Peach Lake Questions and Answers, 2015 CSLAP

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

A1. Conditions in Peach Lake were slightly improved in 2015-water clarity and algae levels were lower than usual, but recreational assessments improved and shoreline blooms appeared to be minimal.

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 actual impacts have been measured or reported.

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

A3. Peach Lake had similar water clarity, algae and nutrient readings to the typical nearby lake. Plant coverage was comparable to plants in many nearby lakes in 2015.

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

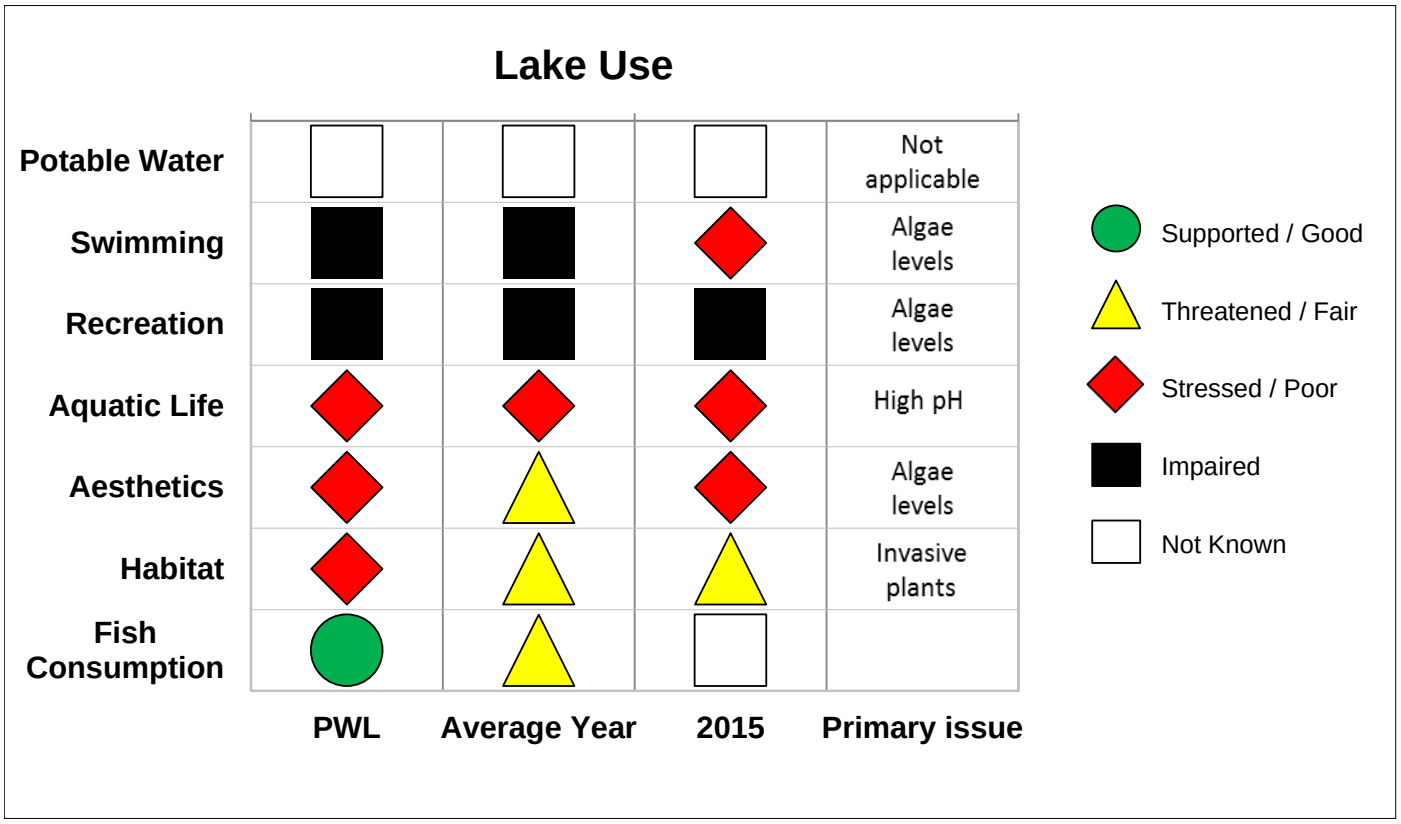
A4. Conductivity has increased significantly over the last fifteen years. Deepwater phosphorus readings have decreased slightly. Each of the other indicators have varied without a clear trend since the early 1990s, although it is expected that trophic indicators will improve in response to the sewering.

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

A5. Peach Lake appears to be susceptible to shoreline blue green algae blooms, although the trigger point for these blooms is not known. Any nutrient sources along the shoreline or in the watershed (eroding shorelines, sediment,…) should be identified and reduced working with local agencies.

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.



CSLAP 2015 Lake Water Quality Summary:
Peach Lake

General Lake Information

Location	Towns of North Salem, Southeast
County	Westchester, Putnam
Basin	Lower Hudson River
Size	44 hectares (109 acres)
Lake Origins	Natural
Watershed Area	444 hectares (1,096 acres)
Retention Time	1.4 years
Mean Depth	3.7 meters
Sounding Depth	9 meters
Public Access?	no
Major Tributaries	no named tribs
Lake Tributary To…	Peach Lake outlet to East Branch Croton River to Muscoot Reservoir
WQ Classification	B (contact recreation = swimming)
Lake Outlet Latitude	41.370
Lake Outlet Longitude	-73.584
Sampling Years	1999-2008, 2010-2011, 2013-2015
2015 Samplers	Lorraine Janus
Main Contact	Lorraine Janus

Lake Map

Background

Peach Lake is a 109 acre, class B lake found in the Towns of North Salem in Westchester County and Southeast in Putnam County, just north of the New York City region of New York State. Peach Lake was first sampled as part of CSLAP in 1999.

It is one of 19 CSLAP lakes among the more than 625 lakes and ponds found in Westchester County, and one of 67 CSLAP lakes among the nearly 3700 lakes and ponds in the Lower Hudson River drainage basin.

Lake Uses

Peach 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—fishing and boating, aquatic life, and aesthetics. The lake is used for swimming and other recreational uses by lakeside residents and invited guests; there is no public access to the lake.

Peach Lake is not stocked by the state of New York. It is not known by the report authors if private stocking occurs in Peach Lake. Fish species in the lake include black crappie, bluegill, brown bullhead, chain pickerel, golden shiner, largemouth bass, pumpkinseed sunfish, rock bass, smallmouth bass, white perch, and yellow perch.

General statewide fishing regulations are applicable in Peach Lake.

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

Historical Water Quality Data

CSLAP sampling was conducted on Peach Lake from 1999 to 2008, 2010-2011, and 2013 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 for Peach Lake can also be found on the NYSDEC web page at http://www.dec.ny.gov/lands/77848.html.

Peach Lake was sampled as part of the Adirondack Lake Survey Corporation (ALSC) study of approximately 250 downstate lakes in 1987. This study found slightly lower lake productivity than measured through CSLAP, but water quality conditions were otherwise similar.

The unnamed Peach Lake tributaries have not been named and have not been monitored through the NYSDEC Rotating Intensive Basins (RIBS) or the state macroinvertebrate monitoring program. The lake has also not been sampled through any of the state fisheries monitoring programs.

Lake Association and Management History

Peach Lake is served by the Peach Lake Environmental Committee, founded in 1999. The lake committee is involved in several lake management activities, including:

- Sewer district formation
- Boater survey
- Oil tank insurance
- Maintaining lake management history
- Documenting water quality changes in the lake
- Disseminating lake watershed reports

Information about the Peach Lake Environmental Committee can be found at http://www.peachlake.org/index.html. A substantial sewering project is expected to result in significant reduction of nutrient loading to the lake.

Summary of 2015 CSLAP Sampling Results

Evaluation of 2015 Annual Results Relative to 1999-2014

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 – Peach Lake" section in Appendix C.

Evaluation of Eutrophication Indicators

The expected improvements in response to the sewering project are not yet apparent. Water transparency readings were slightly lower than usual, consistent with slightly higher nutrient (phosphorus) readings. However, algae levels (as measured by chlorophyll *a*) were lower than normal. Open water "pea soup" or "brown" water was again reported, but these did not meet the criteria of a bloom, although a shoreline bloom was reported in late August. None of these trophic indicators has exhibited any clear long-term trends, although water clarity has decreased slightly and phosphorus has increased slightly in the last fifteen years. As the Peach Lake Sewer District comes on line, it is anticipated that phosphorus and algae levels will decrease.

Lake productivity increases significantly over the course of a typical summer, as manifested in increasing algae and nutrient levels driving a decrease in water clarity. However, despite a seasonal increase in algae levels, neither phosphorus nor water clarity exhibited clear seasonal trends in 2015.

The lake can be characterized as *eutrophic,* or highly productive, based on chlorophyll, water clarity and total phosphorus readings (all typical of *eutrophic* lakes). The trophic state indices (TSI) evaluation suggests that algae levels are usually higher than expected given the nutrient levels and water clarity. This suggests that algae growth may be patchy, consistent with the periodic occurrence of shoreline blooms. However, phosphorus readings were slightly higher than expected (based on algae and water clarity readings) in 2015; this might indicate other nutrient sources were more important in 2015. 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. Deepwater ammonia and phosphorus readings are highly elevated, indicating that potable use of deepwater intakes would also be compromised. Deep ammonia levels were higher than usual in 2015, consistent with sampler reports of strong anoxia, but deep phosphorus readings were slightly lower than usual. 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 have been higher than normal since the late 2000s, including 2015. Ammonia, color and calcium readings were lower than normal in 2014 and 2015, although none of these indicators has exhibited any clear long-term trends. Each of the other water quality indicators was close to normal in 2015, and none of these indicators has exhibited any clear long-term trends.

Chloride levels in the 2015 samples, collected for the first time through CSLAP and cited in Appendix A, were approximately 60 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 low to moderate 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

Macrophytes, macroinvertebrates, and fish were evaluated through the ALSC study in 1987, and periodic macrophyte sampling has been conducted by the CSLAP volunteers. The macrophyte studies found at least 22 different aquatic plant species, including two exotic plant species (*Phragmites* and *Myriophyllum spicatum,* Eurasian watermilfoil). A modified floristic quality index (FQI) for the lake indicates that the quality of the aquatic plant community is "fair."

At least 11 fish species have been found in the lake, including eight warmwater fish species and three coolwater fish species. The ALSC fish data evaluated using the Minnesota fish index for biotic integrity would identify the fish community as favorable.

The macroinvertebrate community sampled through the ALSC study is dominated by tolerant organisms, indicating that the benthic organisms in the lake may be threatened. These data will continue to be evaluated.

The CSLAP volunteers regularly conduct physical evaluations of the zooplankton and phytoplankton communities at various depths during each CSLAP sampling session. The zooplankton community in the lake appears to be variable during the summer and throughout the water column, and cyanobacteria (including *Aphanizomenon*) have been detected. The fluoroprobe raw water samples analyzed by SUNY ESF in the last few years have been highly variable. The 2013 data showed high overall algae levels and a high percentage of blue green algae in the open water and especially in shoreline blooms. Open water samples included a mix of blue green algae species (*Anabaena, Aphanizomenon, Microcystis, Woronichina, Lyngbya, Nostoc*) and non-blue green algae species (*Ceratium, Fragilaria*, dinoflagellates, and green algae), and shoreline blooms were comprised primarily of these blue green algae species, most of which can produce toxins. However, in 2014 and 2015, much lower total algae and blue green algae levels were measured, despite continuing reports of "brown" or "pea soup" conditions (indicating very minor "blooms"). A shoreline bloom was reported in late August of 2015; it is not known if other shoreline blooms were present in the lake during the summer.

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

Evaluation of Lake Perception

Water quality assessments were more favorable than normal in 2014 and 2015, as expected given the lower algae levels, but (in 2015) perhaps inconsistent with slightly lower water clarity. This was also consistent with improved recreational assessments, although reduced weed growth may have also contributed to this apparent improvement. Recreational assessments have improved slightly over the last fifteen years, despite the lack of clear change in water quality assessments or plant coverage during this period. 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 were slightly higher than normal in 2014 and 2015, but neither air nor water temperature readings has exhibited any long-term trends. Deepwater temperatures have increased slightly over the last decade. It is not known if this is an indication of the lack of local climate change or if these changes cannot 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 at times exceed the levels indicating the criteria for harmful algal blooms (HABs). An analysis of open water algae samples indicate microcystin readings well below the levels needed to support safe swimming, although at times these are elevated. Microcystin levels in shoreline blooms at times greatly exceeded these thresholds, indicating an elevated risk to swimmers, although high toxin levels in 2015 were not apparent. Lake residents are advised to avoid contact with shoreline blooms, surface scums, and heavily discolored water.

