
8	Glen L	7/29/2013	16.0	5.20	1.5	0.006	0.01	0.01	0.27	106.07	21	7.47	278		
8	Glen L	8/5/2013	16.0	4.95	1.5	0.006			0.49	179.33	25	7.11	365		1.10
8	Glen L	8/19/2013	16.0	4.90	1.5	0.008	0.01	0.01	0.31	89.76	22	7.26	346		1.80
8	Glen L	6/9/2014	16.0	2.85	1.5	0.009	0.01	0.02	0.24	59.40	6	7.13	394	36.5	4.60
8	Glen L	6/24/2014	16.0	3.35	1.5	0.010			0.35	81.52	8	7.55	379		2.80
8	Glen L	7/1/2014	16.0	3.55	1.5	0.007	0.01	0.03	0.31	90.97	9	7.17	374		3.90
8	Glen L	7/15/2014	16.0	3.65	1.5	0.016			0.29	39.88	8	7.67	297		1.40
8	Glen L	7/29/2014	16.0	4.45	1.5	0.006	0.01	0.04	0.30	105.74	2	7.26	382	31.9	2.10
8	Glen L	8/12/2014	16.0	4.90	1.5	0.006			0.46	178.75	2	7.29	391		1.30
8	Glen L	8/24/2014	16.0	4.70	1.5	0.007	0.01	0.01	0.29	95.33	6	7.38	377		2.20
8	Glen L	6/10/2015	16.0	2.60	1.5		0.00	0.02	0.29		6	7.76	400	21.3	13.30
8	Glen L	6/22/2015	16.0	3.30	1.5				0.19		3	7.45	404		3.20
8	Glen L	7/6/2015	16.0	4.40	1.5		0.00	0.05	0.40		6	7.27	424		2.00 70.9
8	Glen L	7/21/2015	16.0	5.10	1.5				0.30		10	7.20	410		1.00
8	Glen L	8/2/2015	16.0	6.00	1.5		0.01	0.04	0.52		8	8.22	268	27.2	1.00
8	Glen L	8/17/2015	16.0	4.90	1.5				0.56		5	7.63	387		1.40
8	Glen L	8/30/2015	16.0	4.80	1.5		0.01	0.05	0.99		4	7.26	385		1.40 76.9
8	Glen L	9/12/2015	16.0	5.10	1.5				0.47		3	7.29	412		1.10
8	Glen L	7/21/1998				0.039									
8	Glen L	8/23/1998			13.5	0.066									
8	Glen L	9/13/1998			13.5	0.058									
8	Glen L	9/20/1998			13.5	0.060									
8	Glen L	07/16/02	15.0	5.38		0.026	0.05	0.13	0.52	19.48					
8	Glen L	08/07/02	15.0	4.50	14.5	0.018	0.00	0.01	0.43	24.19					
8	Glen L	08/29/02	14.5	6.63		0.042	0.00	0.32	0.76	18.21					
8	Glen L	09/03/02	14.0	6.13	13.5	0.053	0.00	0.17	0.63	11.80					
8	Glen L	08/27/03	15.0			0.010	0.12	0.10	0.33	31.97					
8	Glen L	09/24/03	16.0			0.042	0.00	0.22	0.20	4.79					
8	Glen L	6/25/2004				0.010	0.18	0.05	0.36	35.41					
8	Glen L	7/20/2004	12.0		11.5	0.017	0.09	0.27							
8	Glen L	8/10/2004			12.0	0.020	0.07	0.03	2.07	105.58					
8	Glen L	9/7/2004				0.043	0.03	0.13	0.32	7.39					
8	Glen L	8/10/2005			12.2	0.016									
8	Glen L	8/23/2005			12.2	0.008									
8	Glen L	9/8/2005			11.3	0.009									
8	Glen L	9/20/2005			11.6	0.011									
8	Glen L	10/1/2005			11.9	0.006									
8	Glen L	6/12/2006			12.2	0.024									
8	Glen L	7/4/2006			12.8	0.038									
8	Glen L	7/18/2006			11.6	0.016									
8	Glen L	8/1/2006			11.6	0.025									
8	Glen L	8/15/2006			10.7	0.033									
8	Glen L	8/28/2006			11.6	0.049									
8	Glen L	9/11/2006			11.3	0.073									
8	Glen L	9/26/2006			10.7	0.023									
8	Glen L	7/5/2007			11.3	0.055									
8	Glen L	7/20/2007			10.7	0.020									
8	Glen L	8/2/2007			12.2	0.020									
8	Glen L	8/14/2007			12.2	0.021									
8	Glen L	8/28/2007			12.2	0.041									
8	Glen L	9/12/2007			11.6	0.043									
8	Glen L	9/26/2007			12.2	0.030									

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
8	Glen L	7/7/2008			12.2	0.019										
8	Glen L	7/28/2008			12.2	0.073										
8	Glen L	8/5/2008			12.2	0.021										
8	Glen L	8/18/2008			12.2	0.118										
8	Glen L	9/1/2008			12.2	0.036										
8	Glen L	06/16/2009				0.050		0.24								
8	Glen L	06/29/2009				0.018										
8	Glen L	07/13/2009				0.016		0.11								
8	Glen L	07/27/2009				0.145										
8	Glen L	08/10/2009				0.022		0.35								
8	Glen L	08/24/2009				0.020										
8	Glen L	09/06/2009				0.021		0.24								
8	Glen L	06/01/2010				0.015										
8	Glen L	06/30/2010	15.0			0.063										
8	Glen L	07/19/2010	15.0			0.021										
8	Glen L	08/21/2010	15.0		13.0	0.036										
8	Glen L	5/31/2011	15.0		13.0	0.014		0.16								
8	Glen L	7/12/2011	16.0		15.0	0.056		0.49								
8	Glen L	8/10/2011	16.0		15.0	0.024		0.50								
8	Glen L	9/25/2011	16.0		15.0	0.022		0.89								
8	Glen L	5/31/2012			15.0	0.013		0.08								
8	Glen L	7/2/2012			15.0	0.017		0.42								
8	Glen L	7/31/2012			15.0	0.025		0.26								
8	Glen L	8/20/2012			15.0	0.017		0.37								
8	Glen L	6/17/2013			15.0	0.02		0.31								
8	Glen L	7/8/2013			15.0	0.02		0.28								
8	Glen L	7/29/2013			15.0	0.02		0.31								
8	Glen L	8/19/2013			15.0	0.03		0.50								
8	Glen L	6/9/2014			15.0	0.018		0.36								
8	Glen L	6/24/2014			15.0	0.011										
8	Glen L	7/1/2014			15.0	0.011		0.14								
8	Glen L	7/15/2014			15.0	0.023										
8	Glen L	7/29/2014			15.0	0.021		0.35								
8	Glen L	8/12/2014			15.0	0.016										
8	Glen L	8/24/2014			15.0	0.024		0.16								
8	Glen L	6/10/2015			15.0			0.21								
8	Glen L	6/22/2015			14.0											
8	Glen L	7/6/2015			15.0			0.22								
8	Glen L	7/21/2015			15.0											
8	Glen L	8/2/2015			15.0			0.19								
8	Glen L	8/17/2015			15.0											
8	Glen L	8/30/2015			15.0			0.13								
8	Glen L	9/12/2015			15.0											

