

Timber Lake Questions and Answers, 2015 CSLAP

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

A1. The condition of Timber Lake appears to have improved in recent years, but was less favorable than usual in 2015. Water clarity was lower, due to higher nutrient levels (although algae levels were also lower than usual). However, no shoreline algae blooms were reported.

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

A2. Chloride sampling results were typical of lakes with major impacts from road salt runoff, although no biological impacts have been measured or reported.

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

A3. Timber Lake had lower water clarity, and higher nutrient and algae levels, than most other nearby lakes. Aquatic plant coverage was lower than in many other nearby lakes, perhaps due to low light transmission to the lake bottom.

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

A4. Algae levels have dropped over the last decade, consistent with improved water quality and recreational assessments. Conductivity readings have increased over the same period, perhaps indicative of excessive runoff to the lake.

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

A5. Timber Lake has not shown a susceptible to shoreline blue green algae blooms, despite relatively high nutrient and open water algae levels, and shoreline blooms have not been reported in recent years. However, the lake association would be well advised to try to reduce nutrient loading to the lake to reduce bloom susceptibility.

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 improve 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				Algae levels
Recreation				Algae levels
Aquatic Life				Road salt
Aesthetics				High nutrients
Habitat				No impacts
Fish Consumption				

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

CSLAP 2015 Lake Water Quality Summary: Timber Lake

General Lake Information

Location	Town of Lewisboro
County	Westchester
Basin	Lower Hudson River
Size	2.9 hectares (7.2 acres)
Lake Origins	Augmented by 300ft by 16ft earthen dam (1936)
Watershed Area	85 hectares (209.9 acres)
Retention Time	0.1 years
Mean Depth	1.5 meters
Sounding Depth	3.4 meters
Public Access?	no
Major Tributaries	no named tribs
Lake Tributary To...	unnamed outlet to Croton River to Hudson River
WQ Classification	B (contact recreation = swimming)
Lake Outlet Latitude	41.295
Lake Outlet Longitude	-73.662
Sampling Years	1994-95, 2005-2011, 2014-2015
2015 Samplers	Michael Brown, Eric Stand, and Russell Gordon
Main Contact	Eric Stand

Lake Map



Background

Timber Lake is an 8 acre, class B lake found in the Town of Lewisboro in Westchester County, in the southern Hudson River region of New York State. It was first sampled as part of CSLAP Light in 1994 and the full CSLAP program in 2005.

It is one of 19 CSLAP lakes among the more than 630 lakes and ponds found in Westchester County, and one of 67 CSLAP lakes among the more than 1370 lakes and ponds in the Lower Hudson River drainage basin.

Lake Uses

Timber Lake is a Class B lake; this means that the best intended use for the lake is for contact recreation—swimming and bathing, non-contact recreation—boating and fishing, aquatic life, and aesthetics. The lake is used for swimming and other recreational uses by lakefront residents, but there is no public access to the lake.

Timber Lake is not stocked by the state, and it is not known if private stocking occurs.

General statewide fishing regulations are applicable in Timber Lake.

There are no lake-specific fish consumption advisories on Timber Lake.

Historical Water Quality Data

CSLAP sampling was conducted on Timber Lake from 1994 to 1995, 2006 to 2011, and in 2014 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 reports for Timber Lake can also be found on the NYSDEC web page at <http://www.dec.ny.gov/lands/77829.html>.

Timber Lake was not sampled as part of any of the other major NYS monitoring programs (except for CSLAP Light). It is not known if the lake was monitored to support any local management activities, including fish stocking or other actions conducted by the lake association or directives by local officials.

Neither the unnamed tributary inlets to nor the outlet of the lake has been monitored through the NYSDEC Rotating Intensive Basins (RIBS) or stream biomonitoring programs.

Lake Association and Management History

Timber Lake is served by the Goldens Bridge Community Association Inc., also known as the Colony, founded 1935. The Association is involved in a variety of lake management and social activities, including:

- summer swimming, boating (non-residential boats are not allowed) and fishing, with lifeguards on duty during the summer season.
- Lake water used for firefighting
- Potable water—the lake association owns a number of deep wells, a chlorination plant and water distribution lines (lake water not used for this purpose)

- Restrictions on dumping aquaria, and a recommended 2 week drying period for using fishing tackle after use outside of lake
- Beach cleanup work—the association purchases beach sand
- Invasive species education—Chinese Mystery Snail has been found in the lake.

Information about Timber Lake can be found at <http://www.goldensbridge.org/GBsite/Home.htm>.

Summary of 2015 CSLAP Sampling Results

Evaluation of 2015 Annual Results Relative to 1994-2014

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 – Timber Lake” section in Appendix C..

Evaluation of Eutrophication Indicators

Water clarity readings were slightly lower than normal in 2015. However, while phosphorus readings were higher than normal (and have increased in recent years), chlorophyll *a* (algae) readings were lower than normal and have decreased over the last decade. The variability in these indicators, and the inconsistency in patterns in these indicators, suggests that these changes are within the normal range of variability for the lake.

Lake productivity increases slightly from June through August in most years, as manifested in increasing water clarity and decreasing nutrient and algae levels. Productivity then decreases through the end of the sampling season. The same seasonal pattern was apparent in 2015, although algae levels did not exhibit a clear seasonal trend.

The lake can be characterized as *eutrophic*, or highly productive, based on chlorophyll *a*, water clarity and total phosphorus readings (all typical of *eutrophic* lakes). The trophic state indices (TSI) evaluation suggests that algae levels in 2015 were slightly lower than expected given the nutrient levels and water clarity readings. This suggests that non-algal turbidity may have affected water clarity, although this was not as apparent in previous years. Overall trophic conditions are summarized on the Lake Scorecard and Lake Condition Summary Table.

Evaluation of Potable Water Indicators

Algae levels are 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, although the lake is not classified for use for drinking water. Potable water conditions, at least as measurable through CSLAP, are summarized in the Lake Scorecard and Lake Condition Summary Table.

Evaluation of Limnological Indicators

Conductivity readings were higher than normal in 2015, and these readings have increased over the last decade. NO_x and calcium readings were slightly lower than usual in 2015, and these

readings (along with ammonia readings) have decreased slightly since the mid-2000s. pH readings have also decreased slightly over the last decade, although these readings were close to usual in 2015. It is likely that the small changes in many of these water quality indicators are within the normal range of variability for the lake.

Chloride levels in the 2015 samples, collected for the first time through CSLAP and cited in Appendix A, were approximately 50 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

Very limited macrophyte surveys have been conducted through CSLAP, indicating only native plants. There is insufficient information to calculate a modified FQI for the lake.

Phytoplankton, zooplankton and macroinvertebrate communities have not been evaluated through CSLAP in Timber Lake, and the composition of the fish community is not known. The fluoroprobe data analyzed by SUNY ESF showed moderate to high overall algae levels, but low blue green algae levels in the open water, and the algae community was comprised of a mix of green algae, diatoms, and other algae. Toxin levels were also low. No shoreline blooms were reported in 2014 or 2015.

The lake association has reported the presence of Chinese mystery snail, an exotic species.

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

Evaluation of Lake Perception

Recreational assessments were more favorable than normal in 2014 and 2015, and both water quality and recreational assessments have improved since the mid-2000s (despite the lack of similar change in water clarity readings). Aquatic plant coverage was lower than normal in 2015, and the extent of aquatic plant growth has decreased in the last several years. It is not known if this has been due to active management or normal variability of native plants. Recreational and water quality assessments normally do not vary significantly during the summer, although recreational assessments did degrade slightly during the summer of 2015. Overall lake perception is summarized on the Lake Scorecard and Lake Condition Summary Table.

Evaluation of Local Climate Change

Water temperature readings in the summer index period have decreased slightly over the last decade, although these readings were slightly higher than usual in 2015. It is not known if this is an indication of local climate change or if these changes can be well evaluated through CSLAP.

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 below the thresholds for harmful algal blooms (HABs), although at times overall algae levels are elevated. An analysis of algae samples from open water (non-shoreline) samples have shown microcystin readings below the levels needed to support safe swimming. No shoreline bloom samples have been collected (and no shoreline blooms have been reported) in recent years.