Lake Condition Summary

Category	Indicator	Min	Overall Avg	Max	2015 Avg	Classification	2015 Change?	Long-term Change?
Eutrophication Indicators	Water Clarity	0.60	2.04	4.15	2.03	Mesotrophic	Within Normal Range	No Change
	Chlorophyll *a*	0.30	14.09	59.20	7.49	Eutrophic	Within Normal Range	No Change
	Total Phosphorus	0.011	0.029	0.061	0.023	Eutrophic	Within Normal Range	No Change
Potable Water Indicators	Hypolimnetic Ammonia	0.01	1.92	3.66	1.92	Highly Elevated Deepwater NH4	Within Normal Range	Not known
	Hypolimnetic Arsenic							Not known
	Hypolimnetic Iron							Not known
	Hypolimnetic Manganese							Not known
Limnological Indicators	Hypolimnetic Phosphorus	0.024	0.182	0.674	0.065	Elevated Deepwater TP	Lower Than Normal	Not known
	Nitrate + Nitrite	0.00	0.02	0.15	0.01	Low NOx	Lower Than Normal	No Change
	Ammonia	0.01	0.06	0.62	0.01	Low Ammonia	Lower Than Normal	No Change
	Total Nitrogen	0.32	0.73	1.55	0.64	Intermediate Total Nitrogen	Within Normal Range	No Change
	pH	6.26	8.08	9.31	7.83	Alkaline	Within Normal Range	No Change
	Specific Conductance	166	255	351	326	Hardwater	Higher than Normal	Increasing Slightly
	True Color	6	18	106	10	Intermediate Color	Within Normal Range	No Change
	Calcium	18.0	23.2	25.6	25.2	Highly Susceptible to Zebra Mussels	Within Normal Range	No Change
Lake Perception	WQ Assessment	1	3.4	5	3.0	Definite Algal Greenness	Within Normal Range	No Change
	Aquatic Plant Coverage	2	2.9	4	2.9	Surface Plant Growth	Within Normal Range	No Change
	Recreational Assessment	2	3.6	5	3.4	Substantially Impaired	Within Normal Range	No Change
Biological Condition	Phytoplankton					Open water-moderate blue algae biomass	Not known	Not known
	Macrophytes					Fair quality of the aquatic plant community	Not known	Not known
	Zooplankton					Not evaluated through CSLAP	Not known	Not known
	Macroinvertebrates					Not evaluated through CSLAP	Not known	Not known
	Fish					Coolwater fishery?	Not known	Not known
	Invasive Species					Eurasian watermilfoil, Phragmites	Not known	Not known
Local Climate Change	Air Temperature	10	24.5	37	24.9		Within Normal Range	No Change
	Water Temperature	12	23.9	31	25.0		Higher Than Normal	No Change

Category	Indicator	Min	Overall Avg	Max	2015 Avg	Classification	2015 Change?	Long-term Change?
Harmful Algal Blooms	Open Water Phycocyanin	3	53	203	22	Some readings indicate high risk of BGA	Not known	Not known
	Open Water FP Chl.a	2	9	28	5	Few readings indicate high algae levels	Not known	Not known
	Open Water FP BG Chl.a	0	6	24	3	Few readings indicate high BGA levels	Not known	Not known
	Open Water Microcystis	<DL	<DL	0.7	<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
	Shoreline FP Chl.a	12	4468	24365	87	Most readings indicate high algae levels	Not known	Not known
	Shoreline FP BG Chl.a	8	4164	23485	56	Most readings indicate high BGA levels	Not known	Not known
	Shoreline Microcystis	<DL	29.3	361.2	<DL	Occasionally very high shoreline bloom MC-LR	Not known	Not known
	Shoreline Anatoxin a	<DL	<DL	<DL	<DL	Shoreline bloom Anatoxin-a consistently not detectable	Not known	Not known

Evaluation of Lake Condition Impacts to Lake Uses

Peach Lake is listed on the 2008 Lower Hudson River drainage basin Priority Waterbody List (PWL), with public bathing and recreation listed as *impaired* and aquatic life and aesthetics listed as *stressed* due to pathogens and excessive algae and weeds. The PWL for Peach Lake is found in Appendix B.

Potable Water (Drinking Water)

The CSLAP dataset at Peach 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 surface waters of the lake (including shoreline blooms) and elevated ammonia levels in the bottom waters of the lake suggest that any "unofficial" potable water use would be compromised.

Public Bathing

The CSLAP dataset at Peach Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggests that public bathing, if conducted at a public swimming beach, would often be *impaired* by reduced water clarity, elevated nutrient and algae levels, and shoreline bloom algae blooms and toxin levels. Conditions were more favorable in 2015. 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 Peach Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggest that recreation is often *impaired* by excessive algae and shoreline algae blooms, and *stressed* by excessive weeds, particularly Eurasian watermilfoil.

Aquatic Life

The CSLAP dataset on Peach Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggest that aquatic life may be *stressed* by anoxic

conditions and shoreline algal blooms, and *threatened* by road salt runoff, elevated pH and exotic plants, although additional data are needed to evaluate the food and habitat conditions for aquatic organisms in the lake.

Aesthetics and Habitat

The CSLAP dataset on Peach Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggest that aesthetics may be *fair* to *poor* due to excessive algae, shoreline blooms, and excessive weeds, as indicated by frequent reports by CSLAP volunteers that the lake "looks bad." Habitat may be *fair* due to invasive weeds.

Fish Consumption

There are no fish consumption advisories posted for Peach Lake.

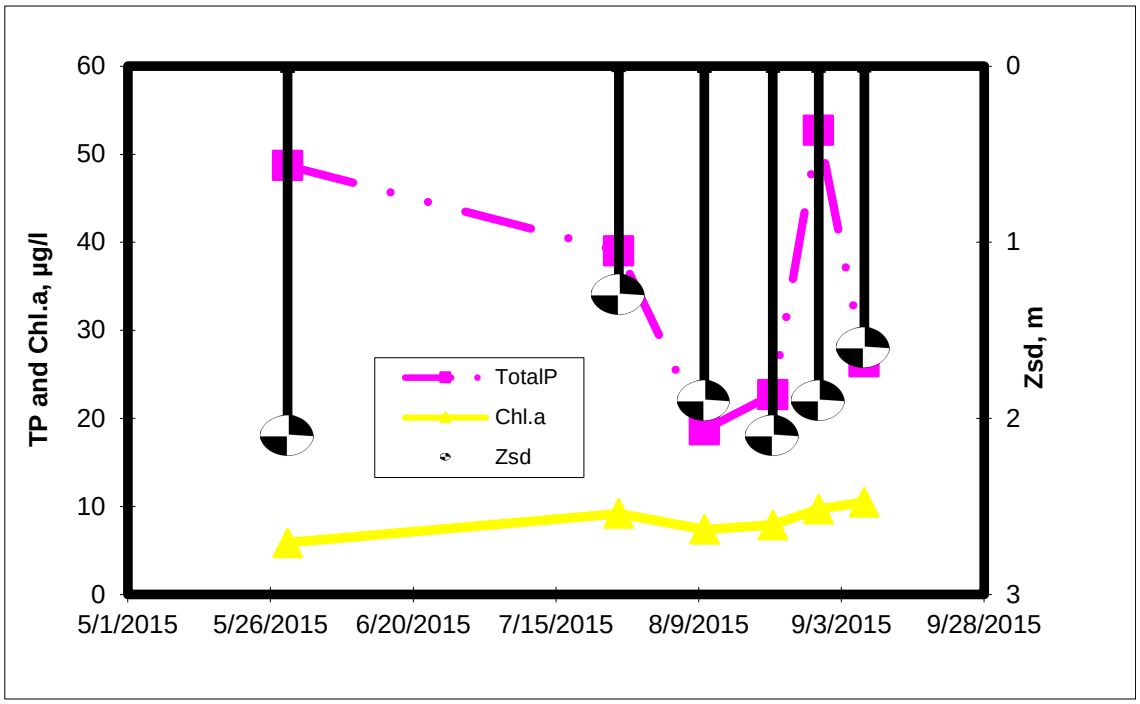
Additional Comments and Recommendations

Continued evaluation and updates of the biological data collected through the ALSC in Peach Lake may be useful in evaluating the biological condition of the lake. Continuing monitoring will help to evaluate any lake changes in association with the long-term sewering project. Lake residents should continue to report and avoid direct exposure to any shoreline blooms.

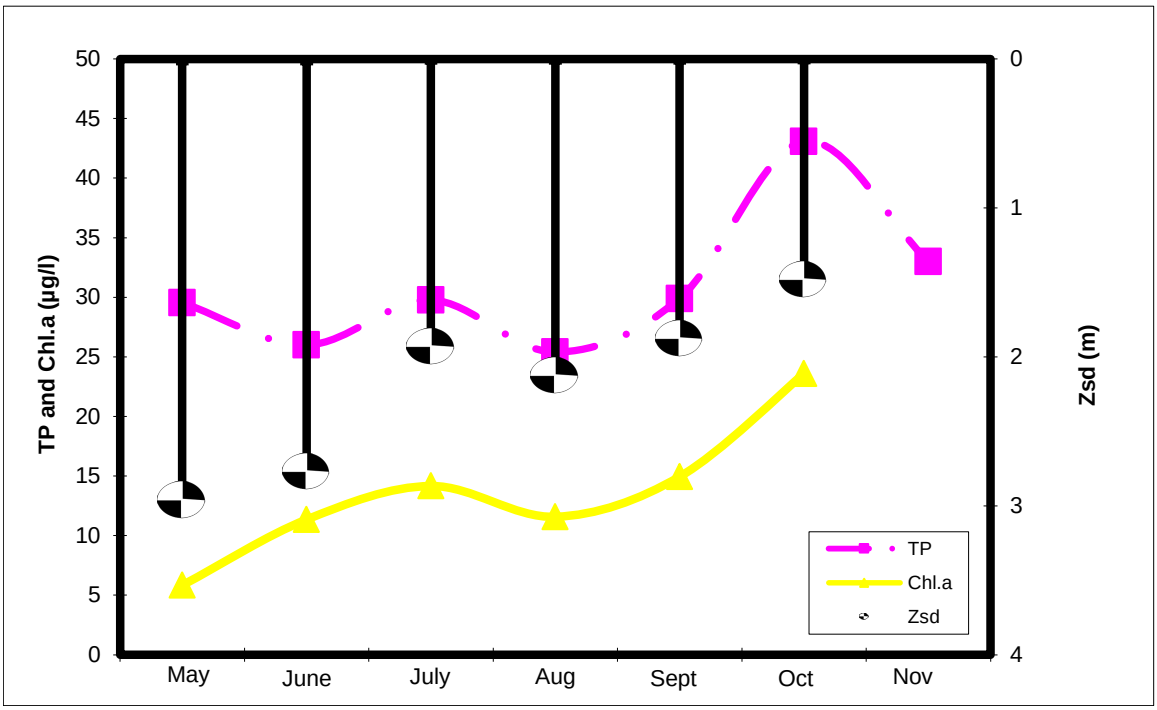
Aquatic Plant IDs-2015

None submitted for identification in 2015.

