

Peck Lake Questions and Answers, 2015 CSLAP

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

A1. Conditions in Peck Lake were close to normal (for the lake) in 2015. Algae levels were lower than usual in 2014 and 2015, but phosphorus and water clarity were close to normal, suggesting variation within a normal range. No shoreline blooms were reported in 2015.

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

A2. Chloride sampling results were typical of lakes with low to moderate impacts from road salt runoff, although no biological impacts were measured or reported.

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

A3. Peck Lake had lower water clarity, but also lower algae and nutrient readings, than the typical nearby lake. Plant coverage was higher than usual and similar to nearby lakes in 2015.

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

A4. Water quality assessments have improved since the early 2000s. Algae levels have decreased over the last decade, while pH and conductivity readings have increased slightly over the last 10-20 years. However, none of these water quality changes have been statistically significant.

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

A5. Peck Lake does not appear to be susceptible to shoreline blue green algae blooms, but may be susceptible to small increases in phosphorus levels. 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.

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

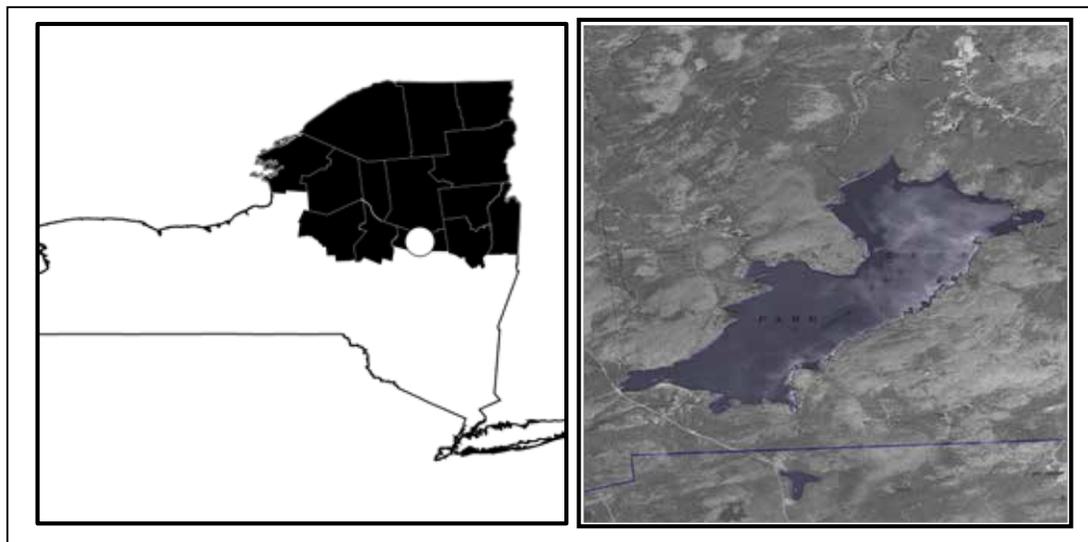
 Supported / Good
 Threatened / Fair
 Stressed / Poor
 Impaired
 Not Known

CSLAP 2015 Lake Water Quality Summary: Peck(s) Lake

General Lake Information

Location	Town of Bleeker
County	Fulton
Basin	Mohawk River
Size	554.3 hectares (1369.1 acres)
Lake Origins	Augmented by 39ft by 920ft dam (1910)
Watershed Area	4,960 hectares (12,251 acres)
Retention Time	0.85 years
Mean Depth	5.8 meters
Sounding Depth	10.7 meters
Public Access?	no
Major Tributaries	Peck Creek
Lake Tributary To...	West Stony Creek to Caroga Creek to Mohawk River
WQ Classification	C (non-contact recreation = boating, angling)
Lake Outlet Latitude	43.101
Lake Outlet Longitude	-74.435
Sampling Years	1992-1998, 2000-2001, 2008-2012, 2014-2015
2015 Samplers	Tom and Gretchen Jewell
Main Contact	Tom Jewell

Lake Map



Background

Peck Lake is a 1370 acre, class C lake found in the Town of Bleeker in Fulton County, in the southern Adirondack region of New York State. It was first sampled as part of CSLAP in 1992.

It is one of eight CSLAP lakes among the nearly 200 lakes found in Fulton County, and one of 13 CSLAP lakes among the nearly 800 lakes and ponds in the Mohawk River drainage basin.

Lake Uses

Peck Lake is a Class C lake; this means that the best intended use for the lake is for non-contact recreation—boating and aesthetics, although the lake is probably also used for contact recreation—swimming and bathing. The lake is used by lake residents and invited guests for a variety of recreational purposes—the lake has no public access and is controlled by the Peck family. However, visitors can use the lake through the Pecks Lake Marina (<http://www.peckslake.com/rates.htm>).

Peck Lake is not stocked by the state of New York. Private stocking occurs in Peck Lake through the Peck Lake Protective Association—stocked fish species include largemouth and smallmouth bass, rainbow and brook trout, crappies, perch, fathead minnows, walleye pike, and bullheads (although not every fish species has been stocked every year).

General statewide fishing regulations are applicable in Peck Lake. In addition, the open season on pickerel is from the 1st Saturday in May through March 15th, with no size limit and a daily take limit of five fish. The open season on trout is from April 1st through October 15th, with no size limit but a daily take limit of five brook trout less than eight inches.

Historical Water Quality Data

CSLAP sampling was conducted on Peck Lake from 1992 to 1998, 2000 to 2001, 2008 to 2012, and 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 report and scorecard for Peck Lake can also be found on the NYSDEC web page at <http://www.dec.ny.gov/lands/77870.html>.

Peck Lake was sampled as part of the DEC fisheries management work in April of 2005. The limited water quality data associated with this sampling showed results comparable to those measured through CSLAP.

There are no RIBS monitoring sites on or near Peck Lake, and neither Pecks Creek nor West Stony Creek have been sampled through any statewide water monitoring programs. Pecks Creek was sampled through the DEC stream biomonitoring (macroinvertebrate) program, with no biological impacts apparent.

Lake Association and Management History

Peck Lake is represented by the Pecks Lake Protective Association. In addition to involvement in CSLAP, the lake association outlines lake recreational activities permitting within the deed restrictions, such as watercraft guidelines, and is responsible for fish stocking (via the fish stocking committee).

More information about the Pecks Lake Protective Association can be found on their website at <http://www.plpa.org/>.