Lake Condition Summary

Category	Indicator	Min	Overall Avg	Max	2015 Avg	Classification	2015 Change?	Long-term Change?
Eutrophication Indicators	Water Clarity	0.49	1.57	3.16	1.40	Eutrophic	Within Normal Range	No Change
	Chlorophyll <i>a</i>	0.70	11.42	29.40	8.81	Eutrophic	Within Normal Range	No Change
	Total Phosphorus	0.016	0.033	0.077	0.042	Eutrophic	Higher than Normal	No Change
Potable Water Indicators	Hypolimnetic Ammonia							
	Hypolimnetic Arsenic							
	Hypolimnetic Iron							
	Hypolimnetic Manganese							
Limnological Indicators	Hypolimnetic Phosphorus							
	Nitrate + Nitrite	0.00	0.03	0.15	0.01	Low NOx	Lower Than Normal	Decreasing Slightly
	Ammonia	0.00	0.06	0.21	0.06	Low Ammonia	Within Normal Range	No Change
	Total Nitrogen	0.12	0.47	0.93	0.54	Low Total Nitrogen	Within Normal Range	No Change
	pH	6.97	7.59	8.38	7.59	Alkaline	Within Normal Range	No Change
	Specific Conductance	225	532	908	783	Hardwater	Higher than Normal	Increasing Slightly
	True Color	3	18	50	17	Intermediate Color	Within Normal Range	No Change
	Calcium	15.9	23.0	28.0	18.2	Highly Susceptible to Zebra Mussels	Lower Than Normal	No Change
Lake Perception	WQ Assessment	1	2.5	4	2.5	Definite Algal Greenness	Within Normal Range	No Change
	Aquatic Plant Coverage	1	1.4	4	1.0	Plants Not Visible	Within Normal Range	Highly Improving
	Recreational Assessment	1	2.3	4	2.0	Excellent	Within Normal Range	No Change
Biological Condition	Phytoplankton					Open water-low blue green algae biomass	Not known	Not known
	Macrophytes					Not evaluated through CSLAP	Not known	Not known
	Zooplankton					Not measured through CSLAP	Not known	Not known
	Macroinvertebrates					Not measured through CSLAP	Not known	Not known
	Fish					Warmwater fishery?	Not known	Not known
	Invasive Species					Chinese mystery snail	Not known	Not known
Local Climate Change	Air Temperature	14	23.7	33	24.5		Within Normal Range	No Change
	Water Temperature	17	24.7	29	25.4		Within Normal Range	No Change

Category	Indicator	Min	Overall Avg	Max	2015 Avg	Classification	2015 Change?	Long-term Change?
Harmful Algal Blooms	Open Water Phycocyanin	0	20	84	25	No readings indicate high risk of BGA	Not known	Not known
	Open Water FP Chl.a	0	9	34	12	Few readings indicate high algae levels	Not known	Not known
	Open Water FP BG Chl.a	0	1	2	1	No readings indicate high BGA levels	Not known	Not known
	Open Water Microcystis	<DL	<DL	0.8	<DL	Low to undetectable open water microcystins	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
	Screening FP Chl.a					No shoreline blooms sampled for FP	Not known	Not known
	Screening FP BG Chl.a					No shoreline blooms sampled for FP	Not known	Not known
	Shoreline Microcystis	<DL	<DL	0.0		Very high shoreline bloom MC-LR	Not known	Not known
	Shoreline Anatoxin a	<DL	<DL	<DL		Shoreline bloom Anatoxin-a consistently not detectable	Not known	Not known

Evaluation of Lake Condition Impacts to Lake Uses

Timber Lake is not among the lakes on the 2008 Lower Hudson River drainage basin Priority Waterbody List (PWL).

Potable Water (Drinking Water)

The CSLAP dataset at Timber 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 used for this purpose. The algae levels in the lake suggest that the "unofficial" potable water use may be compromised.

Public Bathing

The CSLAP dataset at Timber Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggests that public bathing, if conducted at a public swimming beach, may be *stressed* by reduced water clarity and elevated nutrient and algae levels. Additional information about bacterial levels is needed to evaluate the safety of the water for swimming.

Recreation (Swimming and Non-Contact Uses)

The CSLAP dataset on Timber Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggest that recreation is usually *impaired* due to elevated algae levels, although these impacts were less significant in 2015 due to lower algae levels.

Aquatic Life

The CSLAP dataset on Timber Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggest that aquatic life may be *threatened* by road salt runoff and the presence of Chinese mystery snail, although no actual impacts have been reported. Additional data are needed to evaluate the food and habitat conditions for aquatic organisms in the lake.

Aesthetics and Habitat

The CSLAP dataset on Timber Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggest that aesthetics may be *poor* due to algae associated with excessive nutrients. Habitat may be *good* .

Fish Consumption

There are no fish consumption advisories posted for Timber Lake.

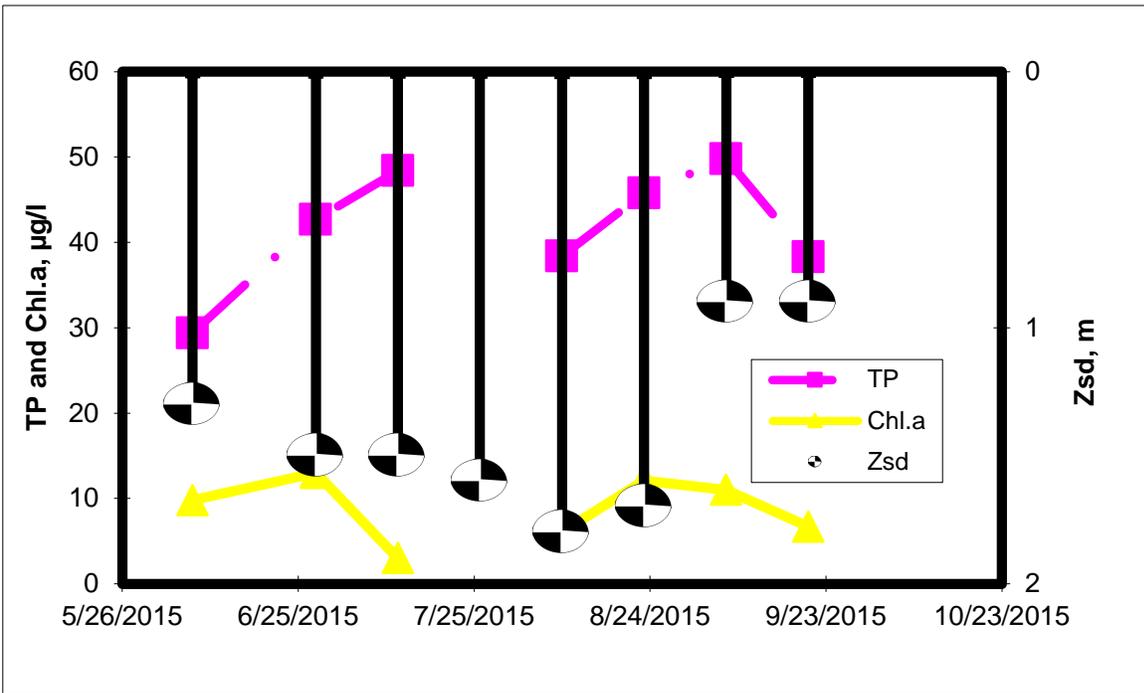
Additional Comments and Recommendations

More detailed aquatic plant monitoring in Timber Lake may be useful in determining if the plant community is more strongly affected by native or invasive plants.

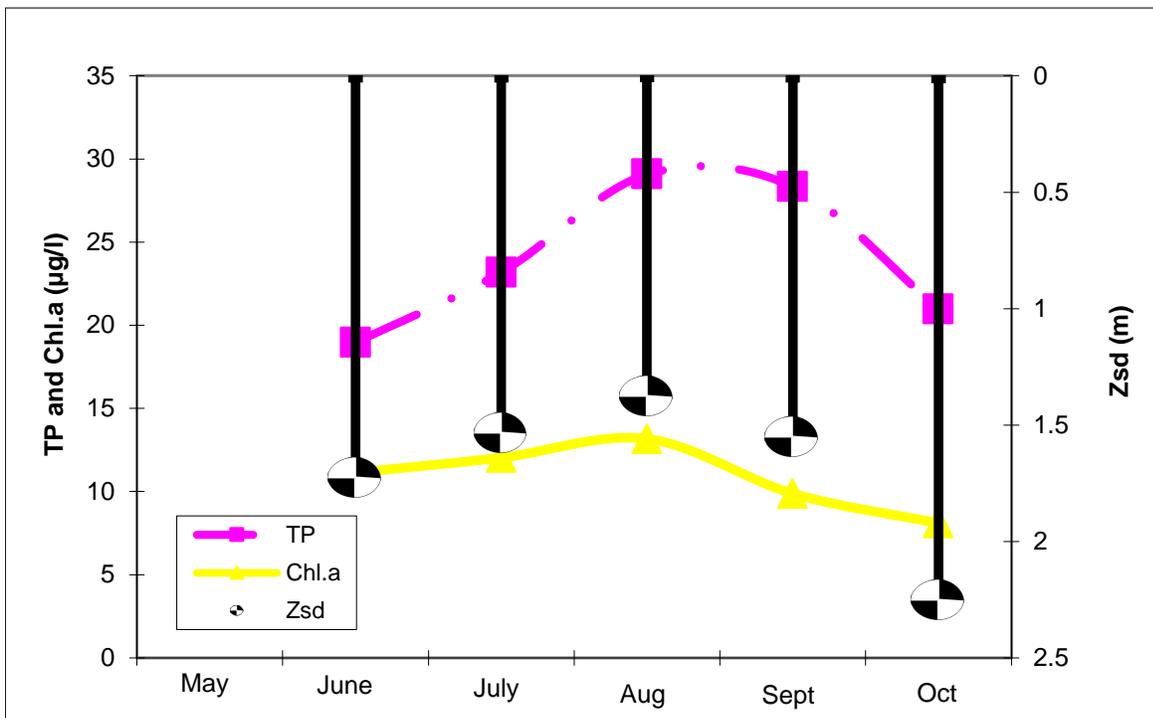
Aquatic Plant IDs-2015

None submitted for identification.