LNum	PName	Date	Type	TAir	TH20	QA	QB	QC	QD	QF	QG	AQ-PC	AQ-Chla	MC-LR	Ana-a	Cylin	FP-Chl	FP-BG	HAB form	Shore HAB
8	Glen L	6/26/1986	surf	13	20															
8	Glen L	7/4/1986	surf	14	20															
8	Glen L	7/9/1986	surf	30	24															
8	Glen L	7/16/1986	surf	21	22															
8	Glen L	7/24/1986	surf	23	24															
8	Glen L	7/31/1986	surf	22	24															
8	Glen L	8/7/1986	surf	22	24															
8	Glen L	8/13/1986	surf	15	23															
8	Glen L	8/20/1986	surf	17	23															
8	Glen L	8/29/1986	surf	19	20															
8	Glen L	9/3/1986	surf	26	21															
8	Glen L	9/11/1986	surf	22	19															
8	Glen L	9/24/1986	surf	24	18															
8	Glen L	6/18/1987	surf	29	23															
8	Glen L	7/3/1987	surf	17	21															
8	Glen L	7/16/1987	surf	15	24															
8	Glen L	7/29/1987	surf	23	25															
8	Glen L	8/16/1987	surf	26	24															

LNum	PName	Date	Type	TAir	TH20	QA	QB	QC	QD	QF	QG	AQ-PC	AQ-Chla	MC-LR	Ana-a	Cylin	FP-Chl	FP-BG	HAB-form	Shore HAB
8	Glen L	8/25/1987	surf	21	22															
8	Glen L	8/31/1987	surf	18	17															
8	Glen L	9/23/1987	surf	17	17															
8	Glen L	10/7/1987	surf	14	16															
8	Glen L	6/16/1988	surf	25	23															
8	Glen L	6/24/1988	surf	16	22															
8	Glen L	7/1/1988	surf	14	20															
8	Glen L	7/13/1988	surf	19	26															
8	Glen L	7/27/1988	surf	18	25															
8	Glen L	8/11/1988	surf	23	27															
8	Glen L	8/25/1988	surf	20	22															
8	Glen L	9/7/1988	surf	20	21															
8	Glen L	9/15/1988	surf	19	19															
8	Glen L	9/26/1988	surf	20	18															
8	Glen L	7/14/1989	surf	22	24															
8	Glen L	7/21/1989	surf	24	24															
8	Glen L	8/3/1989	surf	18	16															
8	Glen L	8/3/1990	surf	26	25															
8	Glen L	8/9/1990	surf	26	24															
8	Glen L	8/14/1990	surf	22	25															
8	Glen L	8/23/1990	surf	20	23															
8	Glen L	9/6/1990	surf	25	23															
8	Glen L	9/13/1990	surf	22	22															
8	Glen L	8/6/1993	surf	16	21	2	2	1												
8	Glen L	8/26/1993	surf	18	23	2	3	2												
8	Glen L	10/3/1993	surf	14	15	2	2	2												
8	Glen L	10/25/1993	surf	11	13															
8	Glen L	7/12/1994	surf	29	25	1	2	2												
8	Glen L	8/10/1994	surf	29	23															
8	Glen L	9/18/1994	surf		20	1	3	2												
8	Glen L	8/2/1995	surf	24	27	2	2	2	6											
8	Glen L	8/31/1995	surf	20	25	1	2	2												
8	Glen L	10/9/1995	surf	14	14															
8	Glen L	11/1/1995	surf	6	6	1	2	1	6											
8	Glen L	7/7/1996	surf	20	23	3	2	2	1											
8	Glen L	7/29/1996	surf	22	24	3	2	3	14											
8	Glen L	8/14/1996	surf	22	25	2	2	2	3											
8	Glen L	8/27/1996	surf	27	24	2	2	2	34											
8	Glen L	9/17/1996	surf	15	29	2	3	3	35											
8	Glen L	10/1/1996	surf	16	18	2	2	2												
8	Glen L	7/16/1997	surf		20	3	2	3												
8	Glen L	7/29/1997	surf	20	20	2	2	2	6											
8	Glen L	7/9/1998	surf	18	19	2	3	2	5											
8	Glen L	7/21/1998	surf	20	22	2	1	2	56											
8	Glen L	8/23/1998	surf	16	5	2	2	3	5											
8	Glen L	9/13/1998	surf		22	2	2	2												
8	Glen L	9/20/1998	surf	21	20	2	2	2												
8	Glen L	7/6/1999	surf	24		2	2	2												
8	Glen L	7/22/1999	surf	17	21	2	2	2												
8	Glen L	8/10/1999	surf	14	18	2	2	2	6											
8	Glen L	8/17/1999	surf	29	20	2	3	2	6											
8	Glen L	7/13/2000	surf	21	19	3	3	3	1											
8	Glen L	8/1/2000	surf	21	23	4	3	4	1345											
8	Glen L	8/31/2000	surf	20	20	3	2	3	1											
8	Glen L	6/21/2001	surf	23	25	4	3	3	134											
8	Glen L	7/11/2001	surf	19	23	3	3	3	3											
8	Glen L	8/1/2001	surf	22	26	2	3	3												
8	Glen L	8/15/2001	surf	20	27	2	3	3	6											
8	Glen L	07/16/02	surf	20	23	2	3	2	8											
8	Glen L	08/07/02	surf	19	24	3	3	2	38											
8	Glen L	08/29/02	surf	21	23	2	3	2	8											

LNum	PName	Date	Type	TAir	TH20	QA	QB	QC	QD	QF	QG	AQ-PC	AQ-Chla	MC-LR	Ana-a	Cylin	FP-Chl	FP-BG	HAB-form	Shore HAB
8	Glen L	09/03/02	surf	21	22															
8	Glen L	08/27/03	surf	29	24	2	3	2	58											
8	Glen L	09/24/03	surf	18	20	2	3	3	26											
8	Glen L	6/25/2004	surf	20	10	1	2	2	28											
8	Glen L	7/20/2004	surf	22	24	2	3	3	2											
8	Glen L	8/10/2004	surf	23	23	2	3	3	2											
8	Glen L	9/7/2004	surf	22	22	2	3	2	2											
8	Glen L	8/10/2005	surf	24	27															
8	Glen L	8/23/2005	surf	23	24															
8	Glen L	9/8/2005	surf	20	23	2	2	1	2											
8	Glen L	9/20/2005	surf	21	23	2	2	4	2											
8	Glen L	10/1/2005	surf	16	18	2	2	2	2											
8	Glen L	6/12/2006	surf	22	19	2	2	2	8											
8	Glen L	7/4/2006	surf	22	25	3	2	2	1											
8	Glen L	7/18/2006	surf	30	28	2	2	1	8											
8	Glen L	8/1/2006	surf	26	27	2	3	1	8											
8	Glen L	8/15/2006	surf	22	24	2	3	1	5											
8	Glen L	8/28/2006	surf	19	22	2	3	2	25											
8	Glen L	9/11/2006	surf	13	20	2	3	2	5											
8	Glen L	9/26/2006	surf	17	18	2	3	2	5											
8	Glen L	7/5/2007	surf	22	23	3	3	3	125											
8	Glen L	7/20/2007	surf	19	24	3	4	3	125											
8	Glen L	8/2/2007	surf	24	28	2	4	3	2											
8	Glen L	8/14/2007	surf	22	26	2	4	2	2											
8	Glen L	8/28/2007	surf	24	25	2	4	2	2											
8	Glen L	9/12/2007	surf	17	21	2	4	3	25											
8	Glen L	9/26/2007	surf	25	21	2	4	1	2											
8	Glen L	7/7/2008	surf	26	25	2	3	2	2											
8	Glen L	7/28/2008	surf	29	25	2	2	2	0											
8	Glen L	8/5/2008	surf	26	25	2	2	1	0											
8	Glen L	8/18/2008	surf	22	24	2	2	2	0											
8	Glen L	9/1/2008	surf	27	23	2	2	1	0											
8	Glen L	06/16/2009	surf	19	23	3	3	2	13			30.75								
8	Glen L	06/29/2009	surf	26	27	3	2	2	15											
8	Glen L	07/13/2009	surf	25	23	3	2	2	15											
8	Glen L	07/27/2009	surf	26	24	2	3	2	5											
8	Glen L	08/10/2009	surf	30	25	3	3	3	1											
8	Glen L	08/24/2009	surf	26	26	3	3	2	5											
8	Glen L	09/06/2009	surf	21	22	2	3	2	0											
8	Glen L	06/15/2010	surf	18	21	3	3	3	1235	4	0									
8	Glen L	06/30/2010	surf	16	23		4	3	2	0	0									
8	Glen L	07/13/2010	surf	25	28	3	3	3	26	0	0									
8	Glen L	07/19/2010	surf	23	27	3	3	2	2	0	0									
8	Glen L	08/21/2010	surf	22	24	3	4	3	2	7	0									
8	Glen L	5/31/2011	surf	24	24	3	3	3	125	0	0									
8	Glen L	6/27/2011	surf	22	23	3	2	3	15	4	0	12.20	6.60							
8	Glen L	7/12/2011	surf	31	27	3	1	2	0	0	0	8.40	1.80							
8	Glen L	7/27/2011	surf	23	26	3	1	2	0	0	0	4.10	4.82	<0.3						
8	Glen L	8/10/2011	surf	23	25	2	3	2	0	0	0	17.00	1.90							
8	Glen L	8/24/2011	surf	22	24	2	3	2	0	0	0	2.00	16.50							
8	Glen L	9/25/2011	surf	20	20	2	3	3	0	0	0	15.00	2.70							
8	Glen L	5/31/2012	surf	18	23	3	3	3	16	4	4	3.90	1.00	<0.30	<0.417			3.90	F	
8	Glen L	6/12/2012	surf	20	22	3	3	3	125	4	4	1.80	1.50	<0.30	<0.417	1.97	0.09	1.80	F	
8	Glen L	7/6/2012	surf	21	25	2	3	3	12	0	0	9.20	0.50	<0.30	<0.410	3.18	1.04	9.20	F	
8	Glen L	7/17/2012	surf	23	27	2	3	3	1	0	0	7.30	0.40	<0.30	<0.328	2.60	1.20	7.30	F	
8	Glen L	7/31/2012	surf	23	25	2	3	2	0	0	0	4.90	0.40	<0.30	<0.292	1.73	0.82	4.90	F	
8	Glen L	8/11/2012	surf	23	26	2	3	2	0	0	0	6.10	0.30	<0.30	<0.552	2.99	2.11	6.10	F	
8	Glen L	8/20/2012	surf	17	25	2	4	3	2	7	7	7.20	0.20	<0.30	<0.552	2.67	1.99	7.20	F	
8	Glen L	6/17/2013	surf	18	20	3	4	4	125	7		4.20	4.00	<0.30	<0.440	3.40	0.00	4.20	F	
8	Glen L	6/26/2013	surf	22	27	3	3	3	125	0	0	2.90	2.30	<0.30	<0.410	2.20	0.00	2.90	F	
8	Glen L	7/8/2013	surf	24	28	3	3	3	1	0	0	5.60	1.10	<0.30	<0.510	2.90	1.20	5.60	F	