Summary of 2015 CSLAP Sampling Results

Evaluation of 2015 Annual Results Relative to 1992-2014

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 – Peck Lake” section in Appendix C.

Evaluation of Eutrophication Indicators

Algae levels (as measured by chlorophyll *a*) were slightly lower than normal in 2015, and these lower readings have been part of a slight decrease in algae levels over the last decade. Water clarity readings have also decreased slightly since the mid-1990s (though they have been stable over the last several years), despite the lack of similar changes in phosphorus readings.

Lake productivity does not normally exhibit clear seasonal trends in Peck Lake, despite a slight seasonal decrease in phosphorus readings and a slight increase in algae levels in early summer. In 2015, water clarity increased in early summer and decreased in late summer, mostly coincident with early summer decreases and late summer increases in algae and nutrient levels.

The lake continues to be characterized as *mesoligotrophic*, based on water clarity, chlorophyll *a* (both typical of *mesotrophic* lakes) and total phosphorus readings (typical of *oligotrophic* lakes). The trophic state indices (TSI) evaluation suggests that phosphorus readings are much lower than expected given the nutrient and algae levels in the lake. This suggests that small increases in phosphorus levels may trigger larger increases in algae levels and decreases in water transparency. Overall trophic conditions are summarized on the Lake Scorecard and Lake Condition Summary Table.

Evaluation of Potable Water Indicators

Algae levels are not high enough to render the lake susceptible to taste and odor compounds or elevated DBP (disinfection by product) compounds that could affect the potability of the water, and the lake is not classified for this purpose. Peck Lake is not thermally stratified on a consistent basis, so deepwater intakes to avoid surface algae-enriched waters may not be appropriate. Potable water conditions, at least as measurable through CSLAP, are summarized in the Lake Scorecard and Lake Condition Summary Table.

Evaluation of Limnological Indicators

pH and conductivity readings were slightly higher than usual in 2015, and both of these indicators have increased slightly over the last 10-20 years. Color readings have been higher since the 2002 lab change, but were slightly lower than usual in 2015. Ammonia levels have risen slightly in the last decade, but they have remained consistently low and were close to normal in 2015. It is likely that the small changes in the other indicators from year to year represent normal variability.

Chloride levels in the 2015 samples, collected for the first time through CSLAP and cited in Appendix A, ranged from 10 to 12 mg/l. These values fall within the low end of “moderate” 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 and below 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

Phytoplankton, macrophyte, zooplankton, and macroinvertebrate surveys have not been conducted through CSLAP at Peck Lake. The fluoroprobe screening samples analyzed by SUNY ESF indicated both low algae levels and low blue green algae levels. The algae community from the open water (CSLAP site) are comprised of a variety of algae species, although there is a slight increase in blue green algae levels later in the summer. No shoreline blooms have been reported or sampled, and 2015 conditions were similar to those reported in previous years.

The fish community in the lake is comprised of a mix of coldwater (at least one species), coolwater (at least three species) and warmwater (at least six species) fish. The fish community appears to be weighted more heavily toward warmwater fish species.

Spiny waterflea, an exotic zooplankter, was found in Peck Lake for the first time in 2009, probably migrating from a known infestation in Great Sacandaga Lake. It is not yet known how significantly this affects the biological condition of the lake.

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

Evaluation of Lake Perception

Water quality assessments were close to normal in 2015, although these assessments have improved over the last decade. Aquatic plant coverage was higher than normal in 2015, and recreational assessments were less favorable (although the latter was due more to poor weather and factors unrelated to water quality or weeds). However, neither plant coverage nor recreational assessments have changed significantly since CSLAP sampling began in 1992. These assessments are consistently favorable from year to year and during the summer, although recreational assessments are slightly less favorable in late summer and plant coverage was higher than usual in mid-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 have increased slightly (although this change was not statistically significant) at the surface and in deep water, and surface temperatures were warmer than usual in 2015. It is not known if local climate change can be evaluated by looking at CSLAP temperature readings.

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 screening results have been consistently below the thresholds for harmful algal blooms (HABs) in the open water, consistent with low algae levels and a mix of algae species. No shoreline blooms have been reported or sampled.

Lake Condition Summary

Category	Indicator	Min	Overall Avg	Max	2015 Avg	Classification	2015 Change?	Long-term Change?
Eutrophication Indicators	Water Clarity	2.20	3.86	5.64	3.70	Mesotrophic	Within Normal Range	No Change
	Chlorophyll <i>a</i>	0.12	3.90	17.70	2.98	Mesotrophic	Within Normal Range	No Change
	Total Phosphorus	0.000	0.007	0.015	0.006	Oligotrophic	Within Normal Range	No Change
Potable Water Indicators	Hypolimnetic Ammonia	0.01	0.03	0.05	0.04	Close to Surface NH4 Readings	Higher than Normal	Not known
	Hypolimnetic Arsenic							
	Hypolimnetic Iron							
	Hypolimnetic Manganese							
Limnological Indicators	Hypolimnetic Phosphorus	0.005	0.010	0.023	0.006	Close to Surface TP Readings	Lower Than Normal	Not known
	Nitrate + Nitrite	0.00	0.03	0.13	0.04	Low NOx	Within Normal Range	No Change
	Ammonia	0.00	0.04	0.23	0.03	Low Ammonia	Within Normal Range	No Change
	Total Nitrogen	0.00	0.30	1.17	0.25	Low Total Nitrogen	Within Normal Range	No Change
	pH	5.79	7.17	9.26	7.66	Circumneutral	Higher than Normal	No Change
	Specific Conductance	19	43	99	51	Softwater	Higher than Normal	No Change
	True Color	3	13	29	9	Intermediate Color	Lower Than Normal	No Change
	Calcium	1.9	2.9	3.4	3.3	Not Susceptible to Zebra Mussels	Within Normal Range	No Change
Lake Perception	WQ Assessment	1	1.4	3	1.5	Crystal Clear	Within Normal Range	Highly Improving
	Aquatic Plant Coverage	1	1.7	3	2.5	Subsurface Plant Growth	Less Favorable than Normal	No Change
	Recreational Assessment	1	1.4	5	1.9	Could Not Be Nicer	Less Favorable than Normal	No Change
Biological Condition	Phytoplankton					Open water-low blue green algae biomass	Not known	Not known
	Macrophytes					Not measured 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					Spiny waterflea	Not known	Not known
Local Climate Change	Air Temperature	4	24.0	40	24.1		Within Normal Range	No Change
	Water Temperature	6	21.1	27	24.3		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	0	13	88	5	No readings indicate high risk of BGA	Not known	Not known
	Open Water FP Chl.a	1	2	4	2	No readings indicate high algae levels	Not known	Not known
	Open Water FP BG Chl.a	0	0	1	0	No readings indicate high BGA levels	Not known	Not known
	Open Water Microcystis	<DL	<DL	0.9	<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					No shoreline blooms sampled for FP	Not known	Not known
	Shoreline FP BG Chl.a					No shoreline blooms sampled for FP	Not known	Not known
	Shoreline Microcystis					No shoreline bloom MC-LR data	Not known	Not known
	Shoreline Anatoxin a					No shoreline bloom anatoxin data	Not known	Not known