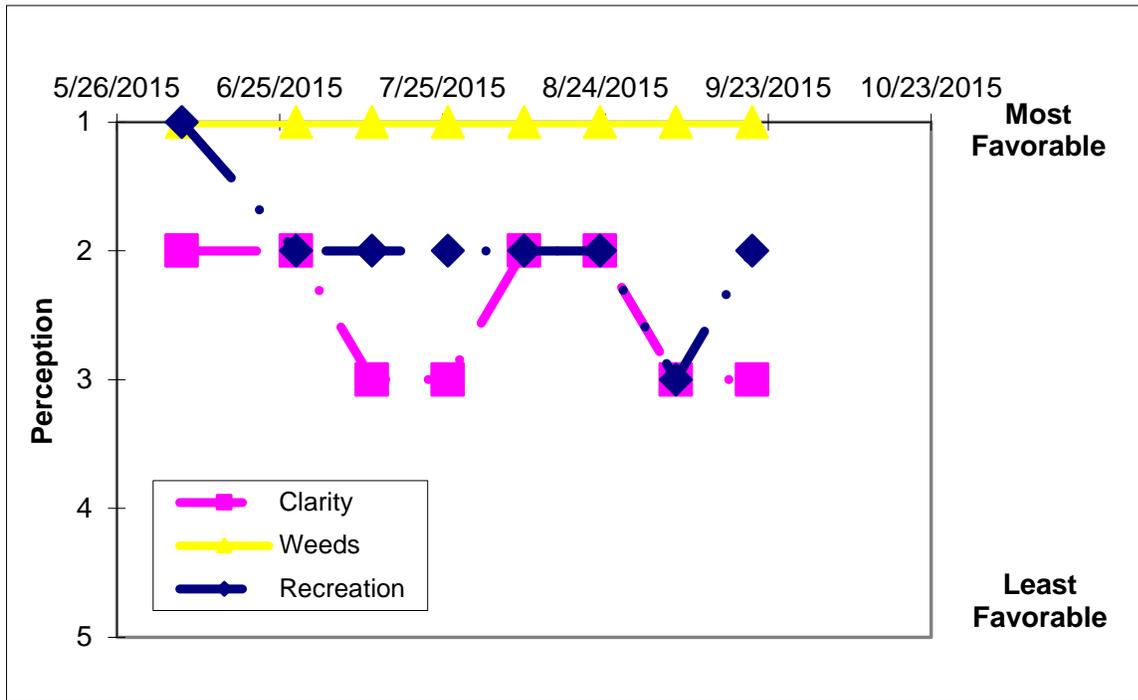
Time Series: Trophic Indicators, 2015



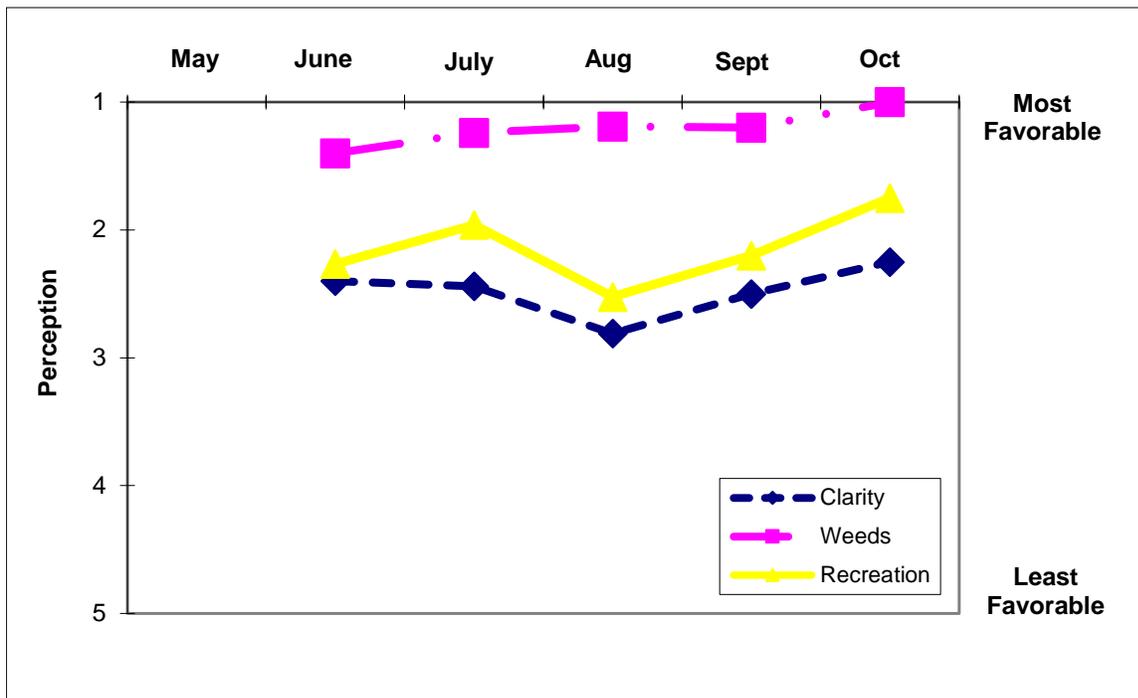
Time Series: Trophic Indicators, Typical Year (1994-2015)



Time Series: Lake Perception Indicators, 2015



Time Series: Lake Perception Indicators, Typical Year (1994-2015)