LNum	PName	Date	Type	TAir	TH20	QA	QB	QC	QD	QF	QG	AQ-PC	AQ-Chla	MC-LR	Ana-a	Cylin	FP-Chl	FP-BG	HAB form	Shore HAB
8	Glen L	7/22/2013	surf									3.10	1.20	<0.30	<0.370	1.53	0.09	3.10		
8	Glen L	7/29/2013	surf	22	21	2	3	2	0	0	0	3.10	1.20	<0.30	<0.380	0.60	0.00	3.10	F	
8	Glen L	8/5/2013	surf	20	23	2	2	2	0	0	0	2.20	0.90	<0.30	<0.390	1.60	0.90	2.20	F	
8	Glen L	8/19/2013	surf	22	23	2	3	2	0	0	0	2.30	1.00	<0.30	<0.510	2.00	0.50	2.30	F	
8	Glen L	6/9/2014	surf	20	24	2	4	3	12	4	0	0.20	2.20	<1.83	<0.17	<0.001	1.60	0.00		
8	Glen L	6/24/2014	surf	21	24	3	4	3	2	0	7	1.30	0.50	<1.60	<0.28	<0.002	1.90	0.00		
8	Glen L	7/1/2014	surf	29	26	3	4	3	2	0	0	3.20	0.30	<0.62	<0.03	<0.002	1.10	0.00		
8	Glen L	7/15/2014	surf	22	26	2	3	2	2	7	0	2.80	0.30	<0.71	<0.48	<0.001	1.00	0.00		
8	Glen L	7/29/2014	surf	20	24	2	3	3	0	0	0	4.30	0.30	<0.31	<0.24	<0.002				
8	Glen L	8/12/2014	surf	22	25	2	2	2	0	0	0	3.40	0.20	<0.35	<0.03	<0.001				
8	Glen L	8/24/2014	surf	19	22	2	2	2	0	0	0	9.00	0.20	<0.26	<0.10	<0.002	2.50	1.00		
8	Glen L	6/10/2015	surf	19	21	3	4	4	2	7	0	7.10	1.10	<0.86	<0.027	<0.318	2.45	0.00	F	I
8	Glen L	6/22/2015	surf	22	25	3	3	3	2	7	0	3.50	0.80	<0.65	<0.004	<0.001	2.21	0.00	I	I
8	Glen L	7/6/2015	surf	21	22	2	3	2	28	0	0	4.00	0.40	<0.86	<0.008	<0.046	1.15	0.00	F	I
8	Glen L	7/21/2015	surf	25	27	2	2	2	0	0	0	3.30	0.30	<0.36	<0.003	<0.018	1.37	0.00	F	I
8	Glen L	8/2/2015	surf	22	26	2	3	2	0	0	0	3.38	0.36	<0.23	<0.004	<0.015	0.76	0.00	I	I
8	Glen L	8/17/2015	surf	29	27	2	3	2	0	0	0	2.60	0.30	<0.41	<0.035	<0.023	0.42	0.00	I	I
8	Glen L	8/30/2015	surf	23	25	2	3	2	238	0	0			<0.49	<0.003	<0.014	0.00	0.00	I	I
8	Glen L	9/12/2015	surf	24	25	2	2	2	28	0	0	0.05	0.40	<0.40	<0.009	<0.022	0.94	0.13	I	I
8	Glen L	7/21/1998	bot		12															
8	Glen L	9/13/1998	bot		11															
8	Glen L	9/20/1998	bot		6															
8	Glen L	07/16/02	bot	20	11	2	3	2	8											
8	Glen L	08/07/02	bot	19	13	3	3	2	28											
8	Glen L	08/29/02	bot	21	11	2	3	2	8											
8	Glen L	09/03/02	bot	21	13															
8	Glen L	08/27/03	bot	29	13															
8	Glen L	09/24/03	bot	18	6															
8	Glen L	7/20/2004	bot		9															
8	Glen L	8/10/2004	bot		10															
8	Glen L	9/7/2004	bot		9															
8	Glen L	8/23/2005	bot		12															
8	Glen L	9/8/2005	bot		14															
8	Glen L	9/20/2005	bot		13															
8	Glen L	10/1/2005	bot		9															
8	Glen L	6/12/2006	bot		9															
8	Glen L	7/4/2006	bot		8															
8	Glen L	7/18/2006	bot		12															
8	Glen L	8/1/2006	bot		12															
8	Glen L	8/15/2006	bot		13															
8	Glen L	8/28/2006	bot		9															
8	Glen L	9/11/2006	bot		8															
8	Glen L	9/26/2006	bot		12															
8	Glen L	7/5/2007	bot		10															
8	Glen L	7/20/2007	bot		12															
8	Glen L	8/2/2007	bot		9															
8	Glen L	8/14/2007	bot		8															
8	Glen L	8/28/2007	bot		10															
8	Glen L	9/12/2007	bot		9															
8	Glen L	9/26/2007	bot		11															
8	Glen L	7/7/2008	bot		9															
8	Glen L	7/28/2008	bot		9															
8	Glen L	8/5/2008	bot		8															
8	Glen L	8/18/2008	bot		8															
8	Glen L	9/1/2008	bot		8															
8	Glen L	06/16/2009	bot		8															
8	Glen L	06/29/2009	bot		10															
8	Glen L	07/13/2009	bot		10															
8	Glen L	07/27/2009	bot		13															
8	Glen L	08/10/2009	bot		10															
8	Glen L	08/24/2009	bot		12															