Evaluation of Lake Condition Impacts to Lake Uses

The 2010 NYSDEC Priority Waterbody Listings (PWL) for the Mohawk River drainage basin indicate that Peck Lake has *no known impacts*. The 2010 PWL listing for the lake is shown in Appendix B.

Potable Water (Drinking Water)

The CSLAP dataset at Peck Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, is inadequate to evaluate the use of the lake for potable water, and the lake is not classified for this use. The limited CSLAP data does not indicate any impacts to "unofficial" use of the lake for potable water.

Public Bathing

The CSLAP dataset at Peck Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggests that public bathing, if conducted at a public swimming beach, should be fully supported, although bacterial data are needed to evaluate the safety of the lake for swimming. It should be noted that the lake is not classified for this use.

Recreation (Swimming and Non-Contact Uses)

The CSLAP dataset on Peck Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggest that recreation should be fully supported.

Aquatic Life

The CSLAP dataset on Peck Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggest that aquatic life may be *threatened* by the presence of spiny water flea and road salt runoff, 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 Peck Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggest that aesthetics should be *good*, although this condition may be *fair* at times due to native plants. Habitat should be *good*.

Fish Consumption

There is no fish consumption advisories posted for Peck Lake.

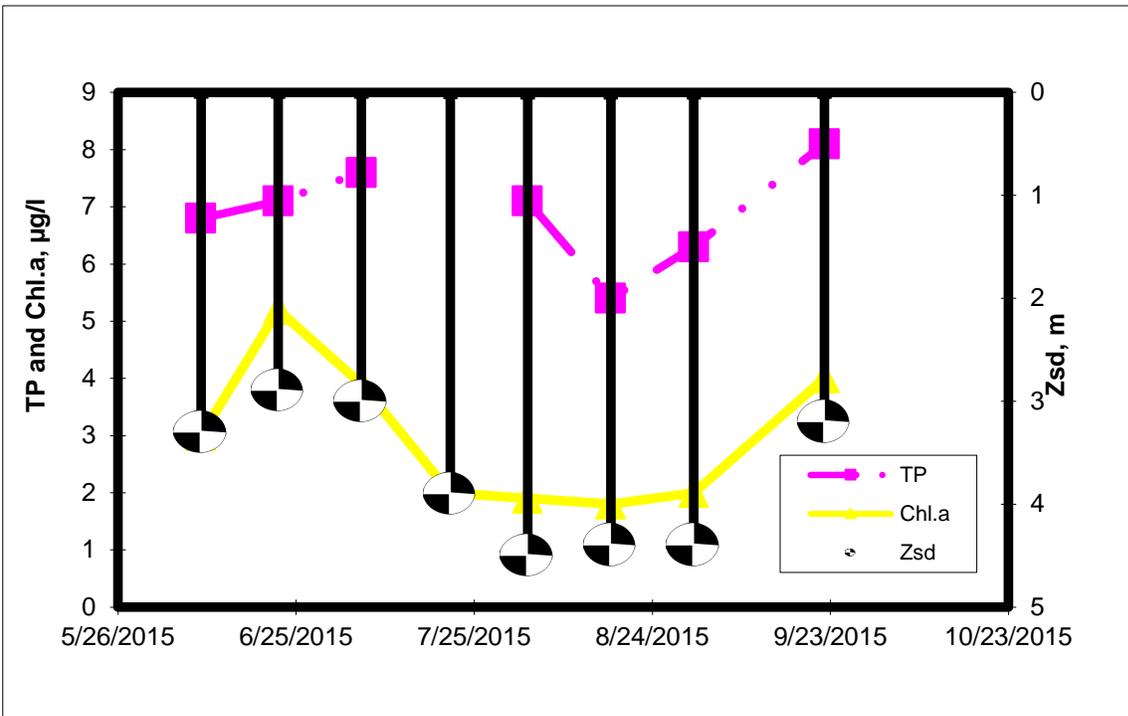
Additional Comments and Recommendations

It is not known if the recent introduction of spiny waterflea will result in significant ecological impacts. This will likely be the subject of more intensive monitoring in the near future. Lake residents are encouraged to report and avoid exposure to any surface scums or heavily discolored water often associated with blue green algae blooms.