Appendix A- CSLAP Water Quality Sampling Results for Timber Lake

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
203	Timber L-W	5/7/1994	3.4	2.75												
203	Timber L-W	5/21/1994	3.4	2.06												
203	Timber L-W	6/4/1994	3.4	2.11												
203	Timber L-W	6/17/1994	3.4	2.52												
203	Timber L-W	7/3/1994	3.4	2.41												
203	Timber L-W	7/16/1994	3.4	2.11												
203	Timber L-W	7/30/1994	3.4	1.98												
203	Timber L-W	8/25/1994	3.4	1.76												
203	Timber L-W	9/24/1994	3.4	1.68												
203	Timber L-W	5/7/1995	3.4	0.80												
203	Timber L-W	5/21/1995	3.4	0.60												
203	Timber L-W	6/4/1995	3.4	0.62												
203	Timber L-W	6/17/1995	3.4	0.73												
203	Timber L-W	7/11/1995	3.4	0.71												
203	Timber L-W	7/16/1995	3.4	0.62												
203	Timber L-W	7/30/1995	3.4	0.58												
203	Timber L-W	8/25/1995	3.4	0.51												
203	Timber L-W	9/24/1995	3.4	0.49												
203	Timber L-W	7/24/2005	3.1	2.30	1.5	0.022	0.03	0.01	0.35	35.40		7.50	526	24.3		
203	Timber L-W	7/31/2005	3.0	1.10	1.5	0.048	0.15	0.04	0.36	16.68	9	8.01	565		21.87	
203	Timber L-W	8/7/2005	3.0	1.35	1.5	0.024	0.04	0.01	0.21	19.04	10	7.67	558		10.71	
203	Timber L-W	8/14/2005	3.0	1.30	1.5	0.045	0.07	0.02	0.36	17.73	3	7.84	544		17.76	
203	Timber L-W	8/21/2005	3.1	1.10	1.5	0.035	0.07	0.17	0.32	20.18	48	7.64	420	21.2	19.87	
203	Timber L-W	8/28/2005	3.1	0.95	1.5	0.053	0.01	0.01	0.16	6.57	8	8.16	535		25.58	
203	Timber L-W	9/4/2005	3.1	0.70	1.5	0.059	0.01	0.01	0.21	7.93	6	7.94	507		15.19	
203	Timber L-W	9/11/2005	3.1	0.70	1.5	0.054	0.05	0.01	0.41	16.49	6	7.59	541		12.99	
203	Timber L-W	6/18/2006	3.3	3.00	1.0	0.017	0.04	0.03	0.61	77.74	15	8.13	376	18.4	7.61	
203	Timber L-W	6/30/2006	3.4	1.73			0.01	0.01	0.63		29	7.66	385		11.67	
203	Timber L-W	7/2/2006	3.4	1.40	1.5	0.031			0.40	29.01	14	7.72	410		14.38	
203	Timber L-W	7/16/2006	3.3	1.73	1.5	0.022	0.01	0.12	0.62	62.13	17	7.99	392		9.67	
203	Timber L-W	8/13/2006	3.1	0.99	1.5	0.035	0.01	0.07	0.54	34.13	19	7.49	395	22.3	27.98	
203	Timber L-W	8/27/2006	3.1	1.90	1.5	0.057	0.02	0.14	0.93	36.11	6	7.45	517		22.23	
203	Timber L-W	9/10/2006	3.2	1.64	1.5	0.027	0.03	0.06	0.45	36.28	13	8.16	324		9.81	
203	Timber L-W	9/24/2006	3.1	1.33	1.5	0.040	0.04	0.21	0.38	21.12	12	7.29	393		12.29	
203	Timber L-W	7/7/2007	3.0	1.35	1.5	0.022	0.00	0.01	0.44	45.00	14	7.58	441	23.1	18.87	
203	Timber L-W	7/15/2007	3.0	1.48		0.016	0.01	0.02	0.12	17.69	22	7.67	474		1.10	
203	Timber L-W	7/29/2007	2.9	1.63	1.5	0.019	0.01	0.02	0.55	63.69	38	7.72	453		9.89	
203	Timber L-W	8/12/2007	3.0	1.59	1.5	0.024	0.01	0.04	0.59	54.54	17	7.53	433		6.27	
203	Timber L-W	8/26/2007	3.1	1.81	1.5	0.046	0.13	0.03	0.85	40.99	16	7.77	463	25.3	8.41	
203	Timber L-W	9/9/2007	3.0	1.55	1.5	0.018	0.00	0.01	0.68	83.38	17	8.16	431		11.50	
203	Timber L-W	9/23/2007	3.0	1.81	1.5	0.051	0.00	0.01	0.66	28.34	19	8.38	373		13.60	
203	Timber L-W	10/7/2007	2.9	2.20	1.5	0.039	0.02	0.07	0.83	47.11	28	7.71	554		7.43	
203	Timber L-W	6/29/2008	3.0	1.63	1.5	0.022	0.00	0.03	0.61	59.91	12	7.51	565	25.2	13.06	
203	Timber L-W	7/13/2008	3.3	1.70	1.5	0.022	0.02	0.01	0.32	31.96	18	7.61	494		9.34	
203	Timber L-W	7/27/2008	3.2	1.43	1.5	0.032	0.02	0.04	0.32	21.80	13	7.74	421		12.66	
203	Timber L-W	8/10/2008	3.0	1.05	1.5	0.031	0.08	0.05	0.32	22.46	11	7.38	514		7.77	
203	Timber L-W	8/24/2008	3.0	1.50	1.5	0.031	0.00	0.02	0.27	19.63	14	7.62	517	25.2	9.56	
203	Timber L-W	9/7/2008	3.1	0.83	1.5	0.033	0.00	0.00	0.29	19.01	50	7.60	541		14.00	
203	Timber L-W	9/21/2008				0.033	0.01	0.02	0.27	18.26	24	7.55	423		14.85	
203	Timber L-W	10/5/2008	3.1	1.50	1.5	0.026	0.02	0.02	0.25	21.23	17	7.45	530		14.63	
203	Timber L-W	06/14/2009	3.2	1.45	1.0	0.029	0.03	0.02	0.34	25.53	26	7.24	621	27.2	28.00	
203	Timber L-W	06/29/2009	3.2	1.80	1.0	0.063	0.02	0.04	0.33	11.67	21	7.60	577		13.41	
203	Timber L-W	07/12/2009	3.1	1.25		0.077	0.01	0.01	0.29	8.26	22	7.14	515		11.80	
203	Timber L-W	07/26/2009	3.1	1.43	1.5	0.027	0.02	0.01	0.29	23.53	25	7.30	455		7.15	
203	Timber L-W	08/09/2009	3.1	1.70	1.5	0.033	0.08	0.03	0.52	34.67	20	7.07	395	28.0	9.80	
203	Timber L-W	08/23/2009	3.1	1.33	1.5	0.027	0.02	0.04	0.32	25.77	30	7.06	413		9.70	
203	Timber L-W	09/06/2009	3.1	1.55	1.5	0.021	0.01	0.04	0.33	34.35	45	7.70	564		8.00	
203	Timber L-W	09/20/2009	3.1	1.78	1.5	0.030	0.01	0.01	0.27	19.43	21	8.03	319		7.50	
203	Timber L-W	6/13/2010	3.1	1.85	1.5	0.026	0.03	0.14	0.60	51.08	16	7.43	683	27.1	0.70	
203	Timber L-W	6/27/2010	3.0	2.05	1.5	0.023	0.04	0.11	0.47	44.28	10	7.61	615		6.20	

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
203	Timber L-W	7/11/2010				0.021	0.01	0.07	0.42	43.79	12	7.79	734		12.80	
203	Timber L-W	7/25/2010	2.9	1.34	1.5	0.024	0.02	0.02	0.43	39.33	11	7.39	651		7.00	
203	Timber L-W	8/8/2010	2.9	1.29	1.5	0.031	0.01	0.03	0.44	31.17	12	7.57	706	23.7	11.80	
203	Timber L-W	8/25/2010	3.1	1.16	1.5	0.029	0.04	0.12	0.32	24.84	13	7.21	649		7.50	
203	Timber L-W	9/5/2010	3.0	1.57	1.5	0.027	0.03	0.11	0.35	28.04	15	7.33	605		9.40	
203	Timber L-W	9/18/2010	2.9	2.63	1.5	0.019	0.07	0.14	0.44	50.91	14	7.52	624		5.40	
203	Timber L-W	7/3/2011	3.0	2.01	1.5	0.027	0.07	0.11	0.56	45.13	15	7.38	225	20.9	3.60	
203	Timber L-W	7/17/2011	3.1	1.44	1.5	0.037	0.01	0.03	0.50	29.67	13	7.67	539		19.60	
203	Timber L-W	7/31/2011	3.0	1.69	1.5	0.026	0.01	0.03	0.44	37.40	10	7.52	483		12.80	
203	Timber L-W	7/31/2011	grab	bloom												
203	Timber L-W	8/19/2011	3.1	1.50	1.5	0.021	0.01	0.01	0.78	80.05	9	7.59	487		10.80	
203	Timber L-W	9/4/2011	3.2	1.65		0.031	0.08	0.01	0.45	31.89	31	6.99	450	18.0	7.00	
203	Timber L-W	9/18/2011	3.2	2.90	1.5	0.044	0.09	0.15	0.68	34.54	26	7.30	441		7.20	
203	Timber L-W	10/2/2011	3.2	2.16	1.5		0.11	0.18	0.66		27	7.48	441		6.80	
203	Timber L-W	10/16/2011	3.3	3.16	1.5	0.024	0.11	0.20	0.70	64.27	21	7.23	414		3.50	
203	Timber L-W	6/15/2014	3.2	2.14	1.5	0.023	0.05	0.20	0.54	51.40	12	7.22	461	23.7	5.60	
203	Timber L-W	6/29/2014	3.1	1.50	1.5	0.028			0.48	38.36	24	7.63	590		13.40	
203	Timber L-W	7/13/2014	3.1	1.75	1.5	0.036	0.01	0.05	0.48	29.21	13	7.68	604		11.70	
203	Timber L-W	7/27/2014	3.0	1.95	1.5	0.042			0.51	26.57	20	7.72	588		29.40	
203	Timber L-W	8/10/2014	2.9	1.60	1.5	0.034	0.01	0.01	0.39	25.45	11	7.46	630	23.5	19.90	
203	Timber L-W	8/24/2014	2.9	1.10	1.5	0.036			0.47	28.82	12	6.97	623		6.40	
203	Timber L-W	9/7/2014	3.0	2.05	1.5	0.023	0.02	0.05	0.38	35.82	10	7.89	578		4.80	
203	Timber L-W	9/21/2014	2.9	2.90	1.5	0.029			0.81	61.68	12	7.84	583		6.60	
203	Timber L-W	6/7/2015	3.2	1.30	1.5	0.029	0.03	0.05	0.44	15.00	15	7.84	800	15.9	9.80	
203	Timber L-W	6/28/2015	3.3	1.50	1.5	0.043			0.39	9.16	14	7.21	847		13.00	
203	Timber L-W	7/12/2015	3.4	1.50	1.5	0.048	0.01	0.05	0.54	11.10	13	7.34	776		3.00	50.0
203	Timber L-W	7/26/2015	3.1	1.60	1.5											
203	Timber L-W	8/9/2015	3.0	1.80	1.5	0.038	0.01	0.10	0.63	16.51	16	7.58	908	20.4	6.10	
203	Timber L-W	8/23/2015	3.0	1.70	1.5	0.046			0.71	15.57	10	7.43	727		12.10	
203	Timber L-W	9/6/2015	3.0	0.90	1.5	0.050	0.00	0.04	0.49	9.76	33	8.15	611		11.00	50.0
203	Timber L-W	9/20/2015	2.9	0.90	1.5	0.038			0.55	14.23	20	7.57	810		6.70	