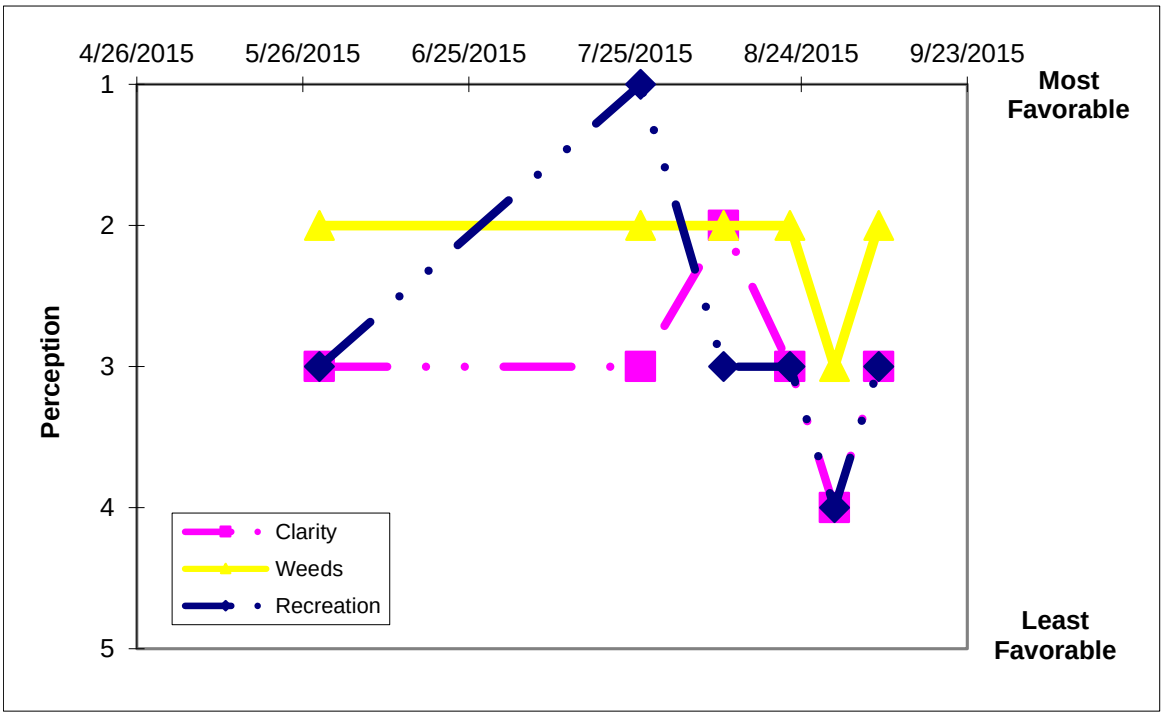
Time Series: Trophic Indicators, 2015



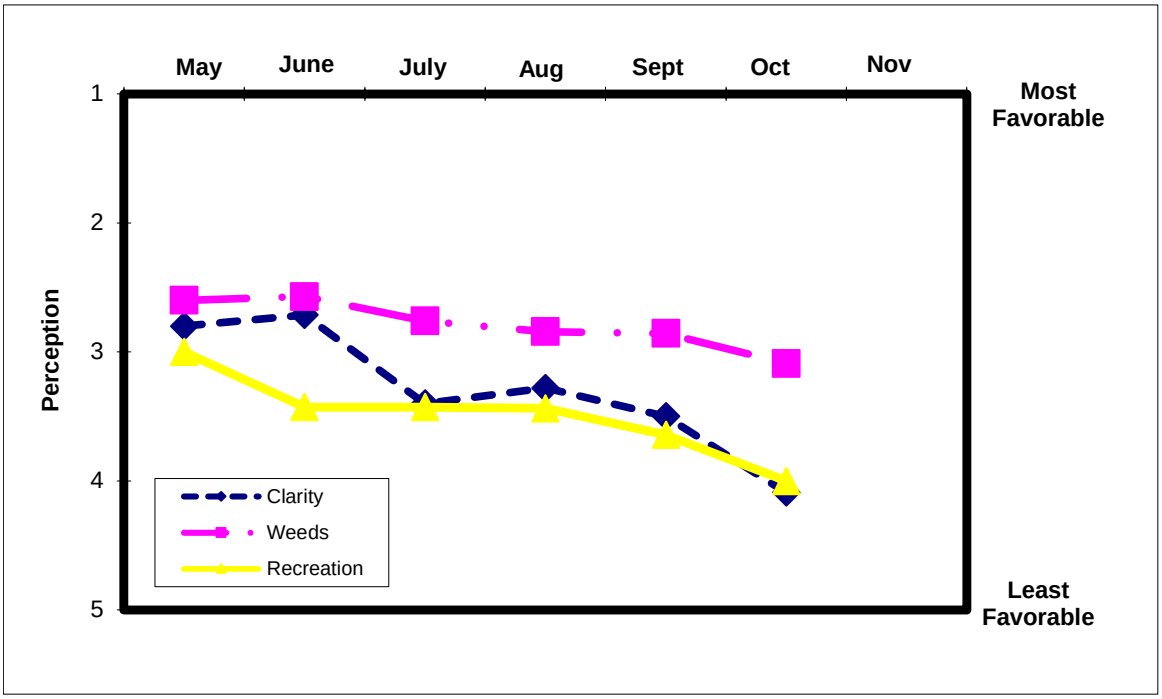
Time Series: Trophic Indicators, Typical Year (1999-2015)



Time Series: Lake Perception Indicators, 2015



Time Series: Lake Perception Indicators, Typical Year (1999-2015)



Appendix A- CSLAP Water Quality Sampling Results for Peach Lake

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
164	Peach L	5/18/1999	7.0	3.85	1.5	0.025	0.01				11	7.21	231		4.94	
164	Peach L	5/31/1999	7.0	2.30	1.5	0.024	0.01				11	8.00	228		9.40	
164	Peach L	6/12/1999	7.3	3.65	1.5	0.028	0.01				11	8.54	230		10.40	
164	Peach L	6/28/1999	7.5	2.53	1.5	0.025	0.01				12	9.24	232		31.60	
164	Peach L	7/18/1999	7.1	2.15	1.5		0.01				11	8.54	230		10.40	
164	Peach L	8/1/1999	7.2	2.28	1.5	0.020	0.01				9	9.31	224		16.40	
164	Peach L	8/19/1999	7.1	1.98	1.5	0.025	0.01				8	8.12	228		4.32	
164	Peach L	9/8/1999	7.3	2.18	1.5	0.026	0.01				10	6.78	236		23.20	
164	Peach L	5/14/2000	7.5	4.15	1.5	0.020	0.01				9	6.93	227		4.01	
164	Peach L	5/31/2000	7.5	2.43	1.5	0.030	0.01				9	8.01	228		4.92	
164	Peach L	6/20/2000	7.0	2.60	1.5	0.022	0.01				16	8.62	223		14.90	
164	Peach L	7/4/2000	7.5	1.80	1.5	0.024	0.01				9	9.28	223		14.80	
164	Peach L	7/25/2000	7.5	1.53	1.5	0.027	0.01				8	8.85	225		18.30	
164	Peach L	8/29/2000	7.3	1.55	1.5	0.018	0.01				14	7.96	226		21.40	
164	Peach L	9/10/2000	7.5	1.50	1.5	0.036	0.01				10	7.42	228		21.90	
164	Peach L	10/1/2000	7.3	1.28	1.5	0.054	0.01				8	7.62	236		43.00	
164	Peach L	7/11/2001	7.5	1.25	1.5	0.030	0.01				9	8.54	234		22.30	
164	Peach L	8/5/2001	7.5	1.50	1.5	0.020	0.01				9	9.22	239		10.51	
164	Peach L	8/18/2001	7.5	1.63	1.5	0.020	0.01				13	8.94	237		14.55	
164	Peach L	9/3/2001	7.5	2.10	1.5	0.028	0.01				6	8.45	233		10.86	
164	Peach L	9/16/2001	7.5	1.55	1.5	0.018	0.01				8	7.98	236		21.37	
164	Peach L	10/3/2001	7.3	1.78	1.5	0.045	0.01				10	7.37	248			
164	Peach L	10/13/2001	7.5	1.13	1.5	0.047	0.01				15	9.00	246			
164	Peach L	10/24/2001	7.5	1.23	1.5	0.038	0.01				9	8.12	251		13.17	
164	Peach L	6/23/2002				0.030	0.00	0.01	0.47	34.17	14	8.70	240		4.38	
164	Peach L	7/7/2002	7.3	2.05	1.5	0.029	0.00	0.05	0.79	60.00	18	6.26	253		14.05	
164	Peach L	7/21/2002		1.90	1.5	0.019	0.01	0.05	1.07	121.09	14	9.18	246		10.91	
164	Peach L	8/7/2002	7.5	1.30	1.5	0.025	0.01	0.03	0.97	85.31	9		255		14.81	
164	Peach L	8/21/2002	8.3	3.10	1.5	0.028	0.03	0.03	0.74	58.51	20	8.93	248		28.49	
164	Peach L	9/5/2002	7.5	1.40	1.5											
164	Peach L	9/22/2002		1.20	1.5		0.00	0.01	0.82							
164	Peach L	9/29/2002		1.27	1.5	0.030	0.02	0.21	1.11	81.36	49	7.89	240		3.13	
164	Peach L	6/24/2003	7.5	3.00	1.5	0.024	0.01	0.01	0.43	39.36	26	8.39	259	23.0	7.13	
164	Peach L	7/8/2003	7.5	2.80	1.5	0.031	0.01	0.01	0.54	38.50	11	8.46	269		6.20	
164	Peach L	7/23/2003	7.5	2.45		0.033	0.00	0.04	0.56	37.38	20	7.17	265			
164	Peach L	8/20/2003			1.5	0.036	0.01	0.02	0.54	32.85	11	8.20	263		4.50	
164	Peach L	8/28/2003	7.5	3.80	1.5	0.026	0.00	0.04	0.65	55.07	13	8.29	272	24.0	12.76	
164	Peach L	9/4/2003	7.5	3.50	1.5	0.033	0.01	0.09	0.85	57.14	12	7.63	270		16.20	
164	Peach L	9/29/2003		2.17	1.5	0.035	0.02	0.10	0.50	31.50	14	7.51	262		15.20	
164	Peach L	10/6/2003	7.5	1.70		0.036	0.03	0.09	0.32	19.67	16	7.62	277		24.88	
164	Peach L	8/1/2004	7.6	2.25	1.5	0.027	0.02	0.01	0.73	59.56	22	8.36	253	20.7	7.60	
164	Peach L	8/10/2004	6.3	2.25	1.5	0.020	0.01	0.01	0.47	50.94	41	8.31	277		6.50	
164	Peach L	8/17/2004	7.0	2.55	1.5	0.020	0.01	0.04	0.62	67.05	9	8.18	292		11.30	
164	Peach L	8/28/2004	6.4	2.68	1.5	0.022	0.01	0.01	0.39	38.52		8.47	253		8.50	
164	Peach L	8/31/2004	7.2	2.73	1.5		0.02	0.01	0.55		10	7.93	200	23.6	8.60	
164	Peach L	9/8/2004	7.5	2.63	1.5	0.027	0.01	0.01	0.56	46.34	56	8.20	248		9.60	
164	Peach L	9/12/2004	7.4	2.23	1.5	0.024	0.01	0.01	0.44	39.72	31	7.88	243		12.20	
164	Peach L	9/21/2004	7.5	2.20	1.5	0.031	0.02	0.13	0.65	46.32	24	7.47	253		0.30	
164	Peach L	6/29/2005	7.5	2.74	1.5	0.022	0.01	0.01	0.47	47.53	17	7.33	259	23.4	5.49	
164	Peach L	7/13/2005	7.2	2.88	1.5	0.022	0.06	0.02	0.44	44.43	23	7.91	267			
164	Peach L	8/21/2005	7.2	3.45	1.5	0.029	0.03	0.01	0.42	32.20	10	7.87	275		7.65	
164	Peach L	9/3/2005	7.0	2.93	1.5	0.026	0.03	0.02	0.46	38.97	15	8.34	285		12.75	
164	Peach L	9/14/2005	7.0	1.25	1.5	0.041	0.01	0.06	0.47	25.49	12	8.14	237	24.2	45.28	
164	Peach L	9/27/2005	6.5	2.18	1.5	0.045	0.12	0.01	0.47	23.19	7	8.15	166		7.43	
164	Peach L	10/5/2005	7.0	1.38	1.5	0.058	0.15	0.01	0.54	20.59	18	8.52	201		37.67	
164	Peach L	11/1/2005	7.5	2.15	1.5	0.033	0.07	0.21	0.56	37.13	16	8.40	229			
164	Peach L	7/13/2006	6.8	1.50	1.5											
164	Peach L	7/18/2006		1.40	1.5	0.029			1.03	78.87	106	8.73	179	22.1	22.77	
164	Peach L	7/24/2006	7.0	1.43	1.5	0.030	0.03	0.13	0.89	64.30	27	8.62	254		25.25	
164	Peach L	8/14/2006	6.8	1.63	1.5	0.025	0.03	0.02	0.77	67.48	36	8.69	206		22.55	
164	Peach L	8/22/2006	6.8	2.00	1.5	0.011	0.01	0.04			24	8.61	176		13.32	
164	Peach L	9/24/2006	7.5	1.67	1.5	0.018	0.02	0.02	0.89	111.55	32	8.33	243	23.7	2.61	
164	Peach L	9/30/2006	7.5	1.68	1.5	0.026	0.02	0.01	0.87	73.67	19	7.50	238		26.39	