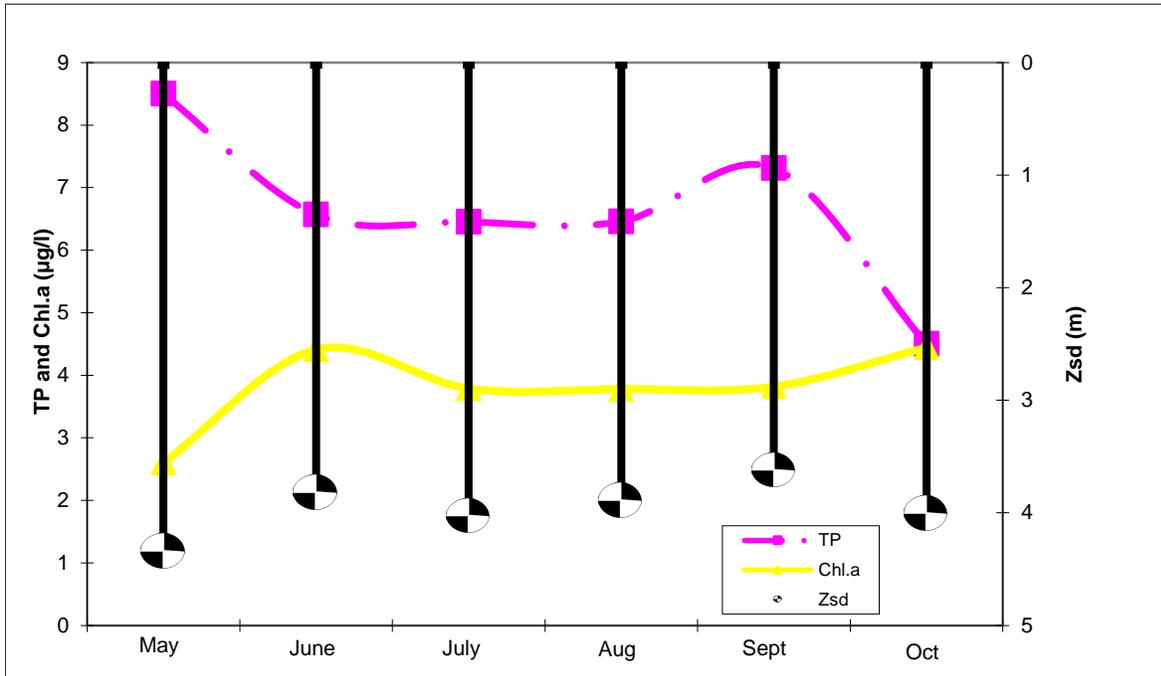
Aquatic Plant IDs-2015

None submitted for identification in 2015.

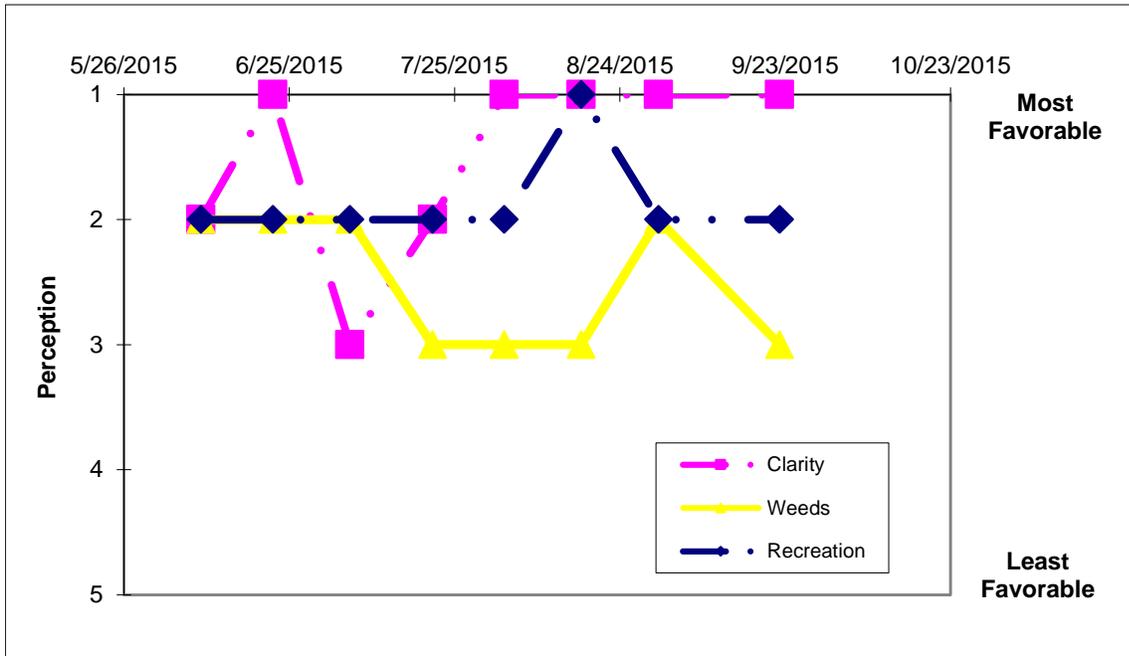
Time Series: Trophic Indicators, 2015



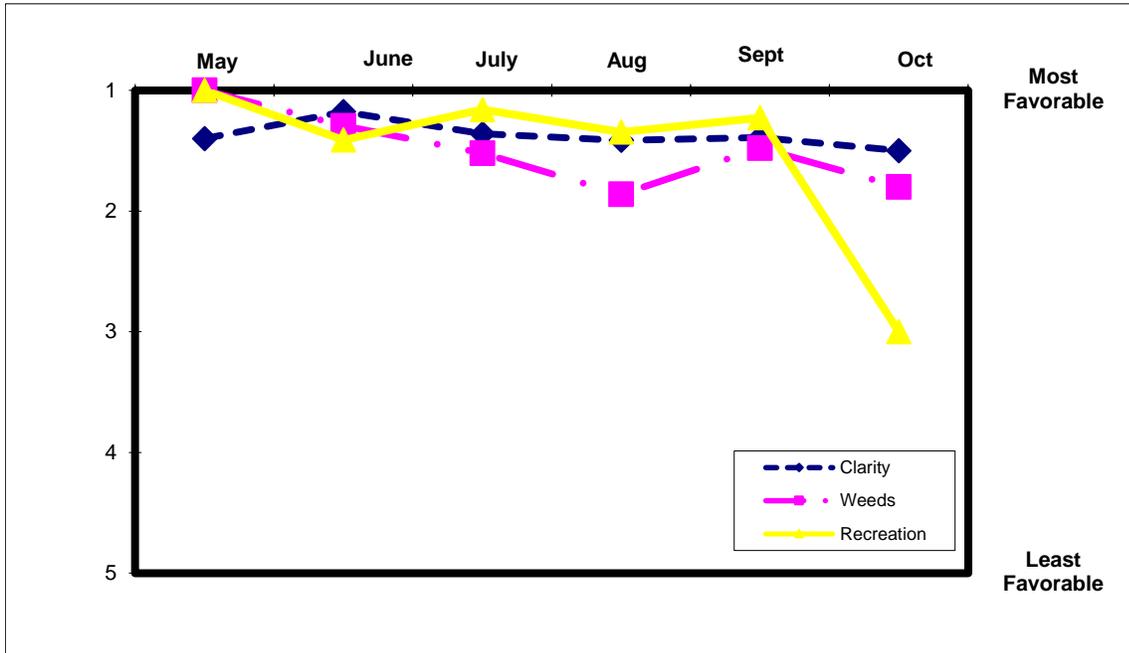
Time Series: Trophic Indicators, Typical Year (1992-2015)



Time Series: Lake Perception Indicators, 2015



Time Series: Lake Perception Indicators, Typical Year (1992-2015)