LNum	PName	Date	Type	TAir	TH20	QA	QB	QC	QD	QF	QG	AQ-PC	AQ-Chla	MC-LR	Ana-a	Cylin	FP-Chl	FP-BG	HABform	ShoreHAB
8	Glen L	09/06/2009	bot		10															
8	Glen L	06/30/2010	bot		8															
8	Glen L	07/19/2010	bot		11															
8	Glen L	08/21/2010	bot		11															
8	Glen L	5/31/2011	bot		7															
8	Glen L	7/12/2011	bot		8															
8	Glen L	8/10/2011	bot		8															
8	Glen L	9/25/2011	bot		7															
8	Glen L	5/31/2012	bot		9															
8	Glen L	7/2/2012	bot		9															
8	Glen L	7/31/2012	bot		10															
8	Glen L	8/20/2012	bot		11															
8	Glen L	6/17/2013	bot		8															
8	Glen L	7/8/2013	bot		12															
8	Glen L	7/29/2013	bot		12															
8	Glen L	8/19/2013	bot		10															
8	Glen L	6/9/2014	bot		8															
8	Glen L	6/24/2014	bot		10															
8	Glen L	7/1/2014	bot		10															
8	Glen L	7/15/2014	bot		9															
8	Glen L	7/29/2014	bot		7															
8	Glen L	8/12/2014	bot		11															
8	Glen L	8/24/2014	bot		8															

Legend Information

<i>Indicator</i>	<i>Description</i>	<i>Detection Limit</i>	<i>Standard (S) / Criteria (C)</i>
General Information			
Lnum	lake number (unique to CSLAP)		
Lname	name of lake (as it appears in the Gazetteer of NYS Lakes)		
Date	sampling date		
Field Parameters			
Zbot	lake depth at sampling point, meters (m)		
Zsd	Secchi disk transparency or clarity	0.1m	1.2m (C)
Zsamp	water sample depth (m) (epi = epilimnion or surface; bot = bottom)	0.1m	none
Tair	air temperature (C)	-10C	none
TH20	water temperature (C)	-10C	none
Laboratory Parameters			
Tot.P	total phosphorus (mg/l)	0.003 mg/l	0.020 mg/l (C)
NOx	nitrate + nitrite (mg/l)	0.01 mg/l	10 mg/l NO3 (S), 2 mg/l NO2 (S)
NH4	total ammonia (mg/l)	0.01 mg/l	2 mg/l NH4 (S)
TN	total nitrogen (mg/l)	0.01 mg/l	none
TN/TP	nitrogen to phosphorus (molar) ratio, = (TKN + NOx)*2.2/TP		none
TCOLOR	true (filtered) color (ptu, platinum color units)	1 ptu	none
pH	powers of hydrogen (S.U., standard pH units)	0.1 S.U.	6.5, 8.5 S.U. (S)
Cond25	specific conductance, corrected to 25C (umho/cm)	1 umho/cm	none
Ca, Cl	calcium, chloride (mg/l)	1 mg/l	none
Chl.a	chlorophyll a (ug/l)	0.01 ug/l	none
Fe	iron (mg/l)	0.1 mg/l	1.0 mg/l (S)
Mn	manganese (mg/l)	0.01 mg/l	0.3 mg/l (S)
As	arsenic (ug/l)	1 ug/l	10 ug/l (S)
AQ-PC	Phycocyanin (aquafior) (unitless)	1 unit	none
AQ-Chl	Chlorophyll a (aquafior) (ug/l)	1 ug/l	none
MC-LR	Microcystis-LR (ug/l)	0.01 ug/l	1 ug/l potable (C) 20 ug/l swimming (C)
Ana	Anatoxin-a (ug/l)	variable	none
Cyl	Cylindrospermopsin (ug/l)	0.1 ug/l	none
FP-Chl, FP-BG	Fluoroprobe total chlorophyll, fluoroprobe blue-green chlorophyll (ug/l)	0.1 ug/l	none
Lake Assessment			
QA	water quality assessment; 1 = crystal clear, 2 = not quite crystal clear, 3 = definite algae greenness, 4 = high algae levels, 5 = severely high algae levels		
QB	aquatic plant assessment; 1 = no plants visible, 2 = plants below surface, 3 = plants at surface, 4 = plants dense at surface, 5 = surface plant coverage		
QC	recreational assessment; 1 = could not be nicer, 2 = excellent, 3 = slightly impaired, 4 = substantially impaired, 5 = lake not usable		
QD	reasons for recreational assessment; 1 = poor water clarity, 2 = excessive weeds, 3 = too much algae, 4 = lake looks bad, 5 = poor weather, 6 = litter/surface debris, 7 = too many lake users, 8 = other		
QF, QG	Health and safety issues today (QF) and past week (QG); 0 = none, 1 = taste/odor, 2 = GI illness humans/animals, 3 = swimmers itch, 4 = algae blooms, 5 = dead fish, 6 = unusual animals, 7 = other		
HAB form, Shore HAB	HAB evaluation; A = spilled paint, B = pea soup, C = streaks, D = green dots, E = bubbling scum, F = green/brown tint, G = duckweed, H = other, I = no bloom		

Appendix B- Priority Waterbody Listing for Glen Lake

Glen Lake (1005-0009)

NoKnownImpct

Waterbody Location Information

Revised: 03/09/2009

Water Index No: C-134- 4-19-19-P441	Drain Basin: Lake Champlain
Hydro Unit Code: 02010001/140 Str Class: B(T)	Champlain-Lk.George
Waterbody Type: Lake (Unknown Trophic)	Reg/County: 5/Warren Co. (57)
Waterbody Size: 324.2 Acres	Quad Map: GLENS FALLS (H-26-4)
Seg Description: entire lake	

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
 Suspected: ---
 Possible: ---

Source(s) of Pollutant(s)

Known: ---
 Suspected: ---
 Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)	
Verification Status: (Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office: n/a	Resolution Potential: n/a
TMDL/303d Status: n/a	

Further Details

Water Quality Sampling

Glen Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1986 and continuing through the present. An Interpretive Summary report of the findings of this sampling was published in 2008. These data indicate that the lake continues to be best characterized as mesoligotrophic, or moderately unproductive. This trophic status has been fairly consistent over the sampling period. Phosphorus levels in the lake consistently fall below the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements also typically exceed the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. The lake water is weakly colored, but color has increased in recent years contributing to lower clarity in the lake. (DEC/DOW, BWAM/CSLAP, March 2008)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be generally favorable since the lake was first evaluated and continuing through the most recent assessment. The recreational suitability of the lake is described most frequently as "excellent" or only "slightly" impacted. The lake itself is most often described as "not quite crystal clear." These assessments are slightly less favorable than would be expected based on measured water quality characteristics, but might be influenced by increased lake color in

recent years. Most assessments have noted that aquatic plants rarely grow densely at the lake surface and have not been cited as impacting recreational uses. Aquatic plant sampling conducted independent of CSLAP has identified the invasive plant Eurasian watermilfoil as the dominant aquatic plant in Glen Lake, and the focus of most of the management efforts suggested at the lake. However, during most sampling seasons, at least since 1986, nuisance macrophyte (weed) growth has not been identified as significantly impacting recreational use of Glen Lake, and the limited CSLAP surveys indicate a wide diversity of aquatic plants growing in the lake, including a number of aquatic plant species that are desired from the perspective of fisheries habitat. (DEC/DOW, BWAM/CSLAP, March 2008)

Lake Uses

This lake waterbody is designated class B, suitable for use as a public bathing beach, general recreation and aquatic life support, but not as a public water supply. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Previous Assessment