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
164	Peach L	10/15/2006	7.5	1.64	1.5	0.036	0.01	0.05	0.85	52.69	24	8.17	255		6.31	
164	Peach L	7/22/2007	7.50	1.90	1.5	0.025	0.03	0.06	0.90	80.05	39	8.52	192	23.7	7.50	
164	Peach L	8/2/2007	7.00	2.08	1.5	0.019	0.01	0.01	0.80	93.56	24	8.61	204		4.85	
164	Peach L	8/9/2007	7.10	1.75	1.5	0.018	0.01	0.02	0.74	92.64	28	8.58	231		0.46	
164	Peach L	8/16/2007	7.40	1.64	1.5	0.023	0.02	0.01	0.79	74.84	31	8.44	205		4.03	
164	Peach L	8/26/2007	7.50	1.93	1.5	0.018	0.01	0.01			17	6.68	175	20.0	11.59	
164	Peach L	9/5/2007	7.30	1.50	1.5	0.061	0.05	0.02	0.92	33.29	17	8.32	209		7.15	
164	Peach L	9/13/2007	7.10	1.77	1.5	0.024	0.03	0.03	0.95	89.05	32		222		7.95	
164	Peach L	9/25/2007	7.00	1.72	1.5	0.022	0.01	0.02	0.81	80.44	7	8.18	211		12.33	
164	Peach L	7/30/2008	7.5	2.85	1.5	0.019					11	8.45	196	21.9	7.29	
164	Peach L	8/9/2008	7.5	2.95	1.5	0.018	0.00	0.03	0.59	72.77	27	7.91	265		7.39	
164	Peach L	8/14/2008	7.7	2.55	1.5	0.022	0.00	0.02	0.57	58.16	20	7.71	262		9.42	
164	Peach L	8/21/2008	7.4	3.25	1.5	0.017	0.01	0.01	0.45	57.28	23	8.84	293		3.92	
164	Peach L	9/21/2008	7.5	2.35	1.5	0.043	0.01	0.12	0.62	32.15	24	8.63	245	18.0	13.98	
164	Peach L	6/19/2010	7.5	1.90	1.5	0.031	0.01	0.12	0.68	48.70	13	7.58	307	25.6	7.40	
164	Peach L	7/3/2010	7.3	2.38	1.5	0.021	0.01	0.01	0.49	51.89	26	8.85	274		4.60	
164	Peach L	7/17/2010	7.3	2.28	1.5	0.021	0.02	0.03	0.55	56.87	18	7.99	309		4.90	
164	Peach L	7/31/2010	7.3	2.75	1.5	0.033	0.02	0.03	0.36	24.13	26	8.09	279		8.00	
164	Peach L	8/26/2010	7.5	1.83	1.5	0.033	0.06	0.10	0.78	51.93	25	7.49	248	24.4	19.90	
164	Peach L	9/6/2010	7.3	1.05	1.5	0.029	0.10	0.06	1.16	87.02	12	7.73	292		37.00	
164	Peach L	9/19/2010	7.5	1.68	1.5	0.032	0.11	0.39	1.09	76.41	17	7.33	305		17.70	
164	Peach L	10/2/2010	7.5	1.58	1.5	0.046	0.02	0.40	1.21	57.56	20	6.91	295		22.30	
164	Peach L	6/25/2011	7.8	2.98	1.5	0.026	0.02	0.03	0.65	53.92	11	7.26	286	24.0	9.50	
164	Peach L	7/4/2011	7.8	1.93	1.5	0.023	0.01	0.01			8	8.00	297		7.00	
164	Peach L	7/24/2011	7.2	2.78	1.5	0.019	0.01	0.02	0.55	62.81	13	8.73	314		3.10	
164	Peach L	8/24/2011	8.0	2.15	1.5	0.027	0.03	0.05	0.77	61.66	11	7.81	301		7.60	
164	Peach L	9/5/2011	8.0	2.05	1.5	0.027	0.04	0.04	0.55	45.25	14	7.35	278	24.3	9.40	
164	Peach L	9/18/2011	7.8	1.72	1.5	0.028	0.01	0.09	0.71	55.43	21	7.42	222		12.90	
164	Peach L	9/18/2011	grab		bloom											
164	Peach L	10/2/2011	7.5	1.50	1.5	0.028	0.02	0.09	0.82	64.42	17	7.73	252		12.40	
164	Peach L	10/2/2011	grab		bloom											
164	Peach L	10/9/2011	grab		bloom											
164	Peach L	10/9/2011	7.5	1.35	1.5	0.038	0.03	0.15	0.86	49.92	16	7.22	269		22.70	
164	Peach L	7/7/2013	7.5	0.60	1.5	0.059	0.01	0.03	1.55	57.72	24	8.70	263		59.20	
164	Peach L	7/7/2013	grab		bloom											
164	Peach L	7/7/2013	grab		bloom											
164	Peach L	7/10/2013	grab		bloom											
164	Peach L	7/14/2013	7.5	0.90	1.5	0.058			1.26	47.80	19	8.57	274		33.30	
164	Peach L	7/28/2013	7.5	0.90	1.5	0.046	0.01	0.02	1.07	51.03	24	7.96	290			
164	Peach L	7/28/2013	grab		bloom											
164	Peach L	7/28/2013	grab		bloom											
164	Peach L	8/16/2013	7.5	1.38	1.5	0.059			0.80	29.79	30	8.08	279		22.40	
164	Peach L	8/16/2013	grab		bloom											
164	Peach L	8/19/2013	grab		bloom											
164	Peach L	8/19/2013	grab		bloom											
164	Peach L	8/29/2013	7.5	0.93	1.5	0.050	0.01	0.02	1.07	47.68	37	8.74	256		37.80	
164	Peach L	9/15/2013	7.3	1.15	1.5	0.033			0.78	52.16	22	8.22	313		27.00	
164	Peach L	9/29/2013	7.3	1.40	1.5	0.039	0.01	0.62	1.42	80.38	16	7.54	328		25.70	
164	Peach L	9/29/2013	grab		bloom											
164	Peach L	9/29/2013	grab		bloom											
164	Peach L	10/18/2013	grab		bloom											
164	Peach L	10/17/2013	7.5	1.75	1.5	0.048			1.51	69.76	37	7.11	324		30.00	
164	Peach L	7/9/2014	7.5	2.13	1.5	0.020	0.01	0.01	0.53	59.30	12	8.63	346	25.6	8.10	
164	Peach L	7/20/2014	7.5	2.10	1.5	0.023			0.65	61.21	10	8.16	328		8.40	
164	Peach L	7/30/2014	7.5	2.33	1.5	0.034	0.01	0.02	0.56	35.75	11	8.24	304		6.00	
164	Peach L	8/10/2014	7.5	1.53	1.5	0.020			0.68	74.69	8	8.15	332		5.40	
164	Peach L	8/23/2014	7.5	1.55	1.7	0.023	0.01	0.01	0.64	60.26	10	7.85	351	24.7	8.60	
164	Peach L	9/7/2014	7.8	2.10	1.5	0.021			0.65	68.99	7	7.13	324		6.60	
164	Peach L	9/13/2014	7.5	2.00	1.5	0.020	0.01	0.02	0.68	73.76	10	7.28	296		8.60	
164	Peach L	9/21/2014	7.5	2.53	1.5	0.020			0.76	82.39	8	7.23	325		8.20	
164	Peach L	5/29/2015	7.5	2.10	1.5	0.049	0.01	0.03	0.63	12.98	6	7.65	323	21.0	5.90	
164	Peach L	7/26/2015	7.5	1.30	1.5	0.039			0.75	19.31	7	8.68	327		9.20	
164	Peach L	8/10/2015	8.0	1.90	1.5	0.019	0.01	0.04	0.64	34.12	7	8.93	295		7.40	60.4
164	Peach L	8/20/2015			bloom											
164	Peach L	8/22/2015	7.8	2.10	1.5	0.023			0.61	26.87	7	8.44	300		7.90	
164	Peach L	8/30/2015	7.5	1.90	1.5	0.053	0.02	0.05	0.75	14.23	5	8.02	338	18.2	9.70	

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
164	Peach L	9/7/2015	7.5	1.60	1.5	0.026			0.79	30.08	5	8.15	333		10.50	
LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP		NO2				
164	Peach L	7/4/2000				0.230										
164	Peach L	8/29/2000				0.300										
164	Peach L	10/1/2000				0.056										
164	Peach L	6/23/2002				0.163	0.00	0.22	0.92	12.48						
164	Peach L	7/7/2002			7.3	0.282	0.00	0.48	1.23	9.61						
164	Peach L	7/21/2002				0.210	0.00	0.91	1.27	13.29						
164	Peach L	8/7/2002				0.110	0.00	0.07	1.01	20.10						
164	Peach L	8/21/2002				0.121	0.02	0.53	1.01	18.42						
164	Peach L	9/22/2002					0.00	1.20	1.92							
164	Peach L	9/29/2002				0.057	0.01	1.20	1.98	75.82						
164	Peach L	6/24/2003			7.3	0.126	0.00	0.39	0.40	7.05						
164	Peach L	7/8/2003			7.3	0.185	0.01	0.55	0.71	8.43						
164	Peach L	7/23/2003				0.297	0.00	1.10	0.89	6.61						
164	Peach L	8/20/2003			7.0	0.354	0.02	0.25	1.90	11.83						
164	Peach L	8/28/2003			7.3	0.240	0.00	1.20	1.59	14.53						
164	Peach L	9/4/2003			7.5	0.162	0.01	0.98	1.37	18.69						
164	Peach L	9/29/2003			7.0	0.211	0.02	1.20	1.68	17.56						
164	Peach L	10/6/2003			1.5		0.04	0.10	0.32							
164	Peach L	8/1/2004	7.6		7.1	0.437	0.04	1.71	0.32	1.60						
164	Peach L	8/10/2004	6.3		6.0	0.429	0.01	2.18	0.79	4.05						
164	Peach L	8/17/2004	7.0		7.0	0.674	0.02	0.01	1.08	3.53						
164	Peach L	8/28/2004	6.4		7.0	0.531	0.01	0.57	1.60	6.64						
164	Peach L	8/31/2004	7.2		7.0	0.648	0.02	3.66	0.06	0.21						
164	Peach L	9/8/2004	7.5		7.0	0.316	0.01	2.23	0.68	4.73						
164	Peach L	9/12/2004	7.4		7.0	0.403		0.41	1.68	9.19						
164	Peach L	9/21/2004	7.5		7.0	0.440	0.01	2.90	1.30	6.49						
164	Peach L	6/29/2005	7.5			0.242										
164	Peach L	7/13/2005	7.2		7.0	0.164										
164	Peach L	8/21/2005	7.2		7.0	0.278										
164	Peach L	9/3/2005	7.0		7.0	0.209										
164	Peach L	9/14/2005	7.0		7.0	0.196										
164	Peach L	9/27/2005	6.5		6.0	0.049										
164	Peach L	10/5/2005	7.0		7.0	0.086										
164	Peach L	7/18/2006			7.5	0.356										
164	Peach L	7/24/2006	7.0		7.5	0.269										
164	Peach L	8/14/2006	6.8		7.5	0.271										
164	Peach L	8/22/2006	6.8		6.5	0.316										
164	Peach L	9/24/2006	7.5		7.3	0.202										
164	Peach L	9/30/2006	7.5		7.3	0.108										
164	Peach L	10/15/2006	7.5		7.3	0.031										
164	Peach L	7/22/2007	7.5		7.25	0.115										
164	Peach L	8/2/2007	7.0		7.50	0.077										
164	Peach L	8/9/2007	7.1		7.50	0.084										
164	Peach L	8/16/2007	7.4		7.25	0.066										
164	Peach L	8/26/2007	7.5		7.25	0.135										
164	Peach L	9/5/2007	7.3		7.25	0.063										
164	Peach L	9/13/2007	7.1		7.25	0.186										
164	Peach L	9/25/2007	7.0		7.25	0.088										
164	Peach L	7/30/2008	7.5		7.5	0.155										
164	Peach L	8/9/2008	7.5		7.3	0.224										
164	Peach L	8/14/2008	7.7		7.3	0.308										
164	Peach L	8/21/2008	7.4		7.3	0.267										
164	Peach L	9/21/2008	7.5		7.3	0.063										
164	Peach L	6/19/2010	7.5		7.3	0.207		0.03								
164	Peach L	7/3/2010	7.3		7.2	0.368		1.16								
164	Peach L	7/17/2010	7.3		7.2	0.484		0.97								
164	Peach L	7/31/2010	7.3		7.1	0.165		0.53								
164	Peach L	8/26/2010	7.5		7.3	0.124		0.85								
164	Peach L	9/6/2010	7.3		7.0	0.202		2.00								
164	Peach L	9/19/2010	7.5		7.3	0.039		0.42								
164	Peach L	10/2/2010	7.5		7.3	0.045		0.37								
164	Peach L	6/25/2011	7.8			0.077		0.78				0.01				
164	Peach L	7/4/2011	7.8		7.5	0.081		1.16				0.01				

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP		NO2				
164	Peach L	7/24/2011	7.2			0.114		0.49								
164	Peach L	8/24/2011	8.0		7.5	0.054		2.20				0.01				
164	Peach L	9/5/2011	8.0		7.5	0.079		1.22				0.01				
164	Peach L	9/18/2011	7.8		7.5	0.040		0.50				0.01				
164	Peach L	10/2/2011	7.5		7.3	0.025		0.48				0.01				
164	Peach L	10/9/2011	7.5		7.3	0.030		0.25				0.01				
164	Peach L	7/7/2013			7.3	0.153		1.24								
164	Peach L	7/14/2013			7.3	0.233										
164	Peach L	7/28/2013			7.3	0.205		2.89								
164	Peach L	8/16/2013			7.3	0.161										
164	Peach L	8/29/2013			7.3	0.032										
164	Peach L	9/15/2013			7.3	0.098		3.32								
164	Peach L	9/29/2013			7.2	0.043		1.85								
164	Peach L	10/17/2013			7.3	0.037										
164	Peach L	7/9/2014			7.5	0.043		1.50								
164	Peach L	7/20/2014			7.0	0.030										
164	Peach L	7/30/2014			7.3	0.070		2.15								
164	Peach L	8/10/2014			7.0	0.102										
164	Peach L	8/23/2014			7.0	0.052		2.53								
164	Peach L	9/7/2014			7.5	0.130										
164	Peach L	9/13/2014			7.3	0.068		1.51								
164	Peach L	9/21/2014			7.5	0.024										
164	Peach L	5/29/2015			7.3	0.086		0.62								
164	Peach L	7/26/2015			7.5	0.088										
164	Peach L	8/10/2015			7.0	0.085		1.60								
164	Peach L	8/22/2015			7.3	0.067										
164	Peach L	8/30/2015			7.3	0.085		3.61								
164	Peach L	9/7/2015			7.0	0.108										

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
164	Peach L	5/18/1999	epi	21	19	2	3	3	24											
164	Peach L	5/31/1999	epi	33	25	4	3	4	1234											
164	Peach L	6/12/1999	epi	26	24	3	3	3	23											
164	Peach L	6/28/1999	epi	31	27															
164	Peach L	7/18/1999	epi	29	27	4	2	4	1346											
164	Peach L	8/1/1999	epi	30	28	3	3	3	1234											
164	Peach L	8/19/1999	epi	26	26	3	2	4	13											
164	Peach L	9/8/1999	epi	27	23	3	2	3	123											
164	Peach L	5/14/2000	epi	26	19	2	2	2	2											
164	Peach L	5/31/2000	epi	26	20	3	3	3												
164	Peach L	6/20/2000	epi	26	24	3	2	3	13											
164	Peach L	7/4/2000	epi	28	27	3	3	3	234											
164	Peach L	7/25/2000	epi	24	24	3	3	4	234											
164	Peach L	8/29/2000	epi	24	24	4	3	4	1234											
164	Peach L	9/10/2000	epi	26	23	5	3	4	1234											
164	Peach L	10/1/2000	epi	22	19	4	3	4	1234											
164	Peach L	7/11/2001	epi	26	26	3	3	4	1234											
164	Peach L	8/5/2001	epi	30	27	3	3	3	23											
164	Peach L	8/18/2001	epi	29	27	3	3	4	123											
164	Peach L	9/3/2001	epi	26	24	3	3	4	134											
164	Peach L	9/16/2001	epi	27	23	4	3	4	1234											
164	Peach L	10/3/2001	epi	24	19	4	3	4	1234											
164	Peach L	10/13/2001	epi	22	18	4	3	4	1234											
164	Peach L	10/24/2001	epi	23	17	3	3	4	123											
164	Peach L	6/23/2002	epi			3	3	4	1234											
164	Peach L	7/7/2002	epi	31	27															
164	Peach L	7/21/2002	epi	31	27	3	3	3	2348.0											
164	Peach L	8/7/2002	epi	24	26	4	3	3	123											
164	Peach L	8/21/2002	epi	31	28	3	3	4	1234											
164	Peach L	9/5/2002	epi	27	23															
164	Peach L	9/22/2002	epi	28	24	3	4	3	1234											
164	Peach L	9/29/2002	epi	22	22	4	3	3	1238											
164	Peach L	6/24/2003	epi	37	23	3	3	4	234											