LNum	PName	Date	Site	TAir	TH20	QA	QB	QC	QD	QE	QF	QG	AQ-PC	AQ-Chla	MC-LR	Ana-a	Cylin	FP-Chl	FP-BG	HAB form	Shore HAB
203	Timber L-W	5/7/1994	epi			2	4	3	2												
203	Timber L-W	5/21/1994	epi			2	4	4	3												
203	Timber L-W	6/4/1994	epi			2	3	3	3												
203	Timber L-W	6/17/1994	epi			2	2	2	1												
203	Timber L-W	7/3/1994	epi			2	1	2	3												
203	Timber L-W	7/16/1994	epi			3	3	2	2												
203	Timber L-W	7/30/1994	epi			2	2	1	0												
203	Timber L-W	8/25/1994	epi			2	3	2	3												
203	Timber L-W	9/24/1994	epi			2	3	2	2												
203	Timber L-W	5/7/1995	epi			2	4	3	2												
203	Timber L-W	5/21/1995	epi			2	4	4	23												
203	Timber L-W	6/4/1995	epi			2	3	3	23												
203	Timber L-W	6/17/1995	epi			2	2	2	1												
203	Timber L-W	7/11/1995	epi			2	1	2	3												
203	Timber L-W	7/16/1995	epi			3	3	2	12												
203	Timber L-W	7/30/1995	epi			2	2	1													
203	Timber L-W	8/25/1995	epi			2	3	2	23												
203	Timber L-W	9/24/1995	epi			2	3	2	2												
203	Timber L-W	7/24/2005	epi	28	28	3	1	2	8												
203	Timber L-W	7/31/2005	epi	28	27	3	1	2	8												
203	Timber L-W	8/7/2005	epi	25	28	3	1	3	3												
203	Timber L-W	8/14/2005	epi	30	29	3	1	3	138												
203	Timber L-W	8/21/2005	epi	28	26	4	1	4	13												
203	Timber L-W	8/28/2005	epi	27	26	4	1	3	35												
203	Timber L-W	9/4/2005	epi	20	25	3	1	4	13												
203	Timber L-W	9/11/2005	epi	26	23	3	1	4	13												
203	Timber L-W	6/18/2006	epi	25	24	3	1	3	3												

LNum	PName	Date	Site	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
203	Timber L-W	6/30/2006	epi	29	28	3	1	2	0											
203	Timber L-W	7/2/2006	epi	28	27	2	1	2	0											
203	Timber L-W	7/16/2006	epi	33	28	3	1	3	3											
203	Timber L-W	8/13/2006	epi	18	25	4	1	3	13											
203	Timber L-W	8/27/2006	epi	19	24	3	1	3	15											
203	Timber L-W	9/10/2006	epi	21	24	2	1	2	0											
203	Timber L-W	9/24/2006	epi	24	22	2	1	2	0											
203	Timber L-W	7/7/2007	epi	18	25	2	1	1	0											
203	Timber L-W	7/15/2007	epi	27	28	2	1	2	0											
203	Timber L-W	7/29/2007	epi	27	28	2	1	2	0											
203	Timber L-W	8/12/2007	epi	28	28	3	1	3	16											
203	Timber L-W	8/26/2007	epi	25	27	3	1	3	0											
203	Timber L-W	9/9/2007	epi	28	27	3	1	3	0											
203	Timber L-W	9/23/2007	epi	25	23	3	1	3	13											
203	Timber L-W	10/7/2007	epi	25	24	3	1	3	0											
203	Timber L-W	6/29/2008	epi	27	27	3	1	2	0											
203	Timber L-W	7/13/2008	epi	26	25	2	1	1	0											
203	Timber L-W	7/27/2008	epi	21	24	3	1	2	0											
203	Timber L-W	8/10/2008	epi	18	22	3	1	3	13											
203	Timber L-W	8/24/2008	epi	22	24	3	1	2	1											
203	Timber L-W	9/7/2008	epi	24	25	3	1	3	0											
203	Timber L-W	9/21/2008	epi			3	1	1	1											
203	Timber L-W	10/5/2008	epi	14	17	3	1	2	5											
203	Timber L-W	06/14/2009	epi	29	23	3	1	3												
203	Timber L-W	06/29/2009	epi	21	23	2	1	2												
203	Timber L-W	07/12/2009	epi	23	24	2	1	2												
203	Timber L-W	07/26/2009	epi	25	25	3	1	2												
203	Timber L-W	08/09/2009	epi	22	25	2	1	2												
203	Timber L-W	08/23/2009	epi	25	27	3	1	3												
203	Timber L-W	09/06/2009	epi	17	25	3	1	3												
203	Timber L-W	09/20/2009	epi	19	19	2	1	1												
203	Timber L-W	6/13/2010	epi	19	22	3	1	2	0	0	0									
203	Timber L-W	6/27/2010	epi	26	27	3	1	3	13	4	4									
203	Timber L-W	7/11/2010	epi			2	1	2	0	6										
203	Timber L-W	7/25/2010	epi	22	29	3	1	3	13	6	0									
203	Timber L-W	8/8/2010	epi	33		3	1	3	1	0	0	59.00		0.00						
203	Timber L-W	8/25/2010	epi	20	23	3	1	2	0	0	0	41.06								
203	Timber L-W	9/5/2010	epi	22	24	2	1	1	0	6	0	33.00		0.00						
203	Timber L-W	9/18/2010	epi	17	22	2	1	2	0	0	6									
203	Timber L-W	7/3/2011	epi	22	25	2	1	2	0	6	0	9.50	5.00							
203	Timber L-W	7/17/2011	epi	29	28	2	1	2	0	6		22.60	20.60	0.15	<0.9	<0.1				
203	Timber L-W	7/31/2011	epi	28	27	3	1	3	1	6	4	17.80	7.10	0.57	<0.5	<0.1				
203	Timber L-W	7/31/2011	epi																	
203	Timber L-W	8/19/2011	epi	26	26	2	1	1	0	6	0	27.40	8.60							
203	Timber L-W	9/4/2011	epi	23	24	3	1	2	5	6		84.30	5.40							
203	Timber L-W	9/18/2011	epi	14	20	2	1	1	0	0	0	7.60	5.30							
203	Timber L-W	10/2/2011	epi	15	20	2	1	1	0	0	0	7.00	4.40							
203	Timber L-W	10/16/2011	epi	17	17	1	1	1	0	0	0	6.50	2.70							
203	Timber L-W	6/15/2014	epi	21	22	2	1	2	0	7	0	0.20	1.90				3.62	0.00	i	
203	Timber L-W	6/29/2014	epi	25	26	2	1	2	0	7	0	4.60	0.90	<1.60	<0.48	<0.002	0.34	0.00	i	i
203	Timber L-W	7/13/2014	epi	25	27	2	1	2	0	7	7	7.50	0.80	<0.40	<0.21	<0.003	4.30	0.14	i	i
203	Timber L-W	7/27/2014	epi	25	26							11.30	1.20	<0.63	<0.03	<0.001	8.96	0.37	i	i
203	Timber L-W	8/10/2014	epi	23	25	3	1	3	0	46	0	6.00	1.20	<0.28	<0.05	<0.001	6.26	0.19	d	d
203	Timber L-W	8/24/2014	epi	23	24	2	1	1	0	6	6	16.70	1.10	<0.26	<0.10	<0.002	8.18	2.30	i	i
203	Timber L-W	9/7/2014	epi	23	26	2	1	1	0	6	0	7.60	0.80	<0.29	<0.14	<0.002	4.56	0.34	i	i
203	Timber L-W	9/21/2014	epi	21	20	2	1	2	0	6	0	7.20	0.80	<0.48	<0.04	<0.001	6.08	1.38	i	i
203	Timber L-W	6/7/2015	epi	23	22	2	1	1	0	0	0			<0.77	<0.126	<1.739	3.38	0.00	l	l
203	Timber L-W	6/28/2015	epi	18	23	2	1	2	5	6	0	3.40	0.90	<0.86	<0.007	<0.000	4.05	0.00	l	l

LNum	PName	Date	Site	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
203	Timber L-W	7/12/2015	epi	30	28	3	1	2	0	6	6	6.60	1.40	<0.76	<0.005	<0.028	4.88	0.00	F	F
203	Timber L-W	7/26/2015	epi	24	27	3	1	2	7	6	6									I
203	Timber L-W	8/9/2015	epi	29	27	2	1	2	0	6	6	12.40	0.90	<0.44	<0.035	<0.023	4.31	1.42	F	I
203	Timber L-W	8/23/2015	epi	23	27	2	1	2	0	6	6	68.20	4.60	<0.28	<0.008	<0.021	7.36	0.90	F	I
203	Timber L-W	9/6/2015	epi	27	25	3	1	3	1	6	6			<0.50	<0.007	<0.040	28.59	0.24	F	I
203	Timber L-W	9/20/2015	epi	22	24	3	1	2	0	6	6	34.30	8.50	<0.39	<0.009	<0.022	33.82	1.16	I	I