However, algal growth and previously reported outbreaks of swimmer's itch discourage various recreational uses. Local officials indicate the lake is currently impacted by zebra mussels and Eurasian milfoil. A variety of urban and other nonpoint runoff sources, a result of heavy shoreline development, also affect the water quality in the lake. A 1998 Glen Lake Watershed Management Plan includes DEC CSLAP monitoring results and outlines specific recommendations for limiting further nonpoint source impacts. The plan was produced by the Glen Lake Technical Committee, with assistance from Adirondack Community College staff. Other educational programs, including a recent (1998) program focusing on the use and maintenance of on-site septic systems, have been offered by the Warren County SWCD and the Glen Lake Association. (Warren County WQSC, March 2000)

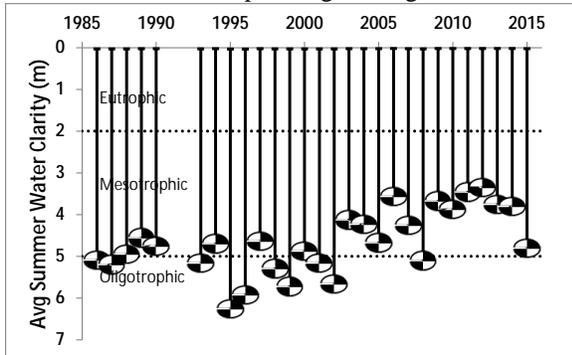
Segment Description

This segment includes the total area of Glen Lake (P441).

Appendix C- Long Term Trends: Glen Lake

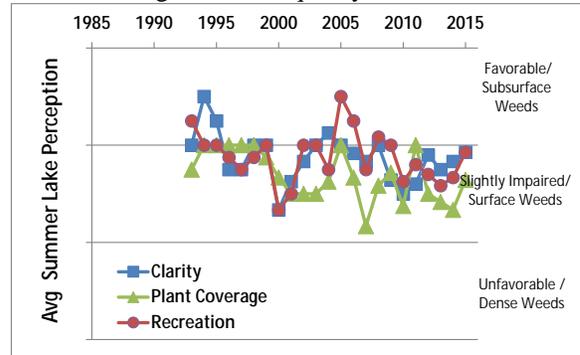
Long Term Trends: Water Clarity

- ↓ clarity since mid-90s but ↑2015
- Most readings typical of *mesotrophic* lakes, lower than expected given algae and TP



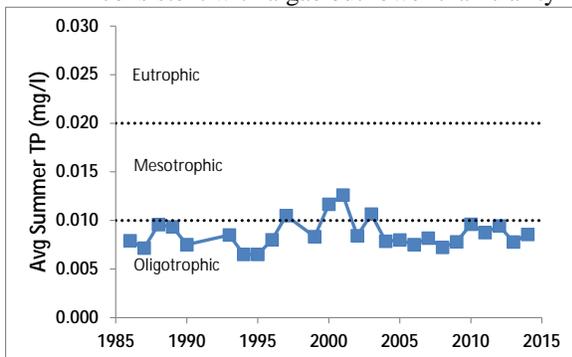
Long Term Trends: Lake Perception

- WQ and rec assessment degrading last 10yrs
- Recreational perception closely linked to changes in water quality and weeds



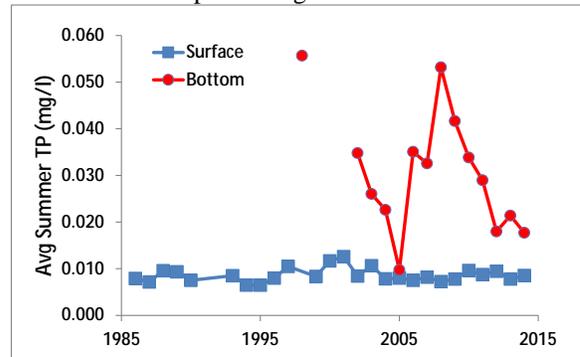
Long Term Trends: Phosphorus

- No trends apparent; 2015 contamination
- Most readings typical of *oligotrophic* lakes, consistent with algae but lower than clarity



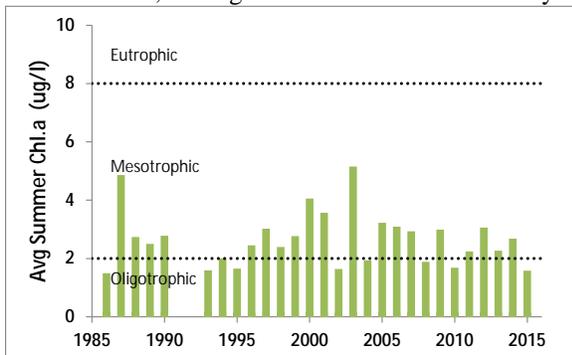
Long Term Trends: Bottom Phosphorus

- Likely recent ↓ last decade; no data 2015
- Bottom TP indicate little internal nutrient load despite strong thermal stratification



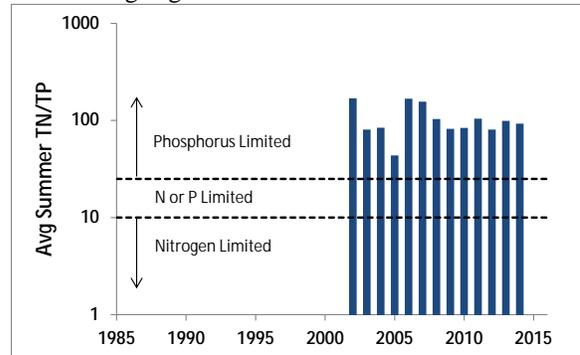
Long Term Trends: Chlorophyll a

- Perhaps slight drop last decade
- Most readings typical of *mesoligotrophic* lakes, in range of TP but lower than clarity



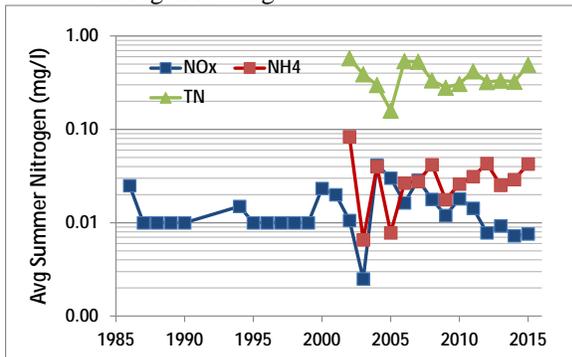
Long Term Trends: N:P Ratio

- No trends apparent
- Most readings indicate phosphorus limits algae growth



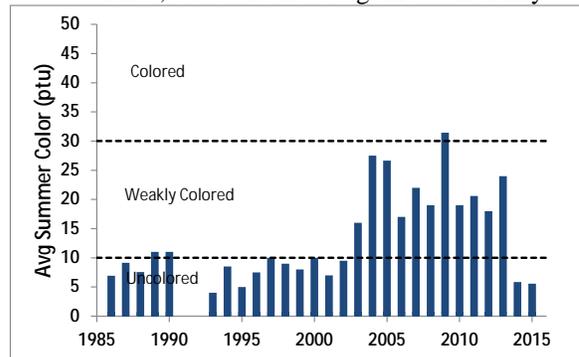
Long Term Trends: Nitrogen

- Drop in NOx since mid-00s
- Generally low NOx, ammonia, and total nitrogen readings



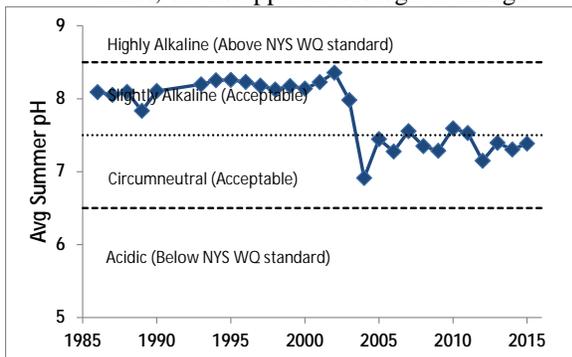
Long Term Trends: Color

- ↑↑ color after '02 lab change; lower 14-15
- Most readings typical of *weakly colored* lakes, but could have big effect on clarity