Appendix A- CSLAP Water Quality Sampling Results for Peck Lake

LNum	LName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
100	Peck L	8/1/1992	12.5	3.66	1.5	0.007	0.01				12	7.54	45		4.25	
100	Peck L	8/16/1992	11.0	4.12	1.5	0.006	0.01				10	7.44	45		5.95	
100	Peck L	8/30/1992	11.6	4.34	1.5	0.006	0.01				9	7.22	45		3.08	
100	Peck L	9/13/1992	10.9	3.66	1.5	0.009	0.01				17	7.12	46		3.41	
100	Peck L	10/4/1992	10.7	3.81	1.5	0.005	0.02				8	7.59	46		2.85	
100	Peck L	10/18/1992	11.6	3.96	1.5	0.007	0.03				16	7.41	46		3.52	
100	Peck L	6/22/1993	14.0		1.5	0.007	0.12				13	7.56	39		3.25	
100	Peck L	7/10/1993	14.0	4.55	1.5	0.003					7	6.46	39		3.82	
100	Peck L	7/27/1993	11.7	4.96	1.5	0.004	0.04				4	7.21	38		3.06	
100	Peck L	8/9/1993	12.8	4.54	1.5	0.004					8	7.64	39		4.15	
100	Peck L	8/25/1993	12.8	4.74	1.5	0.005	0.01				3	7.42	39		2.79	
100	Peck L	9/6/1993	12.2	4.04	1.5	0.005					7	7.51	40		2.06	
100	Peck L	9/22/1993	12.2	4.88	1.5	0.006	0.02				15	7.65	41		3.66	
100	Peck L	10/17/1993	13.7	4.60	1.5	0.005					13	7.24	41		4.34	
100	Peck L	6/21/1994	12.5	3.96	2.0	0.003	0.12				8	7.25	40		3.45	
100	Peck L	7/12/1994	12.2	4.87	2.0	0.003	0.08				7	7.28	40		2.11	
100	Peck L	7/23/1994	11.7	5.64	2.0							6.81	45		1.95	
100	Peck L	8/7/1994	11.7	4.27	1.5	0.004	0.05				14	7.02	40		4.05	
100	Peck L	8/20/1994	9.1	3.20	1.5	0.006	0.04				17	6.79	41		0.14	
100	Peck L	9/4/1994	9.8	3.96		0.005					17	7.38	40		0.12	
100	Peck L	7/9/1995	6.1	4.08	1.5	0.004	0.04					7.29	44		2.23	
100	Peck L	8/20/1995	10.6	5.33		0.004	0.01				10				2.37	
100	Peck L	6/11/1996	9.5	5.08	1.5	0.005	0.13				10		46		3.1	
100	Peck L	6/23/1996		4.10	1.5	0.005	0.11				10		47		4.9	
100	Peck L	7/7/1996	9.5	4.27	1.5	0.006	0.08				10	6.81	48		6.1	
100	Peck L	7/22/1996	9.3	4.30	1.5	0.005	0.03				15	6.97	45		6.3	
100	Peck L	8/5/1996	9.1	4.60	1.5	0.007	0.01				10	6.96	45		5.7	
100	Peck L	8/18/1996	9.15	4.30	1.5	0.007	0.01				10	6.93	45		8.6	
100	Peck L	9/1/1996	8.8	3.90	1.5	0.009	0.01				5	6.42	46		4.6	
100	Peck L	9/15/1996	8.5	3.65	1.5	0.006	0.01				20	5.79	46		5.3	
100	Peck L	4/27/1997	8.5	4.00												
100	Peck L	5/13/1997	8.5	3.70												
100	Peck L	5/24/1997	8.5	4.30												
100	Peck L	6/8/1997	8.5	5.30												
100	Peck L	6/22/1997	8.5	4.70												
100	Peck L	7/6/1997	8.5	5.00												
100	Peck L	7/20/1997	8.5	5.20												
100	Peck L	8/2/1997	8.5	4.20												
100	Peck L	8/17/1997	8.5	4.00												
100	Peck L	9/1/1997	8.5	4.00												
100	Peck L	9/13/1997	8.5	4.20												
100	Peck L	9/28/1997	8.5	5.00												
100	Peck L	10/11/1997	8.5	4.30												
100	Peck L	5/15/1998	8.5	5.00												
100	Peck L	5/27/1998	8.5	5.20												
100	Peck L	6/10/1998	8.5	4.70												
100	Peck L	6/24/1998	8.5	4.20												
100	Peck L	7/3/1998	8.5	4.10												
100	Peck L	7/17/1998	8.5	4.20												
100	Peck L	8/1/1998	8.5	4.20								6.60				
100	Peck L	8/16/1998	8.5	4.00								7.00				
100	Peck L	8/31/1998	8.5	4.00												
100	Peck L	5/8/2000	6.3	4.30								6.70				
100	Peck L	5/29/2000	6.3	4.30								6.70				
100	Peck L	6/11/2000	6.3	3.70								6.70				
100	Peck L	7/3/2000	6.3	3.20								6.80				
100	Peck L	8/4/2000	6.3	3.20								6.70				
100	Peck L	8/19/2000	6.3	2.20								6.60				
100	Peck L	8/21/2000	6.3									6.60				
100	Peck L	9/1/2000	6.3	3.40								6.70				
100	Peck L	9/14/2000	6.3	3.20								6.70				
100	Peck L	10/1/2000	6.3	3.30								6.70				
100	Peck L	10/22/2000	6.3	3.80								6.70				