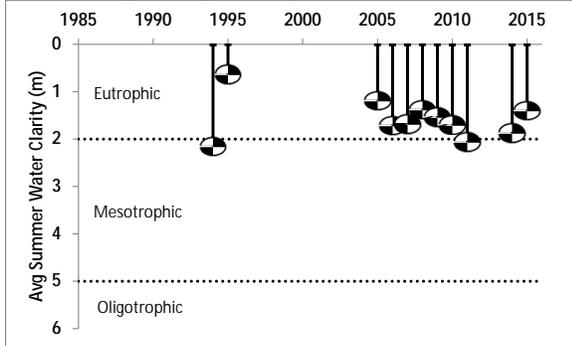
Legend Information

Indicator	Description	Detection Limit	Standard (S) / Criteria (C)
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; 1 = poor water clarity, 2 = excessive weeds, 3 = too much algae, 4 = 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 C- Long Term Trends: Timber Lake

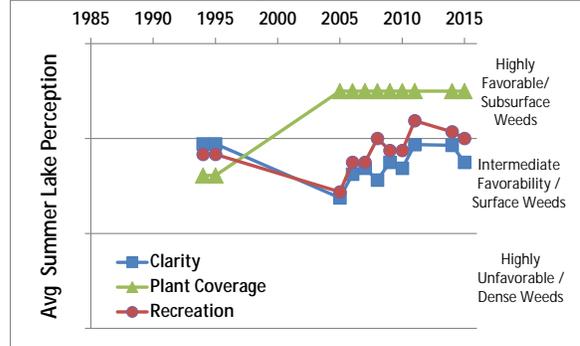
Long Term Trends: Water Clarity

- Slightly variable from year to year
- Most readings typical of *eutrophic* lakes, as expected given algae and TP levels



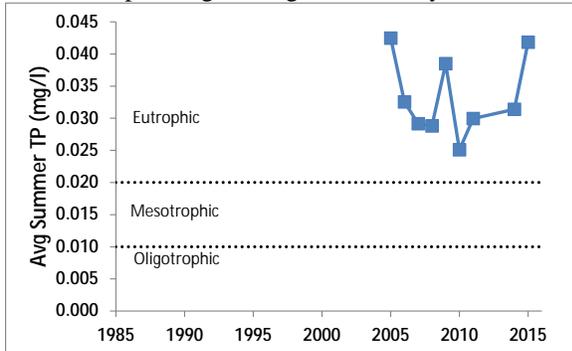
Long Term Trends: Lake Perception

- Rec and WQ perception improving since '05
- Small changes in recreational perception not linked to changes in WQ or weeds



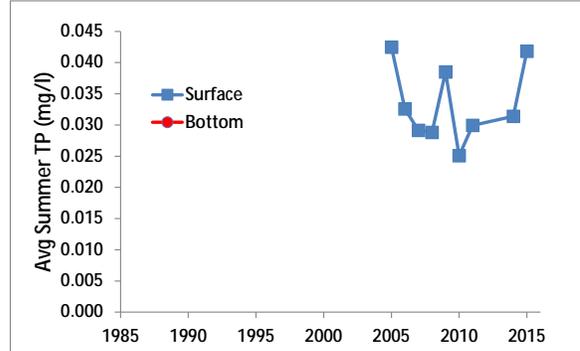
Long Term Trends: Phosphorus

- Variable TP readings
- Most readings typical of *eutrophic* lakes, as expected given algae and clarity levels



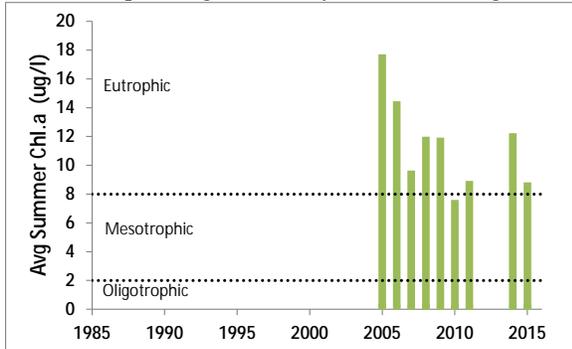
Long Term Trends: Bottom Phosphorus

- Bottom TP not measured
- Given shallow lake depth, it is likely that surface and bottom TP levels are similar



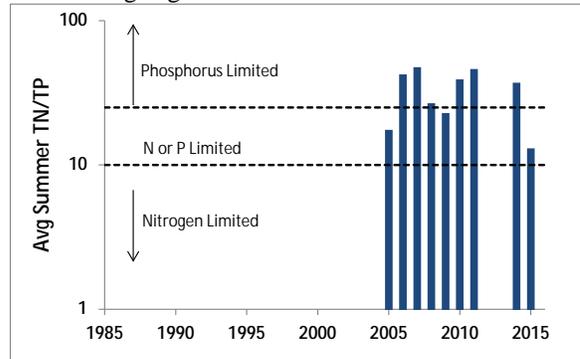
Long Term Trends: Chlorophyll a

- Decrease since mid-2000s
- Most readings typical of *eutrophic* lakes, as expected given clarity and TP readings



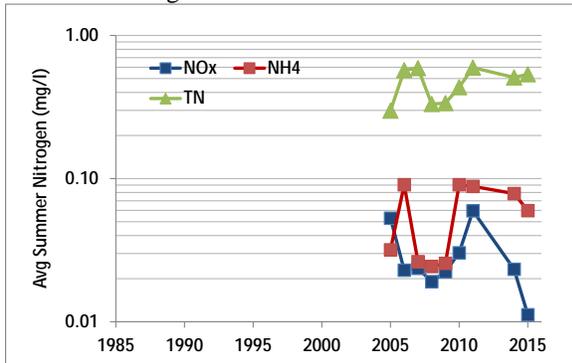
Long Term Trends: N:P Ratio

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



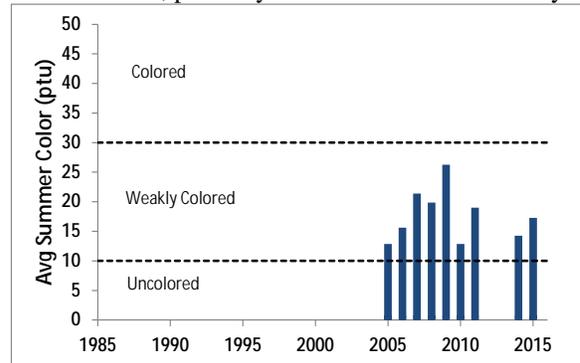
Long Term Trends: Nitrogen

- NOx decreasing; NH4 and TN increasing?
- Low nitrate, ammonia and total nitrogen readings



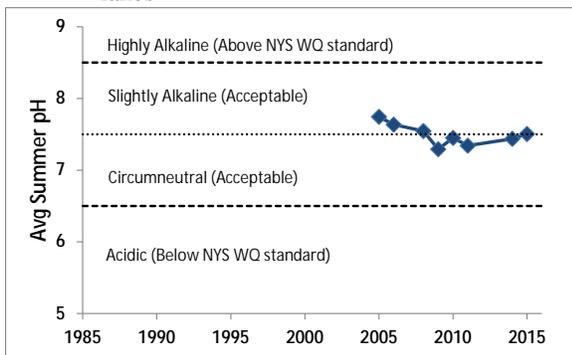
Long Term Trends: Color

- No trends apparent; color peaked late '00s
- Most readings typical of *weakly colored* lakes; probably little effect on water clarity



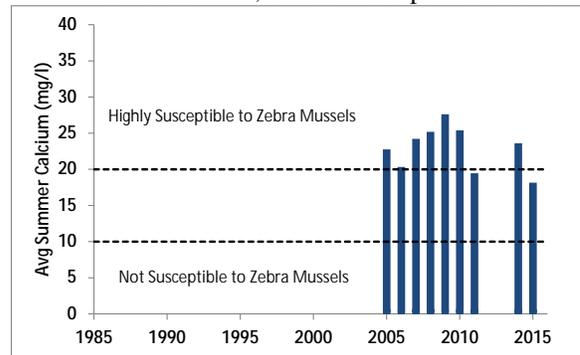
Long Term Trends: pH

- Decrease in pH since mid-2000s
- Most readings typical of *slightly alkaline* lakes



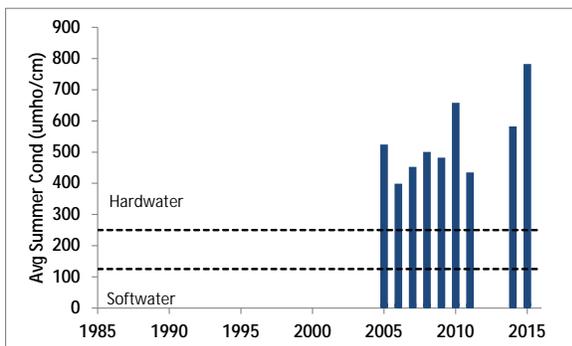
Long Term Trends: Calcium

- No trends apparent; recent decrease
- Most readings indicate high susceptibility to zebra mussels; not known if present in lake



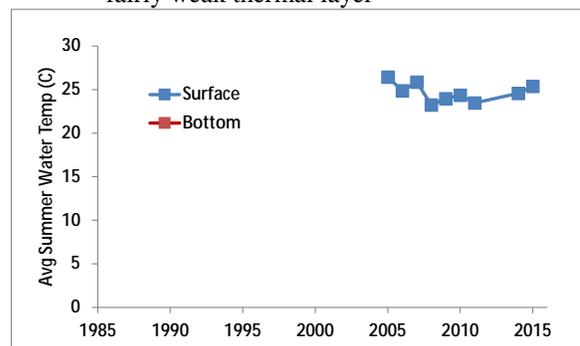
Long Term Trends: Conductivity

- Apparent increase in conductivity
- Most readings typical of *hardwater* lakes



Long Term Trends: Water Temperature

- Variable temperature readings
- Moderate deepwater temperatures indicate fairly weak thermal layer



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.