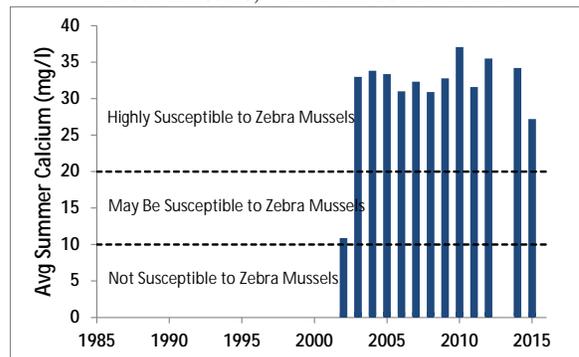
Long Term Trends: pH

- Significant drop after 2003; now stable
- Most readings now typical of *circumneutral* lakes, but no apparent biological change



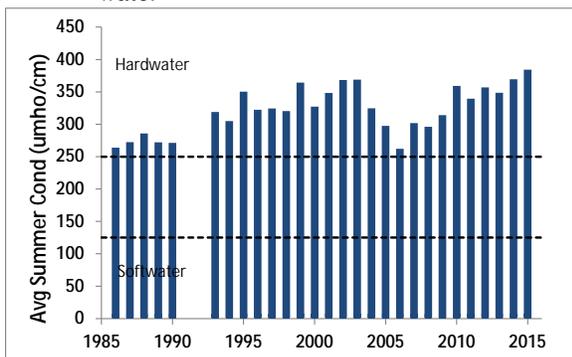
Long Term Trends: Calcium

- No trends apparent
- Most readings indicate high susceptibility to zebra mussels, which are found in lake



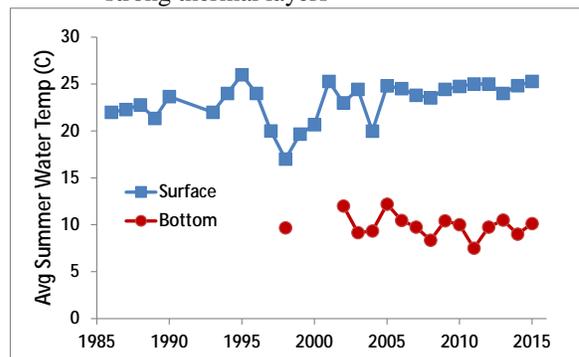
Long Term Trends: Conductivity

- Higher readings post 1990 but no clear trend
- Most readings typical of lakes with *hard water*



Long Term Trends: Water Temperature

- Perhaps slight increase; stable readings
- Much colder bottom temperatures indicate strong thermal layers



Appendix D: Algae Testing Results from SUNY ESF Study

Most algae are harmless, naturally present, and an important part of the food web. However excessive algae growth can cause health, recreational, and aesthetic problems. Some algae can produce toxins that can be harmful to people and animals. High quantities of these algae are called harmful algal blooms (HABs). CSLAP lakes have been sampled for a variety of HAB indicators since 2008. This was completed on selected lakes as part of a NYS DOH study from 2008-2010. In 2011, enhanced sampling on all CSLAP lakes was initiated through an EPA-funded project that has continued through the current sampling season. This study has evaluated a number of HAB indicators as follows:

- Algae types - blue green, green, diatoms, and "other"
- Algae densities
- Microscopic analysis of bloom samples
- Algal toxin analysis

Some of these results are reported in other portions of these reports. This appendix the seasonal change in blue green algae, other algae types, and the primary algal toxin (microcystin-LR, a liver toxin). Analysis was completed on open water samples and, for some lakes, shoreline samples that were collected when visual evidence of blooms were apparent. Results are compared to the DEC criteria of 25-30 ug/l blue green chlorophyll a and 20 ug/l microcystin-LR (based on the World Health Organization (WHO) threshold for unsafe swimming conditions) and the WHO provisional criteria for long-term protection of treated water supplies (= 1 ug/l microcystin-LR). The data for algae types are drawn from a high end fluorometer used by SUNY ESF. While these results are useful for timely approximation of lake conditions, they are not as accurate as the total chlorophyll results measured as a regular part of CSLAP since 1986 in all open water samples. Therefore these results are used judiciously in the assessment of sampled waterbodies.

Two separate samples are evaluated. A sample is taken at the CSLAP sample point at the deepest point of the lake at every sample session. In addition, shoreline samples can be taken when a bloom is visible. It should be noted that shoreline conditions can vary significantly over time and from one location to another. The shoreline bloom sampling results summarized below are not collected as routinely as open water samples, and therefore represent snapshots in time. It is assumed that sampling results showing high blue green algae and/or toxin levels indicate that algae blooms may be common and/or widespread on these lakes. However, the absence of elevated blue green algae and toxin levels does not assure the lack of shoreline blooms on these lakes. Elevated open water readings may indicate a higher likelihood of shoreline blooms, but in some lakes, these shoreline blooms have not been (well) documented.

The results from these samples are summarized within the CSLAP report for the lake.