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
164	Peach L	7/8/2003	epi	25	27	1	3	4	246											
164	Peach L	7/23/2003	epi	22	25	3	2	4	12358											
164	Peach L	8/20/2003	epi			4	3	5	12348											
164	Peach L	8/28/2003	epi	22	25	5	3	5	12348											
164	Peach L	9/4/2003	epi	22	22	4	3	4	12345											
164	Peach L	9/29/2003	epi	13	20	4	3	4	12345											
164	Peach L	10/6/2003	epi	11	15	5	3	5	12348											
164	Peach L	8/1/2004	epi	25	27	3	3	3	25											
164	Peach L	8/10/2004	epi	20	24	3	3	3	125											
164	Peach L	8/17/2004	epi	16	22	2	3	4	1235											
164	Peach L	8/28/2004	epi	22	24	2	3	3	123											
164	Peach L	8/31/2004	epi	23	26	3	3	3	12345											
164	Peach L	9/8/2004	epi	21	24	4	3	3	123456											
164	Peach L	9/12/2004	epi	18	22	4	3	3	12348											
164	Peach L	9/21/2004	epi	14	20	3	3	3	12367											
164	Peach L	6/29/2005	epi	26	26	1	3	4	25											
164	Peach L	7/13/2005	epi	20	27	2	3	3	12											
164	Peach L	8/21/2005	epi	32	27	3	3	3	128											
164	Peach L	9/3/2005	epi	23	25	3	3	4	1234											
164	Peach L	9/14/2005	epi	21	24	4	3	4	12347											
164	Peach L	9/27/2005	epi	19	22	4	3	4	12346											
164	Peach L	10/5/2005	epi	28	24	5	3	3	12346											
164	Peach L	11/1/2005	epi	20	12	3	3	3	235											
164	Peach L	7/13/2006	epi	22	28	4	3	4	12367											
164	Peach L	7/18/2006	epi	28	29	4	3	4	1234											
164	Peach L	7/24/2006	epi	19	25	5	4	4	1234578											
164	Peach L	8/14/2006	epi	17	25	4	4	4	123467											
164	Peach L	8/22/2006	epi	20	25	3	4	4	124											
164	Peach L	9/24/2006	epi	24	21	3	3	4	12345											
164	Peach L	9/30/2006	epi		19	4	2	4	12347											
164	Peach L	10/15/2006	epi	10	16	4	4	3	1234											
164	Peach L	7/22/2007	epi	28	26	3	3	4	123											
164	Peach L	8/2/2007	epi	32	28	3	3	3	12											
164	Peach L	8/9/2007	epi	28	28				2											
164	Peach L	8/16/2007	epi	22		4	2	3	1237											
164	Peach L	8/26/2007	epi	26	24	4	3	3	125											
164	Peach L	9/5/2007	epi	24	24															
164	Peach L	9/13/2007	epi	24	24	1	3	3	123											
164	Peach L	9/25/2007	epi	25	23	3	3	3	23											
164	Peach L	7/30/2008	epi	22	27	4	3	3	38											
164	Peach L	8/9/2008	epi	19	26	4	3	3	12											
164	Peach L	8/14/2008	epi	24	26	2	2	2	15											
164	Peach L	8/21/2008	epi	27	27	3	2	3	3											
164	Peach L	9/21/2008	epi	19	21															
164	Peach L	6/19/2010	epi	32	25	3	2	3	3	0	4									
164	Peach L	7/3/2010	epi	30	26	3	2	2	1	0	0									
164	Peach L	7/17/2010	Epi	32	30	3	2	3	123	0	0									
164	Peach L	7/31/2010	Epi	29	28	4	3	4	1234	4	0									
164	Peach L	8/26/2010	Epi	29	24	4	3	4	1234											
164	Peach L	9/6/2010	Epi	25	24	4	3	4	12348											
164	Peach L	9/19/2010	Epi	25	22	5	3	5	1234	4	4									
164	Peach L	10/2/2010	Epi	18	20	4	3	4	1234	4	4									
164	Peach L	6/25/2011	Epi	28	24	3	2	3	0	0	0	103.70	3.40							
164	Peach L	7/4/2011	Epi	31	27	3	2	3	17	0	0	16.20	2.10							
164	Peach L	7/24/2011	Epi	30	31	4	3	4	1234	4	0	28.10	4.17	0.56	<0.5	<0.1				
164	Peach L	7/24/2011	bloom																d	
164	Peach L	8/24/2011	Epi	26	25	2	2	2	2	5	0	4.80	22.00							
164	Peach L	9/5/2011	Epi	27	25	3	3	3	1	0	0	52.40	5.40							
164	Peach L	9/18/2011	Epi	20	21	3	3	4	1234	4	0	116.00	6.10	0.66	<0.4	<0.1				
164	Peach L	9/18/2011	Bloom											1.08	<0.8	<0.1			d	
164	Peach L	10/2/2011	Epi	20	20	3	3	4	134	0	0	80.90	4.10							

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
164	Peach L	10/2/2011	Bloom											0.65	<2	<0.2			d	
164	Peach L	10/9/2011	Bloom											32.64	<2	<0.1			b	
164	Peach L	10/9/2011	epi	27	22	5	3	5	12348	4	0	153.60	9.00							
164	Peach L	7/7/2013	epi	34	29	5	3	4	134	47	4	202.60	4.80	<0.30	<0.510		26.70	23.80	bd	
164	Peach L	7/7/2013	Bloom											<0.60	<1.010		27.10	21.40	bd	
164	Peach L	7/7/2013	Bloom											<0.60	<1.010		17.20	14.30	bd	
164	Peach L	7/10/2013	Bloom											1.36	<1.010		642.30	475.30	b	
164	Peach L	7/14/2013	epi	29	26	5	2	4	1234	47	47	106.70	4.70	<0.30	<0.910		20.10	14.80	B	
164	Peach L	7/28/2013	epi	28	26	4	3	4	1234	3457		125.40	3.80	0.37	<0.400		27.80	23.10	B	
164	Peach L	7/28/2013	Bloom											7.44	<0.760		2063	1826	abdh	
164	Peach L	7/28/2013	Bloom											12.87	<1.150		7205	5934	abdh	
164	Peach L	8/16/2013	epi	22	24	5	3	4	12348	3	3	89.30	3.90	0.57	<0.510		13.50	11.30	B	
164	Peach L	8/16/2013	Bloom											<0.60	<1.020		1672	1226	bh	
164	Peach L	8/19/2013	Bloom											<0.60	<0.770		223.70	169.40		
164	Peach L	8/19/2013	Bloom											<0.60	<0.770		11.50	7.60		
164	Peach L	8/29/2013	epi	22	25	4	3	4	234	3	34	52.70	3.20	0.69	<0.100		9.80	5.90	B	
164	Peach L	9/15/2013	epi	21	22	4	2	4	1234	457	457	88.90	5.30	0.52	<0.100		15.00	10.70	B	
164	Peach L	9/29/2013	epi	22	20	4	3	4	1234	4	4	72.40	3.80	<0.30	<10.600		14.00	9.20	abcd	
164	Peach L	9/29/2013	Bloom											48.81	<0.110		2505	2301	bcd	
164	Peach L	9/29/2013	Bloom											361.15	<0.110		24365	23485	abd	
164	Peach L	7/9/2014	epi	25	27	3	3	3	23	4	0	13.80	0.60	<0.40	<0.48	<0.001	5.13	1.33	b	bd
164	Peach L	7/20/2014	epi	30	26	3	3	3	2	0	0	16.30	0.50	<0.39	<0.03	<0.001	4.66	1.57	b	b
164	Peach L	7/30/2014	epi	29	27	3	3	3	23	4	0	18.50	0.30	<0.28	<0.05	<0.001	4.52	2.21	b	bi
164	Peach L	8/10/2014	epi	29	27	3	3	3	1238	4	4	17.20	0.40	<0.28	<0.05	<0.001	4.72	1.45	b	b
164	Peach L	8/23/2014	epi	24	24	3	3	4	12345	4	4	9.30	0.40	<1.06	<0.16	<0.002	6.12	2.66	bi	bi
164	Peach L	9/7/2014	epi	23		3	3	3	13	4	4	11.20	0.30	<0.64	<0.03	<0.001	4.85	1.90	bi	bi
164	Peach L	9/13/2014	epi	19		3	3	4	123	4	0	4.70	0.30	<0.49	<0.12	<0.001	3.49	0.00	df	df
164	Peach L	9/21/2014	epi	21	21	3	2	4	1246	47	47	3.20	0.30	<0.49	<0.12	<0.001	2.63	0.00	c	c
164	Peach L	5/29/2015	epi	26	25	3	2	3	125	4	5	11.00	0.30	<0.86	<0.027	<0.318	2.18	0.00	DH	I
164	Peach L	7/26/2015	epi	25	27	3	2	1	234	4	46	28.60	0.50	<1.13	<0.003	<0.013	8.48	4.06	BH	FH
164	Peach L	8/10/2015	epi	27	26	2	2	3	1238	6		26.70	56.40	<0.21	<0.003	<0.010	6.82	3.49	BDH	ACH
164	Peach L	8/20/2015	epi											<0.81	<0.071	<0.046	86.57	56.26		
164	Peach L	8/22/2015	epi	30	26	3	2	3	18	6		13.60	0.60	<0.21	<0.003	<0.010	4.74	2.64	I	ACH
164	Peach L	8/30/2015	epi	26	25	4	3	4	12348	47	4			<0.39	<0.012	<0.031	5.14	2.33	BDH	BD
164	Peach L	9/7/2015	epi	29	26	3	2	3	2368	46	46	28.90	0.50	<0.40	<0.009	<0.022	5.61	4.01	bh	bch
164	Peach L	7/8/2003	hypo		17															
164	Peach L	7/23/2003	hypo		14															
164	Peach L	8/28/2003	hypo		18															
164	Peach L	9/4/2003	hypo		18															
164	Peach L	9/29/2003	hypo		19															
164	Peach L	10/6/2003	hypo		16															
164	Peach L	6/29/2005	hypo		16															
164	Peach L	7/13/2005	hypo		16															
164	Peach L	7/13/2006	hypo		20															
164	Peach L	7/18/2006	hypo		17															
164	Peach L	8/14/2006	hypo		18															
164	Peach L	9/30/2006	hypo		17															
164	Peach L	10/15/2006	hypo		15															
164	Peach L	7/22/2007	hypo		7															
164	Peach L	8/2/2007	hypo		22															
164	Peach L	8/9/2007	hypo		25															
164	Peach L	8/26/2007	hypo		22															
164	Peach L	9/5/2007	hypo		22															
164	Peach L	9/13/2007	hypo		19															
164	Peach L	9/25/2007	hypo		19															
164	Peach L	7/30/2008	hypo		18															
164	Peach L	8/9/2008	hypo		18															
164	Peach L	8/14/2008	hypo		18															
164	Peach L	8/21/2008	hypo		19															
164	Peach L	9/21/2008	hypo		22															
164	Peach L	6/19/2010	hypo		16															

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
164	Peach L	7/3/2010	hypo		17															
164	Peach L	7/17/2010	hypo		19															
164	Peach L	7/31/2010	hypo		19															
164	Peach L	8/26/2010	hypo		22															
164	Peach L	9/6/2010	hypo		22															
164	Peach L	9/19/2010	hypo		20															
164	Peach L	10/2/2010	hypo		19															
164	Peach L	6/25/2011	hypo		14															
164	Peach L	7/4/2011	hypo		16															
164	Peach L	7/24/2011	hypo		16															
164	Peach L	8/24/2011	hypo		19															
164	Peach L	9/5/2011	hypo		21															
164	Peach L	9/18/2011	hypo		20															
164	Peach L	10/2/2011	hypo		19															
164	Peach L	10/9/2011	hypo		18															
164	Peach L	7/7/2013	hypo		18															
164	Peach L	7/14/2013	hypo		16															
164	Peach L	7/28/2013	hypo		17															
164	Peach L	8/16/2013	hypo		17															
164	Peach L	8/29/2013	hypo		18															
164	Peach L	9/15/2013	hypo		17															
164	Peach L	10/17/2013	hypo		17															
164	Peach L	7/9/2014	hypo		19															
164	Peach L	7/20/2014	hypo		18															
164	Peach L	7/30/2014	hypo		19															
164	Peach L	8/10/2014	hypo		18															
164	Peach L	8/23/2014	hypo		20															
164	Peach L	9/21/2014	hypo		20															
164	Peach L	5/29/2015	hypo		13															
164	Peach L	7/26/2015	hypo		17															
164	Peach L	8/10/2015	hypo		15															
164	Peach L	8/22/2015	hypo		17															
164	Peach L	8/30/2015	hypo		17															
164	Peach L	9/7/2015	hypo		19															

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/1	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 (aquaflor) (unitless)	1 unit	none
AQ-Chl	Chlorophyll *a* (aquaflor) (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	Cylindrospermposin (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 Peach Lake

Peach Lake (1302-0004) — Impaired Seg

Waterbody Location Information

Revised: 05/01/2008

Water Index No:	H- 31-P44-24- P89-10-P93			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02030101/080	**Str Class:**	B		Lower Hudson River
Waterbody Type:	Lake			**Reg/County:**	3/Westchester Co. (60)
Waterbody Size:	241.9 Acres			**Quad Map:**	PEACH LAKE (P-26-3)
Seg Description:	entire lake				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
PUBLIC BATHING	Impaired	Known
Aquatic Life	Stressed	Possible
RECREATION	Impaired	Known
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known:	ALGAL/WEED GROWTH (algal blooms, vegetation), NUTRIENTS (phosphorus), PATHOGENS
Suspected:	Silt/Sediment
Possible:	D.O./Oxygen Demand

Source(s) of Pollutant(s)

Known:	HABITAT MODIFICATION, HABITAT MODIFICATION
Suspected:	ON-SITE/SEPTIC SYST, URBAN/STORM RUNOFF, URBAN/STORM RUNOFF
Possible:	- - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: ext/NYCW **Resolution Potential:** Medium
TMDL/303d Status: 1 (Individual Waterbody Impairment Requiring a TMDL)

Further Details

Overview

Public bathing and recreational uses in Lake Lincolndale are considered to be impaired due to pathogens and aquatic weed/algal growth and low water transparency. Elevated nutrient (phosphorus) loads attributed to nonpoint sources are the primary contributor to recreational and aesthetic impacts. Urban/storm runoff and on-site (septic) systems are thought to be sources of these pollutants.