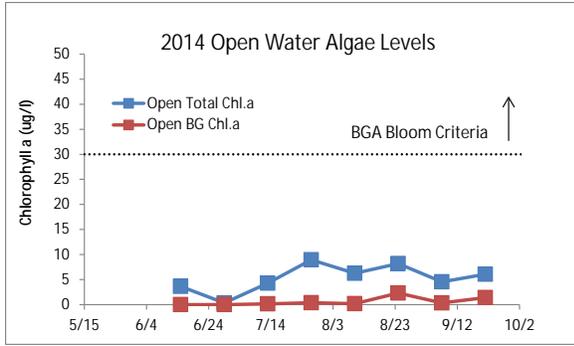


Figure D1:
2014 Open Water Total and BGA Chl.a

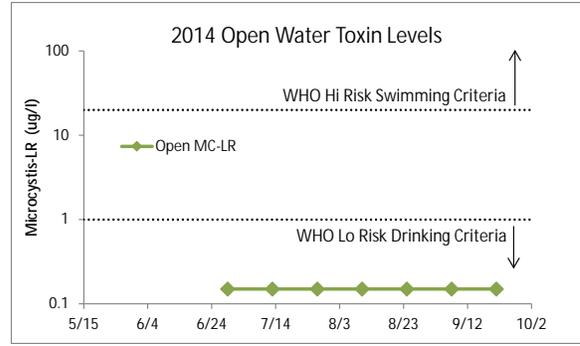


Figure D2:
2014 Open Water Microcystin-LR

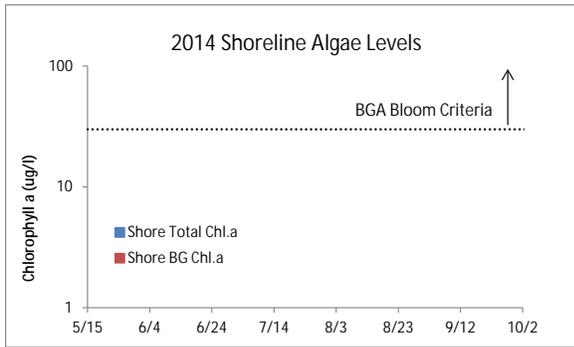


Figure D3:
2014 Shoreline Total and BGA Chl.a

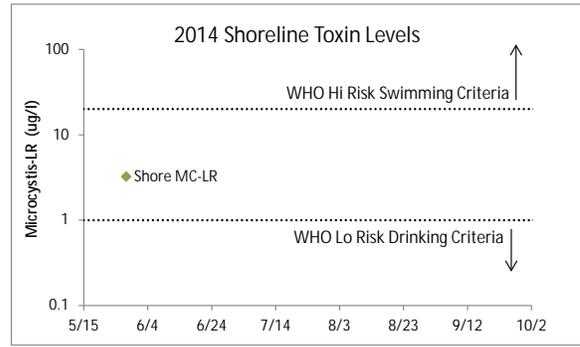


Figure D4:
2014 Shoreline Microcystin-LR

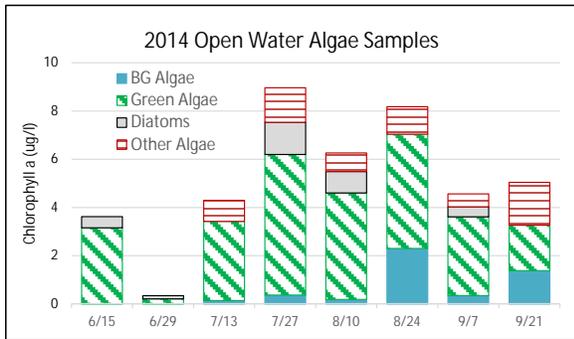


Figure D5:
2014 Open Water Algae Types

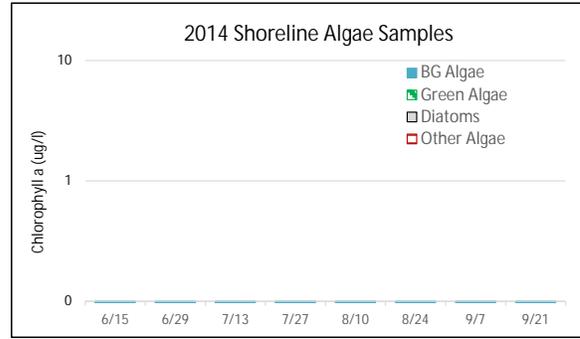


Figure D6:
2014 Shoreline Algae Types

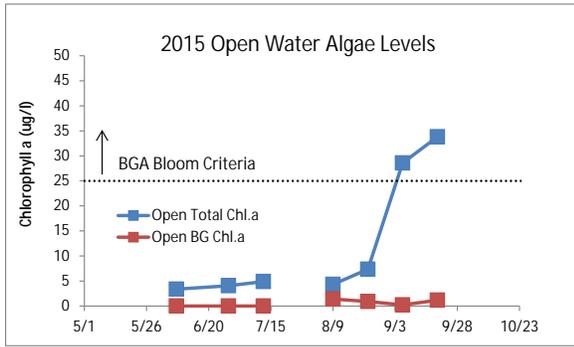


Figure D7:
2015 Open Water Total and BGA Chl.a

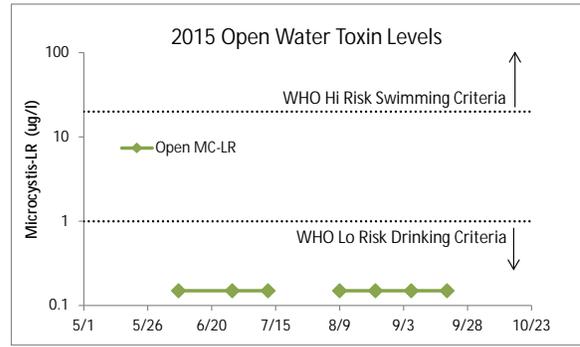


Figure D8:
2015 Open Water Microcystin-LR

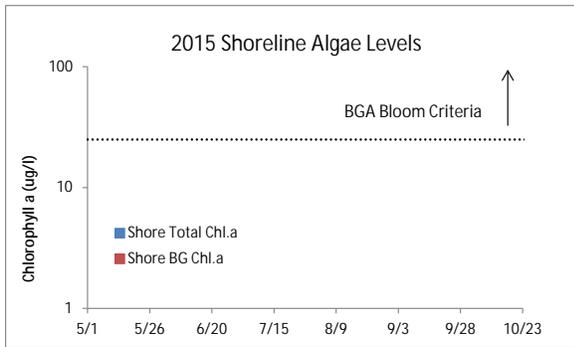


Figure D9:
2015 Shoreline Total and BGA Chl.a

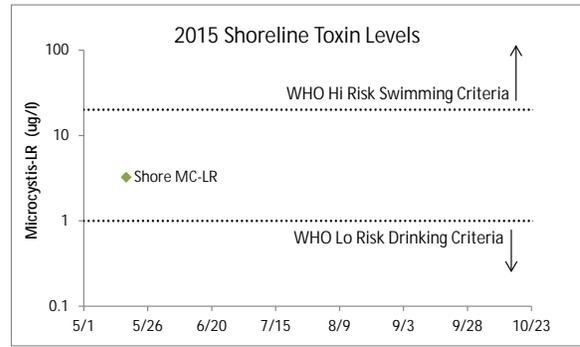


Figure D10:
2015 Shoreline Microcystin-LR

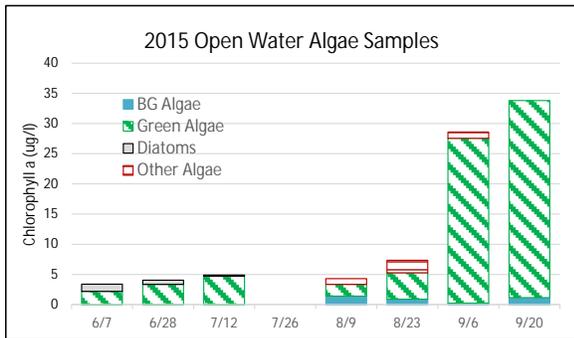


Figure D11:
2015 Open Water Algae Types

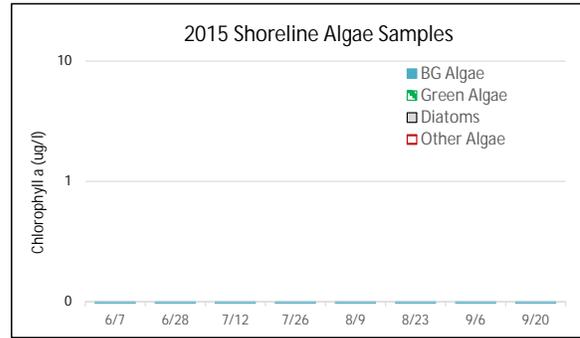


Figure D12:
2015 Shoreline Algae Types

Appendix E: AIS Species in Westchester County

The table below shows the invasive aquatic plants and animals that have been documented in Westchester 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).