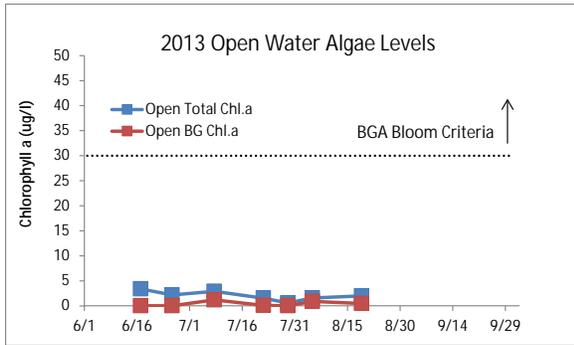


Figure D1:
2013 Open Water Total and BGA Chl.a

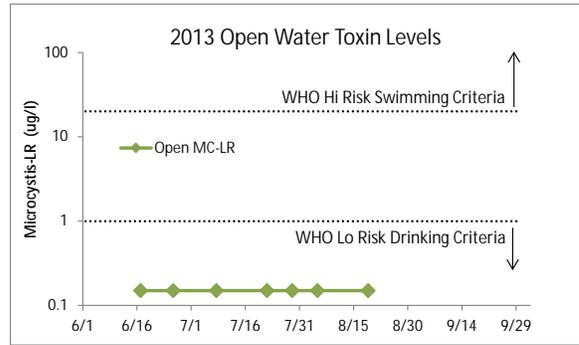


Figure D2:
2013 Open Water Microcystin-LR

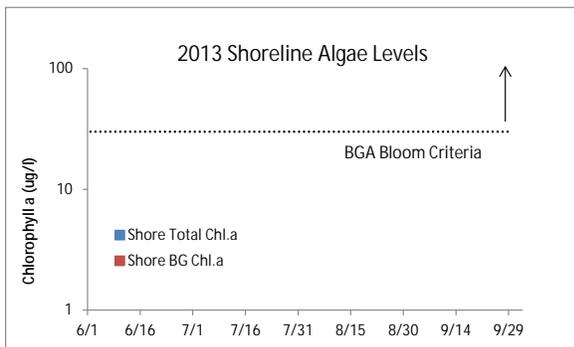


Figure D3:
2013 Shoreline Total and BGA Chl.a

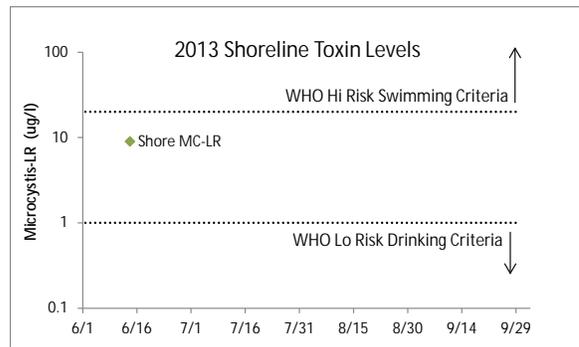


Figure D4:
2013 Shoreline Microcystin-LR

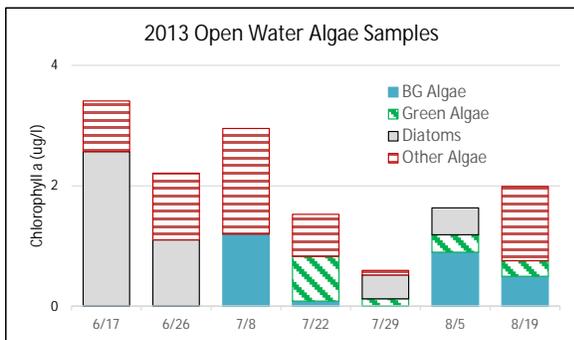


Figure D5:
2013 Open Water Algae Types

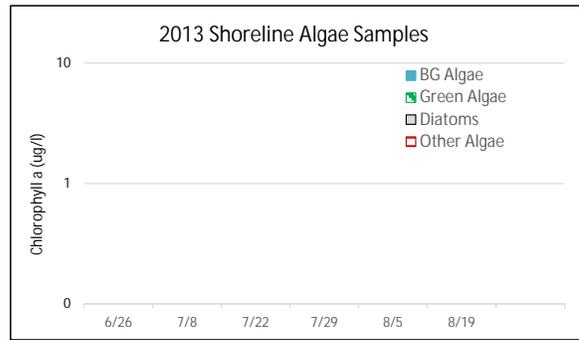


Figure D6:
2013 Shoreline Algae Types

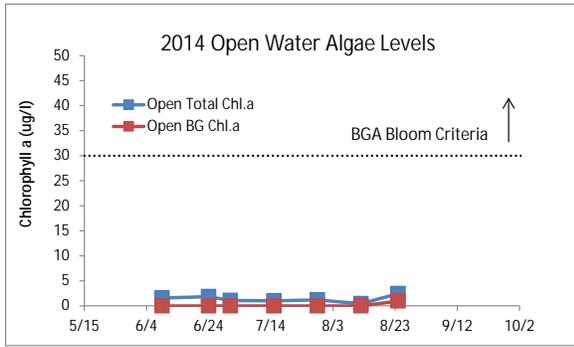


Figure D7:
2014 Open Water Total and BGA Chl.a

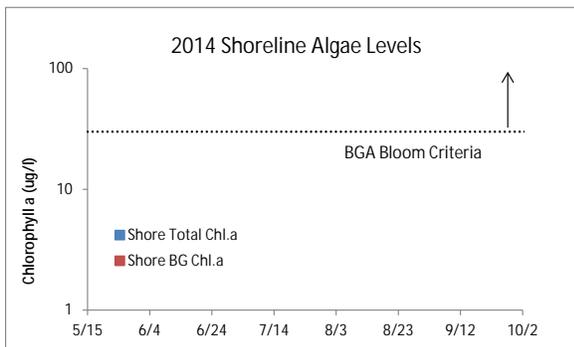


Figure D9:
2014 Shoreline Total and BGA Chl.a

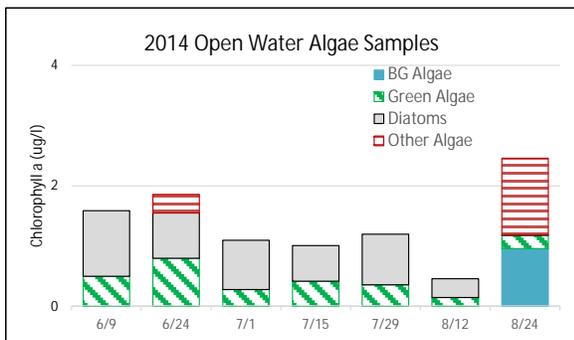


Figure D11:
2014 Open Water Algae Types

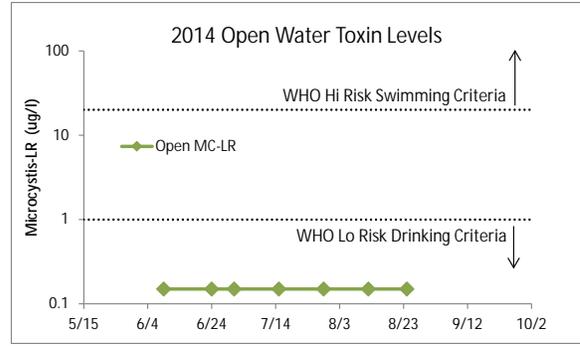


Figure D8:
2014 Open Water Microcystin-LR

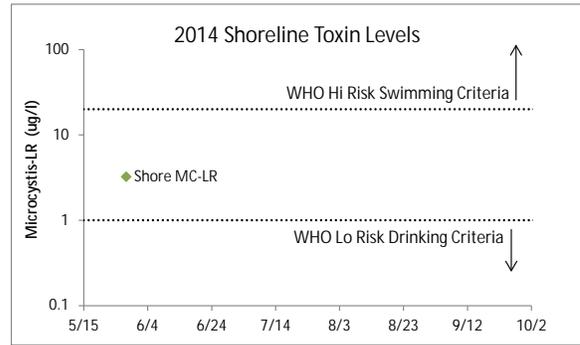


Figure D10:
2014 Shoreline Microcystin-LR

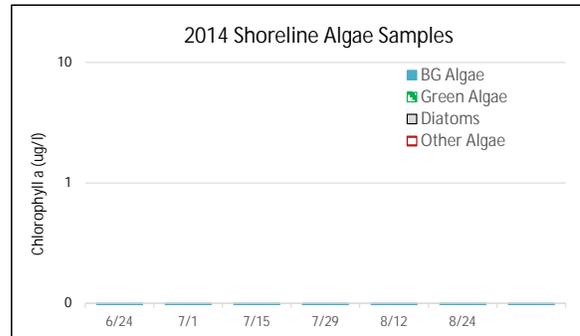


Figure D12:
2014 Shoreline Algae Types

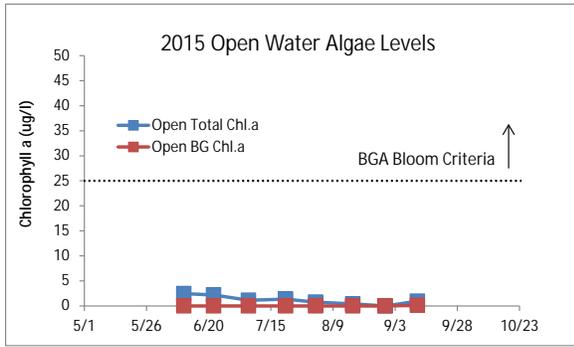


Figure D13:
2015 Open Water Total and BGA Chl.a

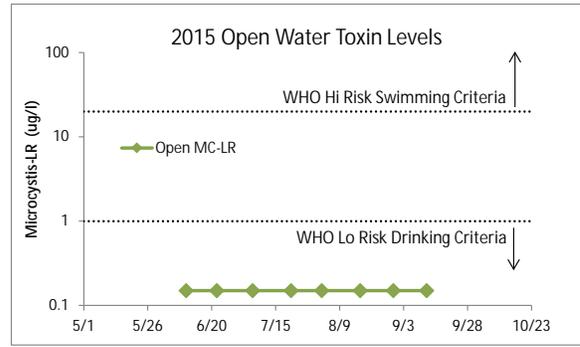


Figure D14:
2015 Open Water Microcystin-LR

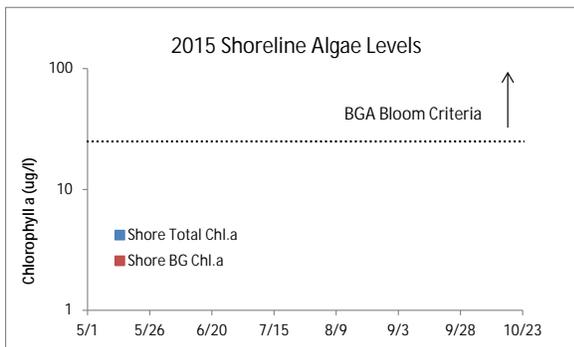


Figure D15:
2015 Shoreline Total and BGA Chl.a

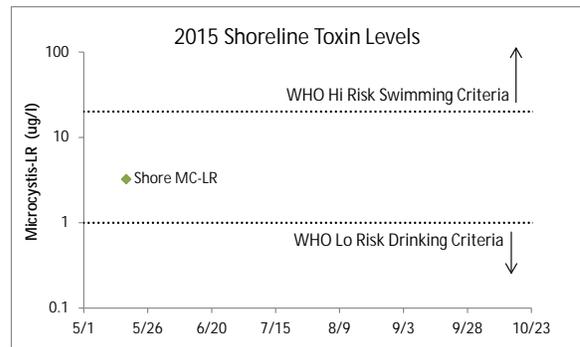


Figure D16:
2015 Shoreline Microcystin-LR

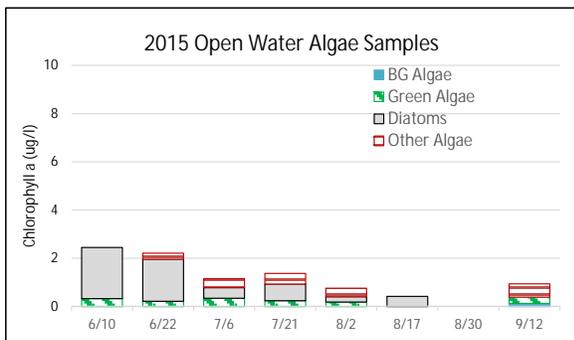


Figure D17:
2015 Open Water Algae Types

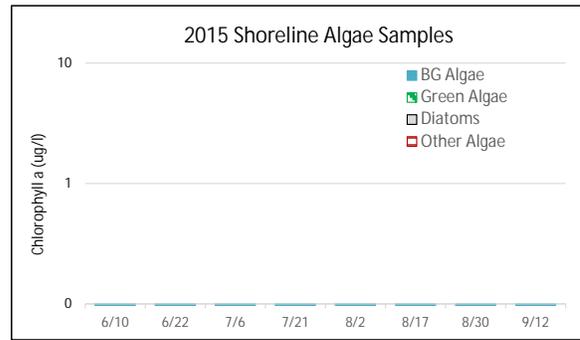


Figure D18:
2015 Shoreline Algae Types

Appendix E: AIS Species in Warren County

The table below shows the invasive aquatic plants and animals that have been documented in Warren County, as cited in either the iMapInvasives database (<http://www.imapinvasives.org/>) or in the NYSDEC Division of Water database. These databases may include some, but not all, non-native plants or animals that have not been identified as “Prohibited and Regulated Invasive Species” in New York state regulations (6 NYCRR Part 575; http://www.dec.ny.gov/docs/lands_forests_pdf/islist.pdf).

This list is not complete, but instead represents only those species that have been reported and verified within the county. If any additional aquatic invasive species (AIS) are known or suspected in these or other waterbodies in the county, this information should be reported through iMap invasives or by contacting NYSDEC at downinfo@dec.ny.gov.

Aquatic Invasive Species - Warren County			
Waterbody	Kingdom	Common name	Scientific name