Water Quality Sampling

Peach Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1999 and continuing through 2007. 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 mesoeutrophic, or moderately to highly productive, based on low water transparency, and high nutrient (primarily phosphorus) and algae levels. Phosphorus levels in the lake consistently exceed (and often significantly exceed) the state phosphorus guidance value indicating impacted/stressed recreational uses. Corresponding transparency measurements regularly fail to meet what is

recommended for swimming beaches. Measurements of pH typically exceed the state water quality range of 6.5 to 8.5; but it is not known whether this results in ecological impacts. The lake water is moderately colored, high enough to impact transparency if algae levels were lower. (DEC/DOW, BWAM/CSLAP, January 2008)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This most recent assessment indicates recreational suitability of the lake to be unfavorable. The recreational suitability of the lake is described most frequently as "slightly" to "substantially" impacted for most recreational uses. The lake itself is most often described as having "definite algae greenness" or "severe algae levels." Recreational assessment decline over the season, consistent with increasing lake productivity. Assessments have noted that aquatic plants typically grow to the lake surface. (DEC/DOW, BWAM/CSLAP, January 2008)

Previous Assessment

High coliform counts (resulting in occasional beach closures), along with algal blooms and excessive aquatic weed growth in the lake, have been noted in the past. The aquatic growth may also depress dissolved oxygen in the lake to the point where the fishery may also be affected. Failing and/or inadequate on-site septic systems serving lake shore camps and year-round residences and other runoff from urban/suburban development in the watershed are considered likely sources of nutrient loads and other pollutants. Mechanical and chemical weed control efforts have been attempted with limited success. (Westchester and Putnam County WQCCs, 1996)

Lake Uses

This lake waterbody is designated class B, suitable for use as a public bathing beach, for general recreation and aquatic life support, but not as 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.

New York City Watershed

Peach Lake is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

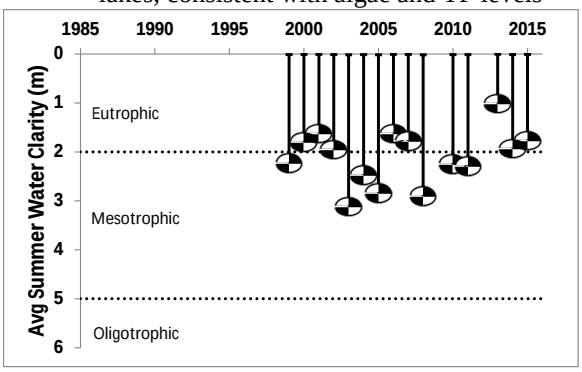
Section 303(d) Listing

Peach Lake is currently included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included on Part 1 of the List as a Waterbody Segment with Impairment Requiring TMDL Development. The lake is listed for both pathogens and phosphorus. (DEC/DOW, BWAM/WQAS, May 2008)

Appendix C- Long Term Trends: Peach Lake

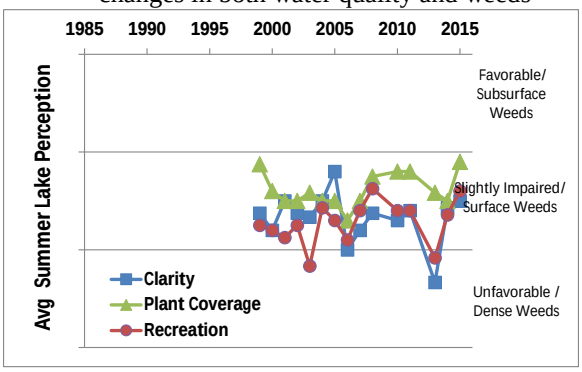
Long Term Trends: Water Clarity

- ↓ since early 00s
- Most readings typical of *mesoeutrophic* lakes, consistent with algae and TP levels



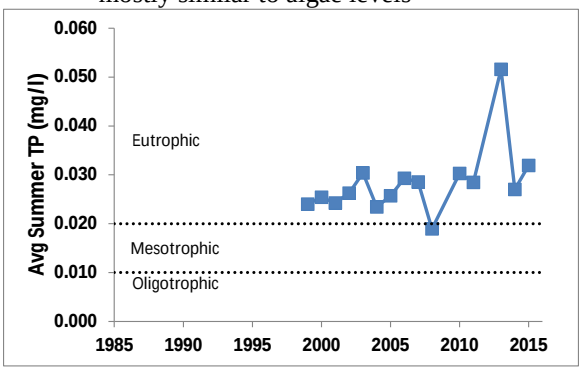
Long Term Trends: Lake Perception

- No clear trends despite drop in clarity
- Recreational perception closely linked to changes in both water quality and weeds



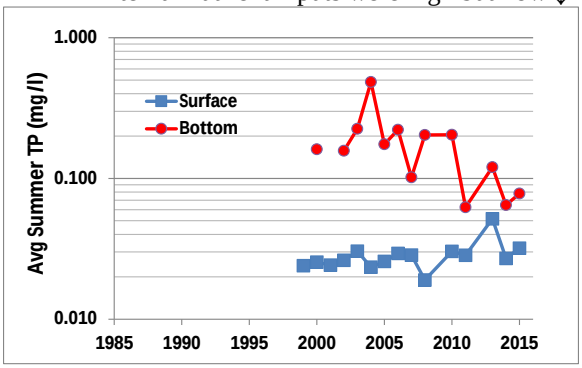
Long Term Trends: Phosphorus

- ↑ TP since late 00s
- Nearly all readings typical of *eutrophic* lakes, mostly similar to algae levels



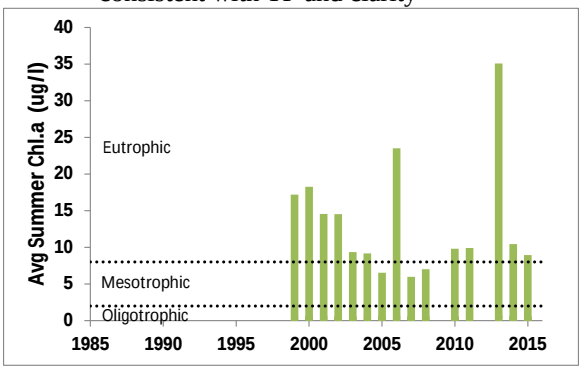
Long Term Trends: Bottom Phosphorus

- Deep TP ↓; now close to surface TP
- Change in deepwater TP suggests that internal nutrient inputs were high but now ↓



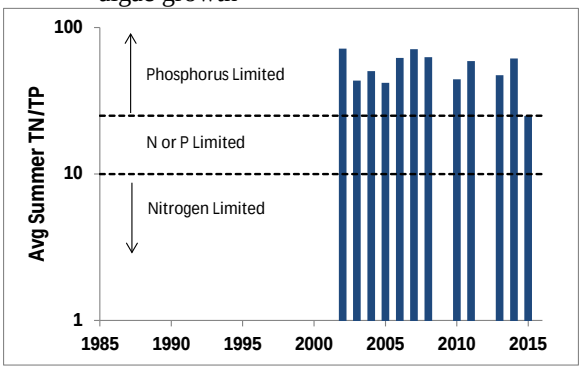
Long Term Trends: Chlorophyll a

- Algae levels now more variable year to year
- Most readings typical of *eutrophic* lakes, consistent with TP and clarity



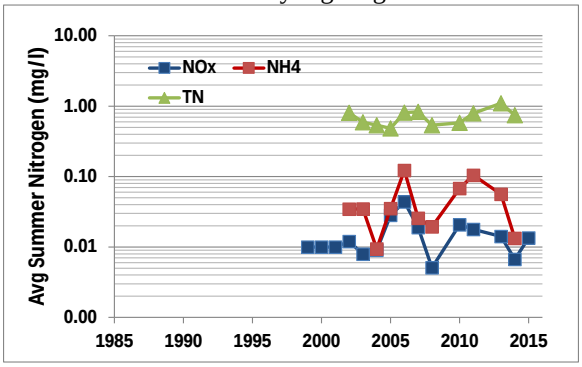
Long Term Trends: N:P Ratio

- Perhaps slight ↓ since mid-2000s
- Most readings indicate phosphorus limits algae growth



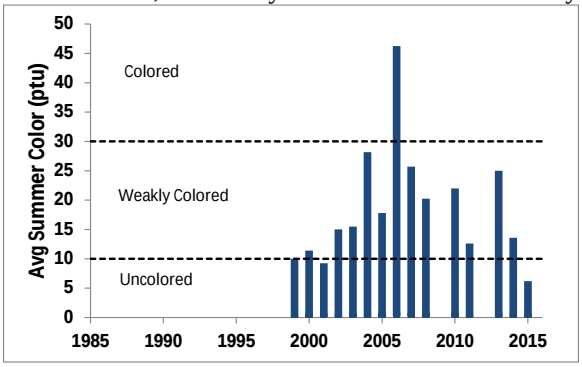
Long Term Trends: Nitrogen

- Slight ↑ TN
- Most elevated TN and perhaps NH4 readings consistent w/ very high algae levels



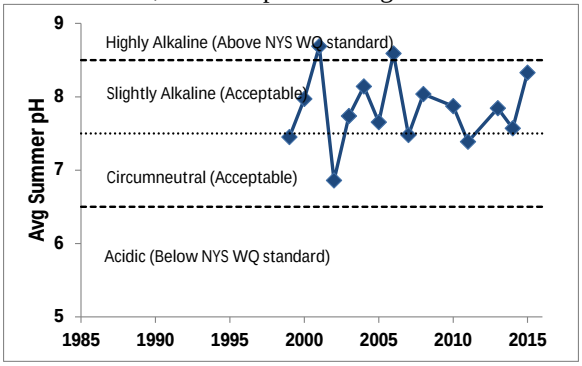
Long Term Trends: Color

- No trends apparent; at times highly elevated
- Most readings typical of *weakly colored* lakes, with likely little effect on water clarity



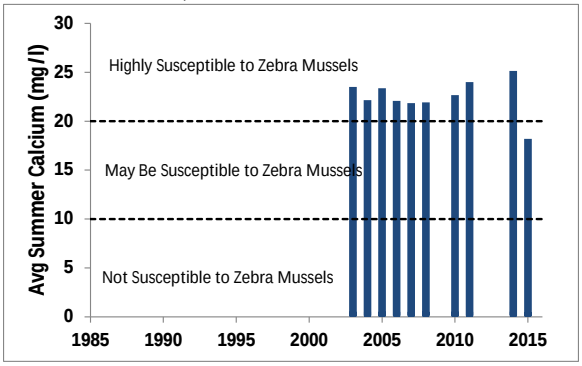
Long Term Trends: pH

- No trends apparent; somewhat unstable
- Most readings typical of *slightly alkaline* lakes; elevated pH from algae blooms?