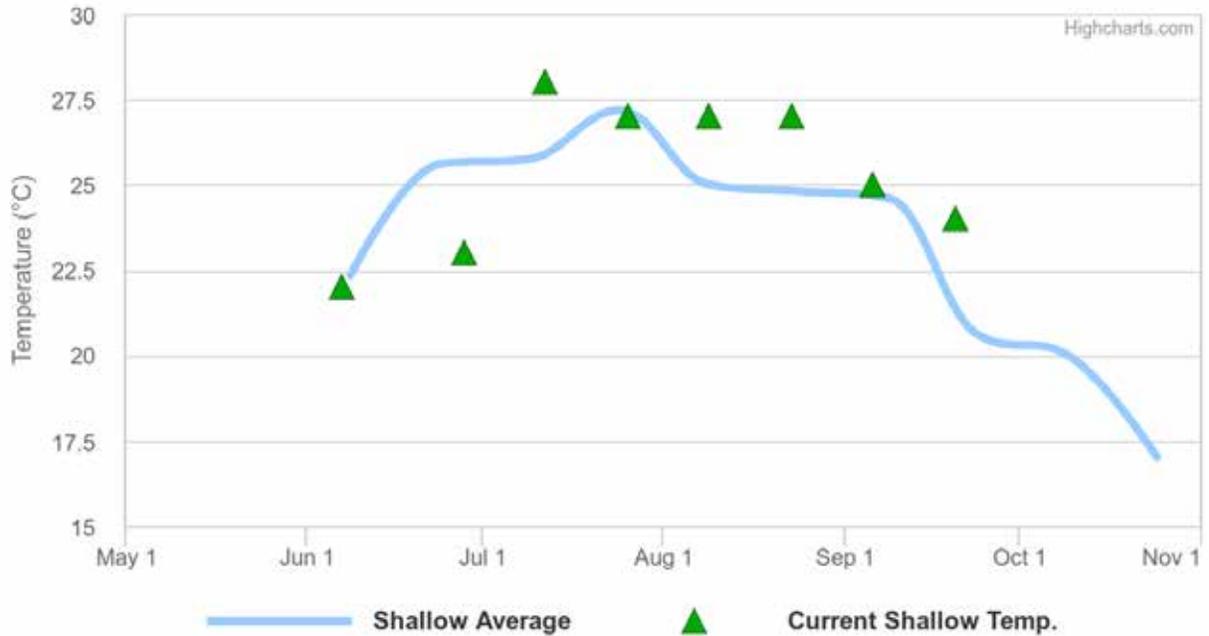
This list is not complete, but instead represents only those species that have been reported and verified within the county. If any additional aquatic invasive species (AIS) are known or suspected in these or other waterbodies in the county, this information should be reported through iMap invasives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

Aquatic Invasive Species - Westchester County			
Waterbody	Kingdom	Common name	Scientific name
Cross River Reservoir	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Cross River Reservoir	Animal	Virile crayfish	<i>Orconectes virilis</i>
Croton River	Plant	Hydrilla	<i>Hydrilla verticillata</i>
Croton River	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Croton River	Plant	Brittle naiad	<i>Najas minor</i>
Croton River	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Grassy Sprain Reservoir	Animal	American alligator	<i>Alligator mississippiensis</i>
Howlands Lake	Plant	Brittle naiad	<i>Najas minor</i>
Hudson River	Plant	Water chestnut	<i>Trapa natans</i>
Hudson River	Animal	Zebra mussel	<i>Dreissena polymorpha</i>
Huguenot Lake	Animal	American alligator	<i>Alligator mississippiensis</i>
Lake Katonah	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Lake Lincolndale	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Lake Lincolndale	Plant	Brittle naiad	<i>Najas minor</i>
Lake Mohegan	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Lake Oscaleta	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Lake Oscaleta	Plant	Brittle naiad	<i>Najas minor</i>
Lake Oscaleta	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Lake Rippowam	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Lake Waccabuc	Plant	Brazilian elodea	<i>Egeria densa</i>
Lake Waccabuc	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Lake Waccabuc	Plant	Brittle naiad	<i>Najas minor</i>
Lake Waccabuc	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Lake Waccabuc	Plant	Water chestnut	<i>Trapa natans</i>
Lounsbury Pond	Plant	Water chestnut	<i>Trapa natans</i>
Mohansic Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>

Waterbody	Kingdom	Common name	Scientific name
Muscoot Reservoir	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Muscoot Reservoir	Animal	Rusty crayfish	<i>Orconectes rusticus</i>
Muscoot Reservoir	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Muscoot Reservoir	Plant	Water chestnut	<i>Trapa natans</i>
New Croton Reservoir	Plant	Hydrilla	<i>Hydrilla verticillata</i>
New Croton Reservoir	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Peach Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Pine Lake	Plant	Brazilian elodea	<i>Egeria densa</i>
Pine Lake	Plant	Water chestnut	<i>Trapa natans</i>
Tarrytown Reservoir	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Teatown Lake	Plant	European four leaf clover	<i>Marsilea quadrifolia</i>
Teatown Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Teatown Lake	Plant	Water chestnut	<i>Trapa natans</i>
Titicus Reservoir	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Troublesome Brook n of Tuckahoe	Animal	Asian Clam	<i>Corbicula fluminea</i>
Truesdale Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Vernay Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Wallace Pond	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Wampus Lake Reservoir	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Wampus Lake Reservoir	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>

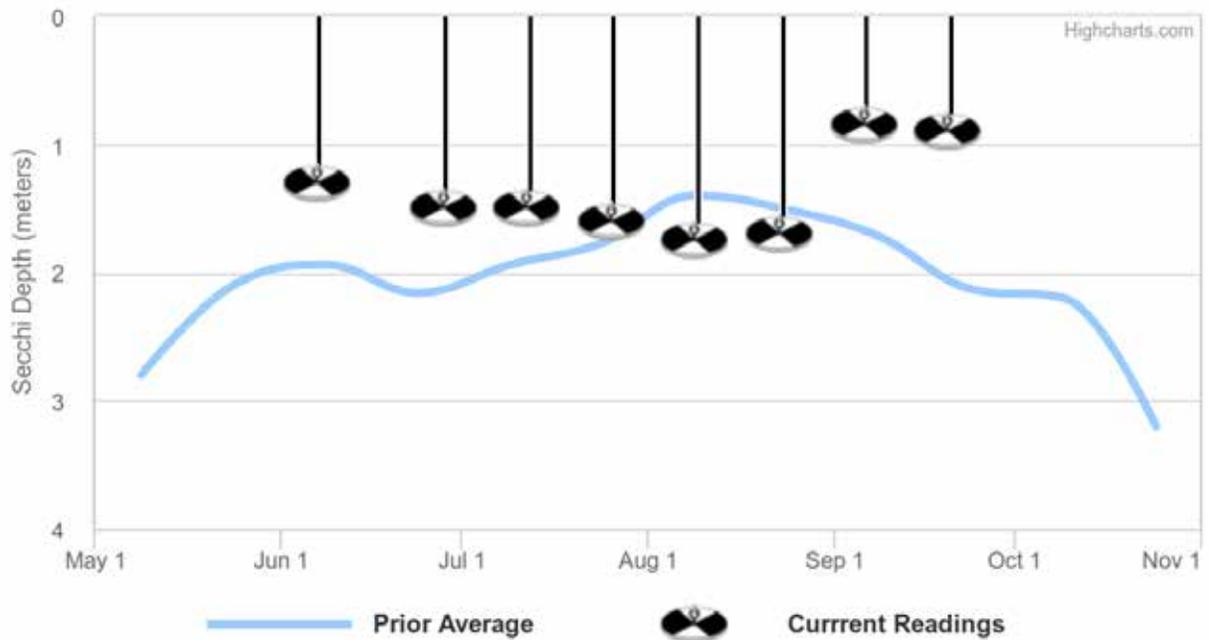
Appendix F: Current Year vs. Prior Averages for Timber Lake

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 2006 to 2014.

Current Year Secchi Readings vs. Prior Average



This year's session Secchi readings are tending to be lower than normal when compared to the average of readings collected from 1994 to 2014.

Appendix G: Watershed and Land Use Map for Timber 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.