Brant Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Brant Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Brant Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Crandall Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Daggett Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Friends Lake	Animal	Banded mystery snail	<i>Viviparus georgianus</i>
Glen Lake	Animal	Zebra mussel	<i>Dreissena polymorpha</i>
Glen Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Glen Lake	Plant	Brittle naiad	<i>Najas minor</i>
Glen Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Hovey Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Lake George	Animal	Spiny waterflea	<i>Bythotrephes longimanus</i>
Lake George	Animal	Asian clam	<i>Corbicula fluminea</i>
Lake George	Animal	Zebra mussel	<i>Dreissena polymorpha</i>
Lake George	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Lake George	Plant	Brittle naiad	<i>Najas minor</i>
Lake George	Animal	Virile crayfish	<i>Orconectes virilis</i>
Lake George	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Lake Luzerne	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Lake Luzerne	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Lake Sunnyside	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Loon Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
North Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Schroon Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Schroon Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>

Waterbody	Kingdom	Common name	Scientific name
Trout Lake	Animal	Rusty crayfish	<i>Orconectes rusticus</i>

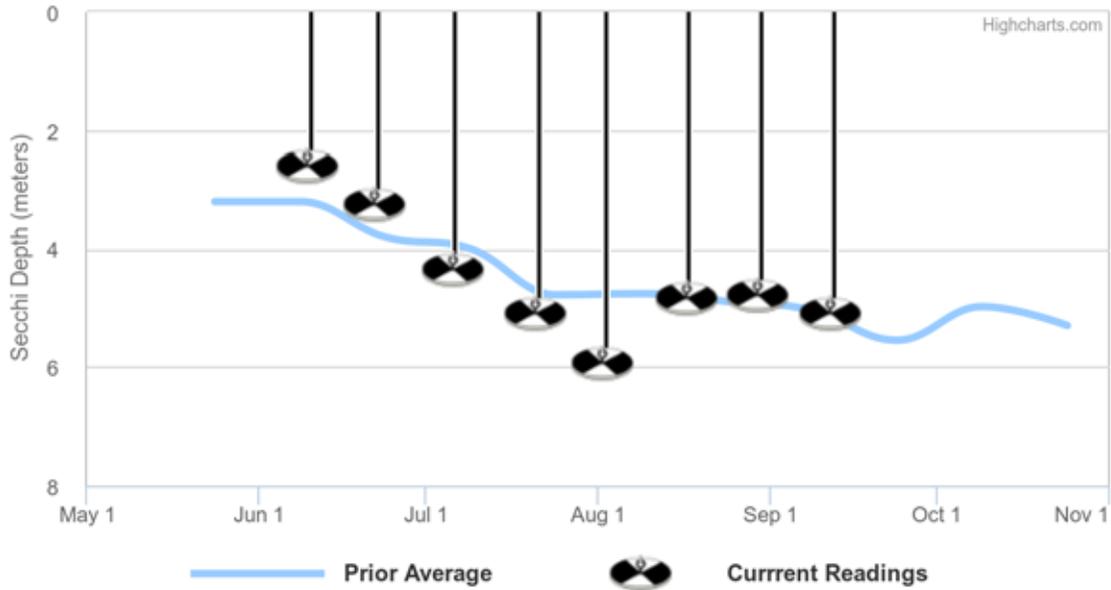
Appendix F: Current Year vs. Prior Averages for Glen Lake

Current Year Water Temperatures vs. Prior Average



This year's shallow water sample temperatures are tending to be higher than normal when compared to the average of readings collected from 1986 to 2014. This year's deep water sample temperatures are tending to be higher than normal when compared to the average of readings collected from 1998 to 2013.

Current Year Secchi Readings vs. Prior Average



This year's session Secchi readings are tending to be higher than normal when compared to the average of readings collected from 1986 to 2014

Appendix G: Watershed and Land Use Map for Glen Lake

This watershed and land use map was developed using USGS StreamStats and ESRI ArcGIS using the 2006 land use satellite imagery. The actual watershed map and present land uses within this watershed may be slightly different due to the age of the underlying data and some limits to the use of these tools in some geographic regions and under varying flow conditions. However, these maps are intended to show the approximate extent of the lake drainage basin and the major land uses found within the boundaries of the basin.