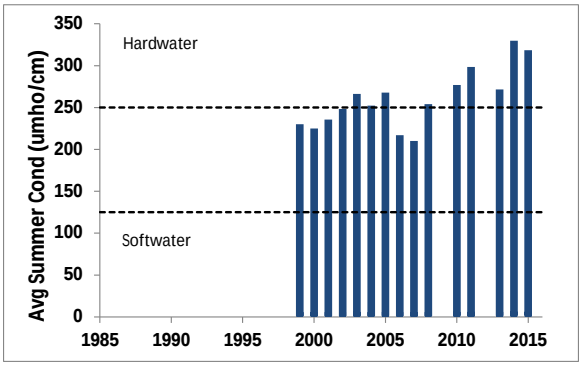
Long Term Trends: Calcium

- No trends apparent; lower in 2015
- Data indicates high susceptibility to zebra mussels, which are not found at lake



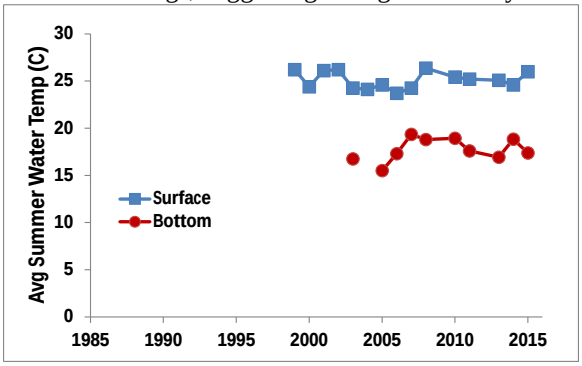
Long Term Trends: Conductivity

- ↑ conductivity since mid-2000s
- Most readings typical of *hardwater* to *intermediate hardness* lakes



Long Term Trends: Water Temperature

- No trends apparent; slight rise in bottom T
- Deepwater temperatures lower than surface readings; suggesting 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.