LNum	LName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
100	Peck L	5/7/2001	6.3	4.20								6.40				
100	Peck L	5/21/2001	6.3	3.60								6.70				
100	Peck L	6/9/2001	6.3	5.30								6.70				
100	Peck L	6/25/2001	6.3	3.60								6.80				
100	Peck L	7/7/2001	6.3	3.30								6.70				
100	Peck L	7/23/2001	6.3	4.40								6.80				
100	Peck L	8/11/2001	6.3	3.30								6.70				
100	Peck L	8/25/2001	6.3	3.30								6.80				
100	Peck L	9/8/2001	6.3	3.70								6.70				
100	Peck L	10/1/2001	6.3	5.20								6.70				
100	Peck L	7/7/2008		4.30		0.006	0.04	0.03	0.54	197.85	6	7.32	35	1.9	1.83	
100	Peck L	7/21/2008	7.5	3.95		0.005	0.04	0.02	0.34	145.01	9	7.68	45		6.30	
100	Peck L	8/12/2008		2.38		0.007	0.02	0.02	0.47	151.74	16	6.78	38		17.70	
100	Peck L	8/26/2008		4.05		0.005	0.00	0.07	0.28	116.92	9	7.77	59		2.81	
100	Peck L	9/2/2008		3.70		0.007	0.00	0.07	0.44	141.21	12	7.68	46	3.0	2.79	
100	Peck L	9/20/2008		3.40			0.02	0.01	0.44		6	6.31	40		5.97	
100	Peck L	9/28/2008	10.7	3.80			0.02	0.01	0.38		11	7.32	42		3.96	
100	Peck L	10/12/2008					0.03	0.01	0.23			6.92	24		8.41	
100	Peck L	06/14/2009	11.8	2.95		0.004	0.05	0.01	0.30		12	8.64	29	2.5	11.83	
100	Peck L	06/28/2009	12.0	3.35		0.006	0.02	0.00			17	7.34	37		1.93	
100	Peck L	07/12/2009	12.0	2.80		0.006	0.01	0.00			25	6.66	19		4.63	
100	Peck L	07/26/2009	10.3	3.13		0.011	0.01	0.03			29	6.48	29		1.77	
100	Peck L	08/09/2009	7.5	3.15		0.005	0.01	0.01			18	6.74	36	3.4	4.10	
100	Peck L	08/23/2009	11.5	3.05		0.008	0.01	0.03			16	7.12	37		2.40	
100	Peck L	09/06/2009	11.7	3.00		0.006	0.02	0.02			23	8.16	33		1.10	
100	Peck L	09/20/2009	11.7	3.45		0.006	0.01	0.02			20	6.64	33		5.90	
100	Peck L	6/27/2010	10.6	2.95		0.010	0.02	0.05	0.37	85.48	4	6.74	43	3.2	4.60	
100	Peck L	7/5/2010	11.0	2.75		0.007	0.03	0.04	0.21	61.84	12	7.33	46		3.90	
100	Peck L	7/30/2010	11.4	4.10		0.007	0.02	0.02			10	7.58	45		3.00	
100	Peck L	8/1/2010	10.5	3.75	1.0	0.007	0.01	0.03	0.26	82.90	11	7.81	48		1.80	
100	Peck L	8/21/2010	12.1	3.30		0.007	0.03	0.06	0.35	108.74	8	7.04	38	3.0	4.60	
100	Peck L	9/6/2010	12.1	3.10		0.007	0.04	0.04	0.34	100.96	20	7.28	49		5.80	
100	Peck L	9/19/2010	12.4	3.15		0.008	0.02	0.02	0.30	82.15	16	6.71	49		7.00	
100	Peck L	10/3/2010	11.4	3.35		0.001	0.01	0.02	0.18	387.20	19	7.48	45		3.10	
100	Peck L	5/29/2011	11.5	3.50		0.009	0.12	0.01	0.56	145.20	17	7.37	42	2.6	2.60	
100	Peck L	6/20/2011	12.0	3.05		0.014	0.04	0.11	1.17	185.18	16	6.90	99		6.80	
100	Peck L	7/9/2011	12.0	3.25		0.011	0.01	0.02	0.24	49.14	12	7.50	45		7.70	
100	Peck L	8/13/2011	11.4	3.45		0.011	0.01	0.01	0.32	62.11	13	7.52	48		2.60	
100	Peck L	8/20/2011	11.4	3.75		0.012	0.01	0.01	0.16	30.46	11	6.14	24	2.9	1.80	
100	Peck L	9/3/2011	12.0	3.65		0.007	0.01	0.01	0.25	82.67	19	9.26	55		3.80	
100	Peck L	9/11/2011	12.0	2.85		0.015	0.03	0.03	0.21	31.28	18	7.24	39		6.30	
100	Peck L	9/25/2011	12.0	2.85		0.011	0.02	0.03	0.23	45.82	24	7.22	37		2.30	
100	Peck L	6/8/2012	12.1	3.90	1.5	0.007	0.04	0.02	0.36	120.67	12	7.40	36	2.8	4.60	
100	Peck L	6/17/2012	12.7	3.25	1.5	0.007	0.03	0.04	0.31	97.11	16	8.20	35		4.40	
100	Peck L	7/9/2012	12.3	3.55		0.010	0.04	0.23	0.23	51.96	13	7.68		3.0		
100	Peck L	7/28/2012	12.1	4.25	11.0	0.010	0.03	0.22	0.82	187.92	15	7.24	42			
100	Peck L	7/30/2012	11.8	3.25	12.0	0.006	0.01	0.02	0.20	77.93	21					
100	Peck L	8/12/2012	11.1	3.15		0.006	0.01	0.02	0.16	58.79	13	6.95	32		1.30	
100	Peck L	8/26/2012	13.0	3.73	1.5	0.005	0.01	0.02	0.25	101.44	8	8.33	45		1.40	
100	Peck L	9/9/2012	12.6	3.55	1.5	0.006	0.01	0.12	0.13	51.46	13	7.83	45		2.30	
100	Peck L	6/8/2014	12.7	4.10	1.5	0.005	0.08	0.03	0.30	133.32	16	6.89	43	2.6	1.90	
100	Peck L	6/22/2014	12.7	3.21	1.5	0.006			0.41	154.00	16	6.83	43		2.80	
100	Peck L	7/6/2014	12.7	3.25	1.5	0.006	0.01	0.03	0.21	79.12	16	6.82	56		4.30	
100	Peck L	7/21/2014	12.7	4.08	1.5	0.006			0.22	78.77	14	6.99	46		2.60	
100	Peck L	8/4/2014	12.4	3.40	1.5	0.006	0.01	0.03	0.31	116.71	13	7.69	45	2.6	2.30	
100	Peck L	8/17/2014	12.4	2.78	1.5	0.008			0.25	72.16	14	7.61	46		3.40	
100	Peck L	9/1/2014	12.7	3.20	1.5	0.006	0.01	0.01	0.17	62.33	14	8.07	44		2.30	
100	Peck L	9/15/2014	12.7	3.13	1.5	0.006			0.29	114.71	12	7.75	38		3.70	
100	Peck L	6/9/2015	12.0	3.30	1.5	0.007	0.07	0.02	0.24	35.88	8	7.67	53	3.3	3.00	
100	Peck L	6/22/2015	13.0	2.90	1.5	0.007			0.19	26.20	7	8.56	63		5.20	
100	Peck L	7/6/2015	12.5	3.00	1.5	0.008	0.05	0.05	0.28	36.71	14	7.13	57		3.90	11.2
100	Peck L	7/21/2015	12.9	3.90	1.5	0.000			0.00			7.25			2.00	
100	Peck L	8/3/2015	12.6	4.50	1.5	0.007	0.02	0.03	0.36	50.28	15	8.09	58	3.3	1.90	
100	Peck L	8/17/2015	13.0	4.40	1.5	0.005			0.33	61.48	5	7.70	28		1.80	
100	Peck L	8/31/2015	12.5	4.40	1.5	0.006	0.02	0.05	0.28	44.29	12	7.79	52		2.00	10.8
100	Peck L	9/22/2015		3.20	1.5	0.008			0.32	39.14	5	7.08	47		4.00	

LNum	LName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
100	Peck L	7/10/1993	14.0		13.0	0.020										
100	Peck L	7/27/1993	11.7		10.7	0.007										
100	Peck L	8/25/1993	12.8		11.8	0.023										
100	Peck L	9/22/1993	12.2		10.1	0.016										
100	Peck L	6/21/1994	12.5		10.9	0.012										
100	Peck L	7/23/1994	11.7		10.0	0.016										
100	Peck L	9/17/1994	8.5		8.2	0.007										
100	Peck L	6/14/2009	11.8		7											
100	Peck L	6/28/2009	12.0		7											
100	Peck L	7/12/2009	12.0		7											
100	Peck L	7/26/2009	10.3		7											
100	Peck L	8/9/2009	7.5		8											
100	Peck L	8/23/2009	11.5		7											
100	Peck L	9/20/2009	11.7		8											
100	Peck L	10/6/2009	11.7		12											
100	Peck L	6/27/2010	10.6		10.0	0.008		0.04								
100	Peck L	7/30/2010	11.4		7.0	0.007		0.01								
100	Peck L	8/21/2010	12.1		7.1	0.006		0.03								
100	Peck L	9/19/2010	12.4		7.1	0.007		0.02								
100	Peck L	5/29/2011				0.008		0.02								
100	Peck L	7/9/2011	12.0		12.0	0.012		0.02								
100	Peck L	8/20/2011	11.4		6.4	0.009		0.01								
100	Peck L	9/11/2011	12.0		7.0	0.010		0.05								
100	Peck L	6/9/2015														
100	Peck L	6/22/2015														
100	Peck L	7/6/2015														
100	Peck L	7/21/2015			6.5											
100	Peck L	8/3/2015			6.5	0.005		0.03								
100	Peck L	8/17/2015			6.5	0.007										
100	Peck L	8/31/2015			6.5	0.005		0.04								
100	Peck L	9/22/2015			6.5	0.006										

LNum	LName	Date	Site	TAir	TH2O	QA	QB	QC	QD	QE	QF	QG	AQ-PCA	AQ-Chla	MC-LR	Ana-a	Cylin	FP-Chl	FP-BG	HAB form	Shore HAB	
100	Peck L	8/1/1992	epi	17	18	2	1	4	5													
100	Peck L	8/16/1992	epi	22	21																	
100	Peck L	8/30/1992	epi	21	26	1	1	2	5													
100	Peck L	9/13/1992	epi	31	28	2	1	1														
100	Peck L	10/4/1992	epi	29	27	2	1	1	0													
100	Peck L	10/18/1992	epi	24	24	1	3	5	5													
100	Peck L	6/22/1993	epi	29	28																	
100	Peck L	7/10/1993	epi	22	21	1	2	1	5													
100	Peck L	7/27/1993	epi	27	27	1	2	1	5													
100	Peck L	8/9/1993	epi	27	29	2	1	1														
100	Peck L	8/25/1993	epi	27	25	2	2	1														
100	Peck L	9/6/1993	epi	24	26	2	3	2	3													
100	Peck L	9/22/1993	epi	34	24	2	2	2	5													
100	Peck L	10/17/1993	epi	26	20			2	5	5												
100	Peck L	6/21/1994	epi	16	17	1	1	1														
100	Peck L	7/12/1994	epi	27	26	2	2	1														
100	Peck L	7/23/1994	epi	30	30	2	1	1														
100	Peck L	8/7/1994	epi	25	28	2	2	1														
100	Peck L	8/20/1994	epi	30	26	3	3	3	135													
100	Peck L	9/4/1994	epi	25	23	2	2	1														
100	Peck L	7/9/1995	epi	26	27	2	2	1	6													
100	Peck L	8/20/1995	epi	22	18	2	2	1														
100	Peck L	6/11/1996	epi	16	14	1	1	2	56													
100	Peck L	6/23/1996	epi	34	26	1	1	1	5													
100	Peck L	7/7/1996	epi	29	30	1	1	1														
100	Peck L	7/22/1996	epi	30	28	1	1	1														
100	Peck L	8/5/1996	epi	19	21	1	2	1														
100	Peck L	8/18/1996	epi			1	2	1														
100	Peck L	9/1/1996	epi	24	21	2	1	1														
100	Peck L	9/15/1996	epi	17	20	2	2	2	5													