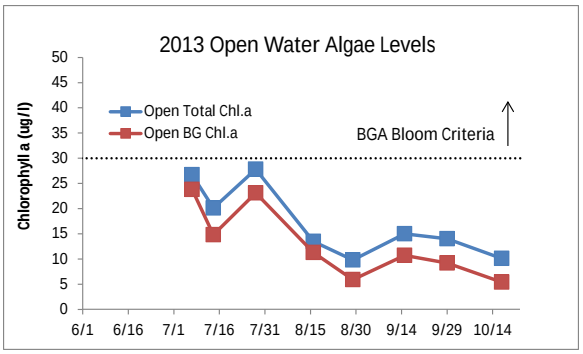


Figure D1:
2013 Open Water Total and BGA Chl.a

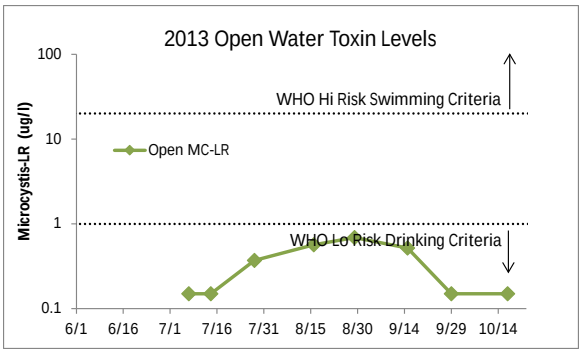


Figure D2:
2013 Open Water Microcystin-LR

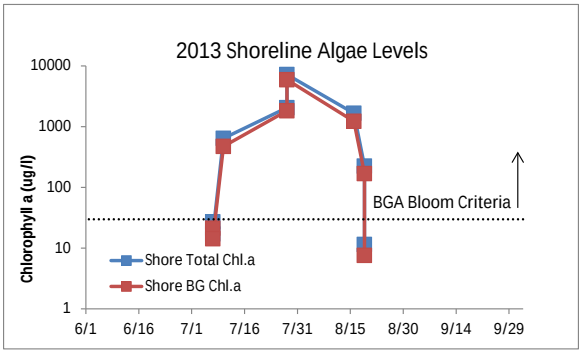


Figure D3:
2013 Shoreline Total and BGA Chl.a

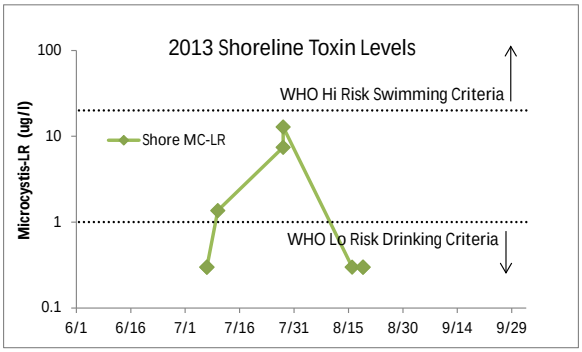


Figure D4:
2013 Shoreline Microcystin-LR

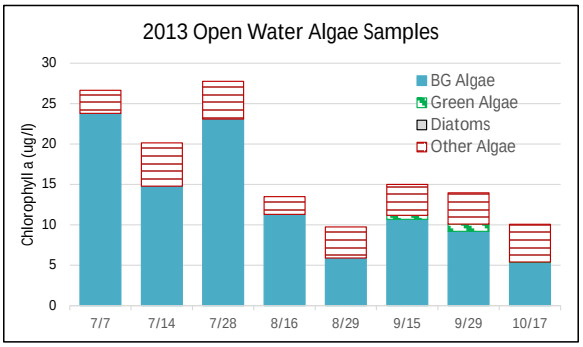


Figure D5:
2013 Open Water Algae Types

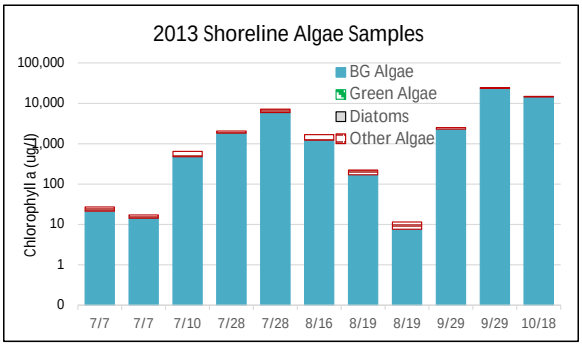


Figure D6:
2013 Shoreline Algae Types

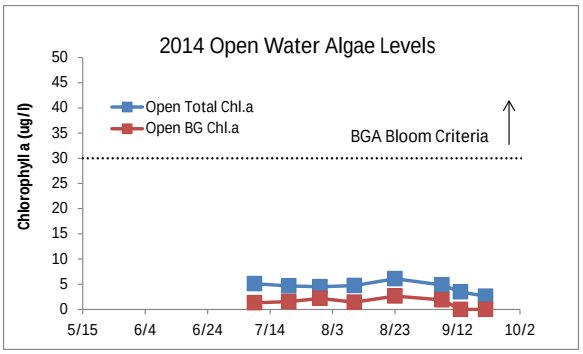


Figure D7:
2014 Open Water Total and BGA Chl.a

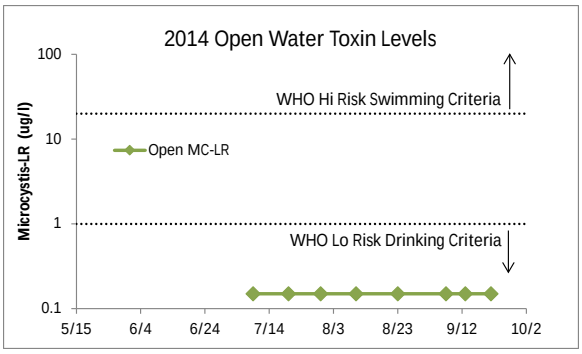


Figure D8:
2014 Open Water Microcystin-LR

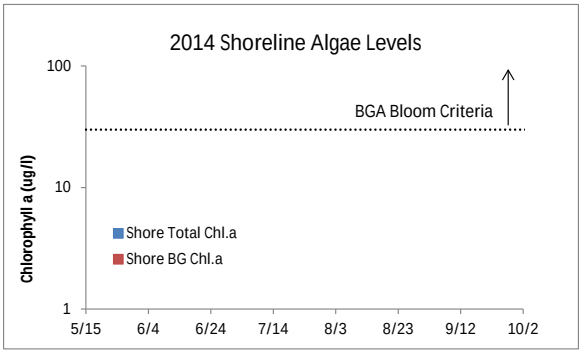


Figure D9:
2014 Shoreline Total and BGA Chl.a

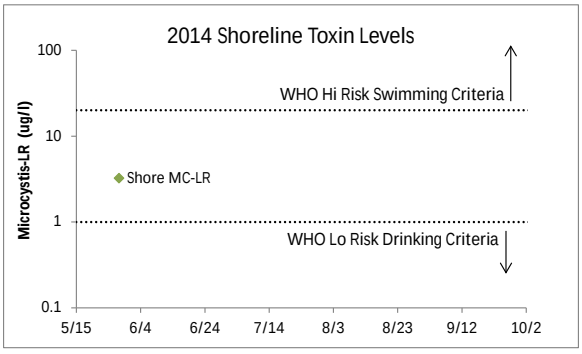


Figure D10:
2014 Shoreline Microcystin-LR

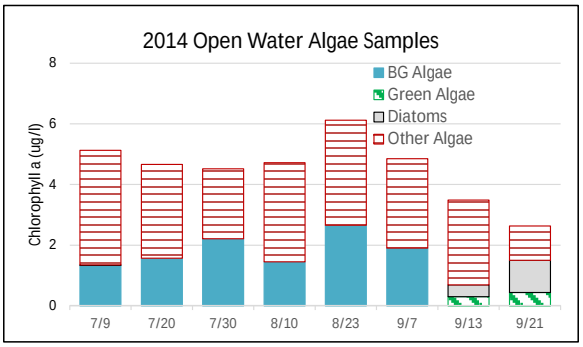


Figure D11:
2014 Open Water Algae Types

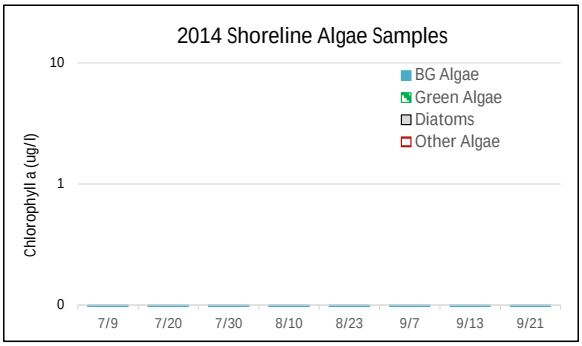


Figure D12:
2014 Shoreline Algae Types

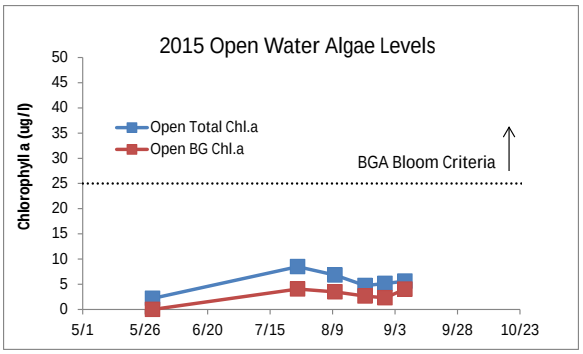


Figure D13:
2015 Open Water Total and BGA Chl.a

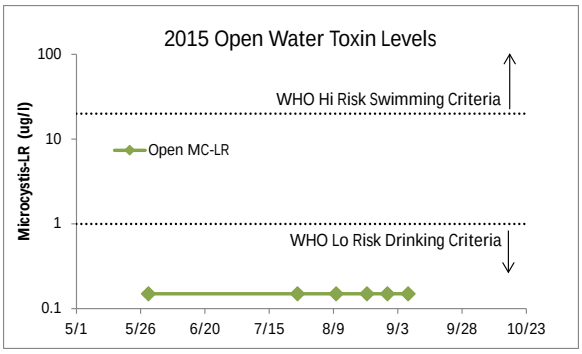


Figure D14:
2015 Open Water Microcystin-LR

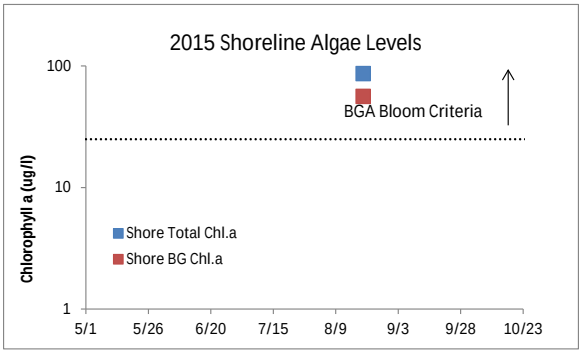


Figure D15:
2015 Shoreline Total and BGA Chl.a

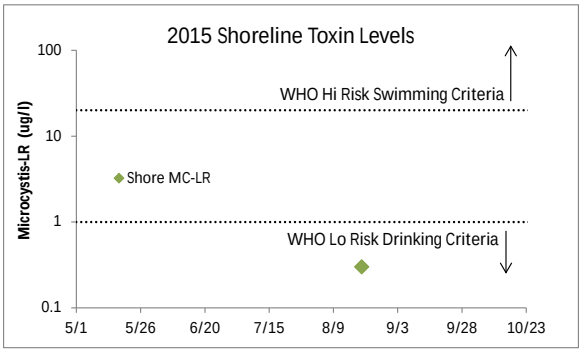


Figure D16:
2015 Shoreline Microcystin-LR

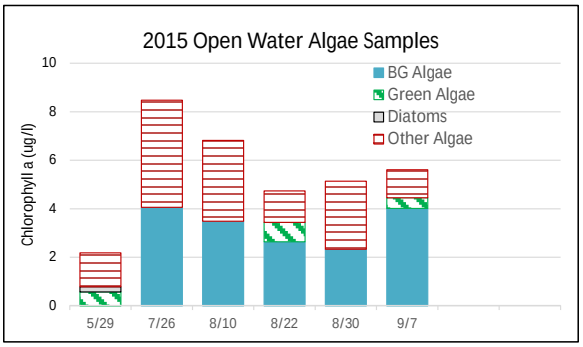


Figure D17:
2015 Open Water Algae Types

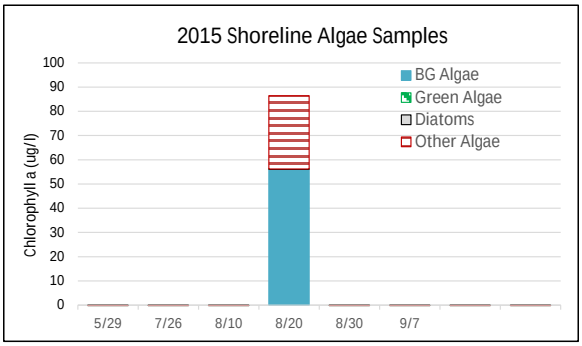


Figure D18:
2015 Shoreline Algae Types

Appendix E:
AIS Species in Westchester and Putnam County

The table below shows the invasive aquatic plants and animals that have been documented in Westchester and Putnam 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 and Putnam County			
Waterbody	**Kingdom**	**Common name**	**Scientific name**
Canopus Lake	Plant	Variable watermilfoil	*Myriophyllum heterophyllum*
Canopus Lake	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Canopus Lake	Plant	Curly leafed pondweed	*Potamogeton crispus*
Cross River Reservoir	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Cross River Reservoir	Animal	Virile crayfish	*Orconectes virilis*
Croton Falls Reservoir	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Croton River	Plant	Hydrilla	*Hydrilla verticillata*
Croton River	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Croton River	Plant	Brittle naiad	*Najas minor*
Croton River	Plant	Curly leafed pondweed	*Potamogeton crispus*
Duck Pond	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Grassy Sprain Reservoir	Animal	American alligator	*Alligator mississippiensis*
Howlands Lake	Plant	Brittle naiad	*Najas minor*
Hudson River	Plant	Water chestnut	*Trapa natans*
Hudson River	Animal	Zebra mussel	*Dreissena polymorpha*
Hudson River	Plant	Water chestnut	*Trapa natans*
Huguenot Lake	Animal	American alligator	*Alligator mississippiensis*
Ice Pond	Plant	Brittle naiad	*Najas minor*
Kirk Lake	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Lake Carmel	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Lake Celeste	Plant	Curly leafed pondweed	*Potamogeton crispus*
Lake Katonah	Plant	Curly leafed pondweed	*Potamogeton crispus*
Lake Lincolndale	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Lake Lincolndale	Plant	Brittle naiad	*Najas minor*

Waterbody	Kingdom	Common name	Scientific name
Lake Mahopac	Animal	Zebra mussel	*Dreissena polymorpha*
Lake Mahopac	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Lake Mohegan	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Lake Nimham	Plant	Brittle naiad	*Najas minor*
Lake Oscaleta	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Lake Oscaleta	Plant	Brittle naiad	*Najas minor*
Lake Oscaleta	Plant	Curly leafed pondweed	*Potamogeton crispus*
Lake Peekskill	Plant	Curly leafed pondweed	*Potamogeton crispus*
Lake Rippowam	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Lake Tibet	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Lake Valhalla	Plant	Curly leafed pondweed	*Potamogeton crispus*
Lake Waccabuc	Plant	Brazilian elodea	*Egeria densa*
Lake Waccabuc	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Lake Waccabuc	Plant	Brittle naiad	*Najas minor*
Lake Waccabuc	Plant	Curly leafed pondweed	*Potamogeton crispus*
Lake Waccabuc	Plant	Water chestnut	*Trapa natans*
Loretta Lake	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Lost Lake	Plant	Curly leafed pondweed	*Potamogeton crispus*
Lounsbury Pond	Plant	Water chestnut	*Trapa natans*
Mohansic Lake	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Muscoot Reservoir	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Muscoot Reservoir	Animal	Rusty crayfish	*Orconectes rusticus*
Muscoot Reservoir	Plant	Curly leafed pondweed	*Potamogeton crispus*
Muscoot Reservoir	Plant	Water chestnut	*Trapa natans*
New Croton Reservoir	Plant	Hydrilla	*Hydrilla verticillata*
New Croton Reservoir	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Oscawana Lake	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Oscawana Lake	Plant	Water chestnut	*Trapa natans*
Palmer Lake	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Palmer Lake	Plant	Brittle naiad	*Najas minor*
Peach Lake	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Pelton Pond	Plant	Variable watermilfoil	*Myriophyllum heterophyllum*
Pine Lake	Plant	Brazilian elodea	*Egeria densa*
Pine Lake	Plant	Water chestnut	*Trapa natans*
Putnam Lake	Plant	Curly leafed pondweed	*Potamogeton crispus*
Putnam Lake	Plant	Water chestnut	*Trapa natans*
Roaring Brook Lake	Plant	Fanwort	*Cabomba caroliniana*
Roaring Brook Lake	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Roaring Brook Lake	Plant	Curly leafed pondweed	*Potamogeton crispus*
Seven Hills Lake	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Seven Hills Lake	Plant	Curly leafed pondweed	*Potamogeton crispus*
Tarrytown Reservoir	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Teatown Lake	Plant	European four leaf clover	*Marsilea quadrifolia*

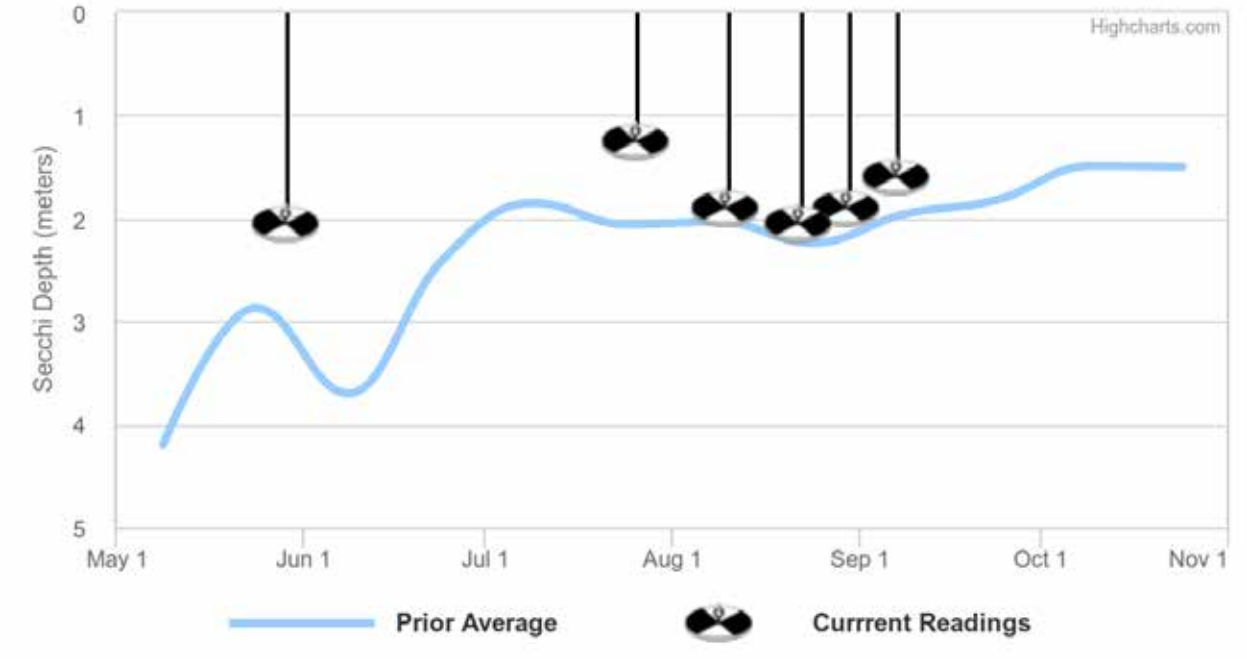
Waterbody	Kingdom	Common name	Scientific name
Teatown Lake	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Teatown Lake	Plant	Water chestnut	*Trapa natans*
Titicus Reservoir	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Troublesome Brook n of Tuckahoe	Animal	Asian Clam	*Corbicula fluminea*
Truesdale Lake	Plant	Curly leafed pondweed	*Potamogeton crispus*
Vernay Lake	Plant	Curly leafed pondweed	*Potamogeton crispus*
Wallace Pond	Plant	Curly leafed pondweed	*Potamogeton crispus*
Wampus Lake Reservoir	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
Wampus Lake Reservoir	Plant	Curly leafed pondweed	*Potamogeton crispus*
White Lake	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
White Lake	Plant	Curly leafed pondweed	*Potamogeton crispus*
White Pond	Plant	Eurasian watermilfoil	*Myriophyllum spicatum*
White Pond	Plant	Curly leafed pondweed	*Potamogeton crispus*
Wonder Lake	Plant	Water chestnut	*Trapa natans*

Appendix F: Current Year vs. Prior Averages for Peach 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 1999 to 2014. This year's deep water sample temperatures are tending to be lower than normal when compared to the average of readings collected from 2005 to 2014.

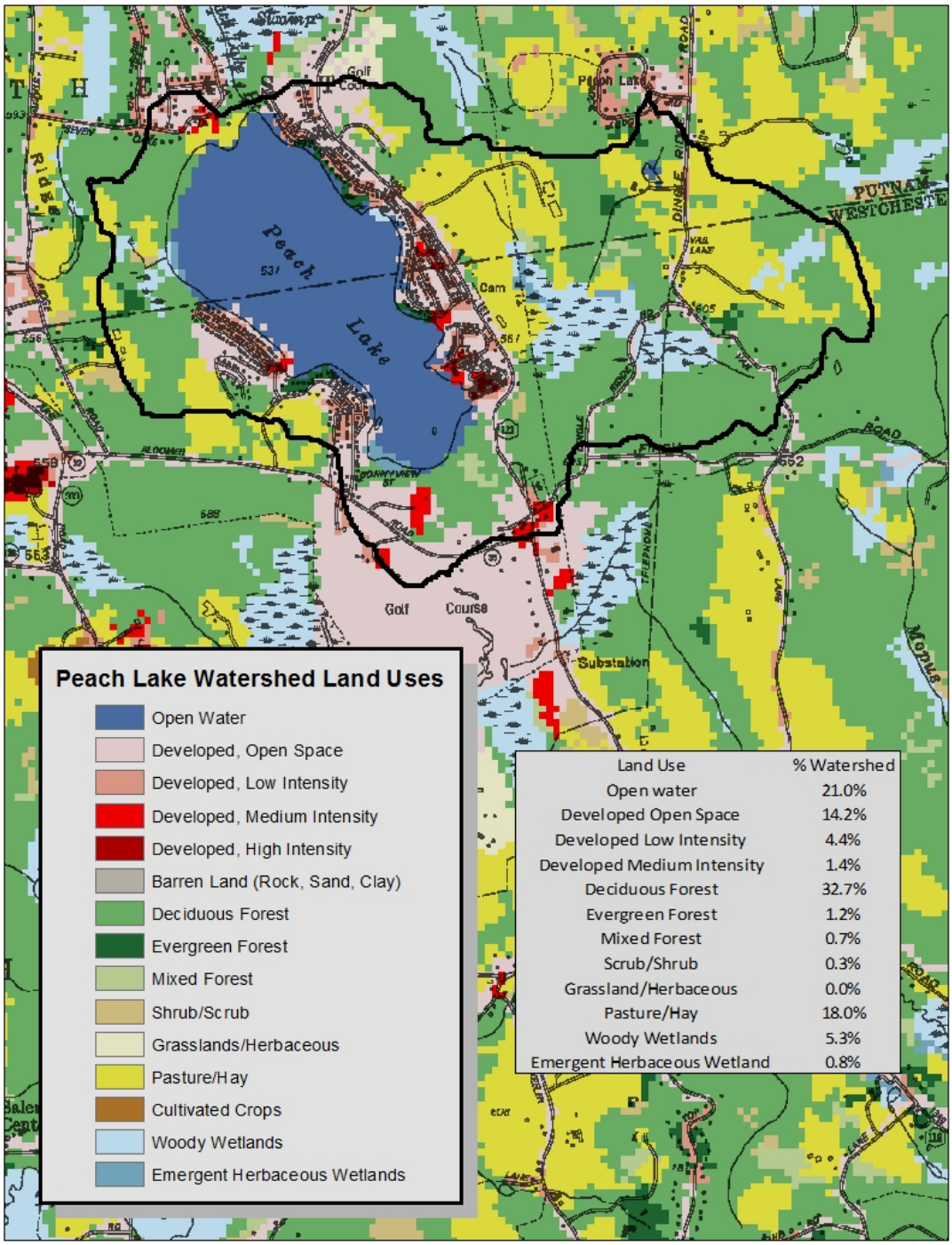
Current Year Secchi Readings vs. Prior Average



This year's session Secchi readings are tending to be lower than normal when compared to the average of readings collected from 1999 to 2014

Appendix G: Watershed and Land Use Map for Peach 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.



Land Use	% Watershed
Open water	21.0%
Developed Open Space	14.2%
Developed Low Intensity	4.4%
Developed Medium Intensity	1.4%
Deciduous Forest	32.7%
Evergreen Forest	1.2%
Mixed Forest	0.7%
Scrub/Shrub	0.3%
Grassland/Herbaceous	0.0%
Pasture/Hay	18.0%
Woody Wetlands	5.3%
Emergent Herbaceous Wetland	0.8%