LNum	LName	Date	Site	TAir	TH2O	QA	QB	QC	QD	QF	QG	AQ-PC	AQ-Chla	MC-LR	Ana-a	Cylin	FP-Chl	FP-BG	HAB form	Shore HAB
100	Peck L	4/27/1997	epi	28	28	2	1		5											
100	Peck L	5/13/1997	epi	22	27	2	1		5											
100	Peck L	5/24/1997	epi		9	1	1		5											
100	Peck L	6/8/1997	epi		16	1	2	2	5											
100	Peck L	6/22/1997	epi		21	1	2	2	5											
100	Peck L	7/6/1997	epi		21	2	1	1												
100	Peck L	7/20/1997	epi		22	1	1	1												
100	Peck L	8/2/1997	epi		22	2	2	1												
100	Peck L	8/17/1997	epi		23	2	2	2												
100	Peck L	9/1/1997	epi		21	2	2	1												
100	Peck L	9/13/1997	epi		19	2	2	2	5											
100	Peck L	9/28/1997	epi		16	2	2		5											
100	Peck L	10/11/1997	epi		14	2	2		5											
100	Peck L	5/15/1998	epi		14	2	1													
100	Peck L	5/27/1998	epi		19	1	1	1												
100	Peck L	6/10/1998	epi		18	2	1	1												
100	Peck L	6/24/1998	epi		25	2	1	1												
100	Peck L	7/3/1998	epi		23	2	1	1												
100	Peck L	7/17/1998	epi		25	2	2	1												
100	Peck L	8/1/1998	epi		23	2	3	1												
100	Peck L	8/16/1998	epi		26	2	3	1												
100	Peck L	8/31/1998	epi		23	2	3	1												
100	Peck L	5/8/2000	epi		14	2	1													
100	Peck L	5/29/2000	epi		14	2	2													
100	Peck L	6/11/2000	epi		17	2	2													
100	Peck L	7/3/2000	epi		21	2	2	1	1											
100	Peck L	8/4/2000	epi		21	2	3	2	2											
100	Peck L	8/19/2000	epi		20															
100	Peck L	9/1/2000	epi		22	2	3	2	2											
100	Peck L	9/14/2000	epi		19															
100	Peck L	10/1/2000	epi		15															
100	Peck L	10/22/2000	epi		11															
100	Peck L	5/7/2001	epi		11															
100	Peck L	5/21/2001	epi		14															
100	Peck L	6/9/2001	epi		17	2	2	2	5											
100	Peck L	6/25/2001	epi		21	2	2	2												
100	Peck L	7/7/2001	epi		20	2	3	2												
100	Peck L	7/23/2001	epi		23	1	3	1												
100	Peck L	8/11/2001	epi		25	2	3	1												
100	Peck L	8/25/2001	epi		26	2	3	1												
100	Peck L	9/8/2001	epi		21	2	3	1												
100	Peck L	10/1/2001	epi		17	2	2	1												
100	Peck L	7/7/2008	epi	27		1	3	2	8											
100	Peck L	7/21/2008	epi	28	26	1	3	2	0											
100	Peck L	8/12/2008	epi	16	22	1	1	1	0											
100	Peck L	8/26/2008	epi	18	22	1	2	1	0											
100	Peck L	9/2/2008	epi	30	23	1	1	1	0											
100	Peck L	9/20/2008	epi	18	20	1	1	1	0											
100	Peck L	9/28/2008	epi	28	20	1	1	1	0											
100	Peck L	06/14/2009	epi	25	23	1	1	1	0											
100	Peck L	06/28/2009	epi	27	23	1	1	1	0											
100	Peck L	07/12/2009	epi	23		1	1	1	0											
100	Peck L	07/26/2009	epi	25	22	1	1	1	0											
100	Peck L	08/09/2009	epi	19	22	1	1	1	0											
100	Peck L	08/23/2009	epi	28	25	1	1	1	0											
100	Peck L	09/06/2009	epi	23	19	1	1	1	0											
100	Peck L	09/20/2009	epi	20	22	1	1	1	0			40.99								
100	Peck L	6/27/2010	epi	27	23	1	2	2	0	0	0									
100	Peck L	7/5/2010	epi	29	24	1	2	1	0	0	0									
100	Peck L	7/30/2010	epi	32	26	1	1	1	0	0	0									
100	Peck L	8/1/2010	epi	29	25	1	1	1	0	0	0									

LNum	LName	Date	Site	TAir	TH2O	QA	QB	QC	QD	QF	QG	AQ-PC	AQ-Chla	MC-LR	Ana-a	Cylin	FP-Chl	FP-BG	HAB form	Shore HAB
100	Peck L	8/21/2010	epi	24	25	1	1	1	0	0	0	83.67								
100	Peck L	9/6/2010	epi	24	23	1	1	1	0	0	0	87.73								
100	Peck L	9/19/2010	epi	25	19	1	1	1	0	0	0									
100	Peck L	10/3/2010	epi	19	18	1	1	1	0	0	0									
100	Peck L	5/29/2011	epi	38	24	1	1	1	0	0	0									
100	Peck L	6/20/2011	epi	34	25	1	1	1	0	0	0	10.40	2.70							
100	Peck L	7/9/2011	epi	34	27	1	1	1	0	0	0	5.90	2.60							
100	Peck L	8/13/2011	epi	37	25	1	1	1	0	0	0	8.40	2.50							
100	Peck L	8/20/2011	epi	38	27	1	1	1	0	0	0	9.90	2.60							
100	Peck L	9/3/2011	epi	40	24	1	1	1	0	0	0	35.10	2.30							
100	Peck L	9/11/2011	epi	23	22	1	1	1	0	0	0	15.60	2.20							
100	Peck L	9/25/2011	epi	26	23	1	1	1	0	0	0	13.50	4.00							
100	Peck L	6/8/2012	epi	18	21	1	1	1	0	0	0	2.20	0.40	<0.30	<0.417		1.00	0.34	I	
100	Peck L	6/17/2012	epi	21	23	1	1	1	0	0	0	2.30	0.60	<0.30	<0.417				I	
100	Peck L	7/9/2012	epi	38	22	1	1	1	0	0	0	6.50	0.40	<0.30	<0.423				I	
100	Peck L	7/28/2012	epi	31	26	1	1	1	0	0	0			<0.30	<0.659		1.70	0.66	F	
100	Peck L	7/30/2012	epi	28	27	1	1	1	0	0	0	4.00	0.10	<0.30	<0.330		2.72	1.47	I	
100	Peck L	8/12/2012	epi	30	27	1	1	1	0	0	0	4.90	0.50	<0.30	<0.537		2.71	1.47	I	
100	Peck L	8/26/2012	epi	26	25	1	1	1	0	0	0	6.60	0.40	<0.30	<0.551		1.93	0.84	I	
100	Peck L	9/9/2012	epi	23	24	1	1	1	0	0	0	6.20	0.40	<0.30	<0.725		1.91	1.29		
100	Peck L	6/8/2014	epi	25	23	1	1	2	0	0	0	0.40	0.90	<1.83	<0.17	<0.001	1.11	0.00		
100	Peck L	6/22/2014	epi	32	23	1	1	1	0	0	0	3.30	0.20	<0.58	<0.44	<0.002	1.29	0.00	i	i
100	Peck L	7/6/2014	epi	24	24	1	1	1	0	0	0	3.00	0.40	<0.62	<0.03	<0.002	1.71	0.00	i	i
100	Peck L	7/21/2014	epi	28	25	1	1	1	0	0	0	2.00	0.30	<0.39	<0.03	<0.001	1.62	0.25	i	i
100	Peck L	8/4/2014	epi	26	26	1	3	1	0	0	0	5.80	0.20	<0.33	<0.01	<0.002	1.67	0.23	i	i
100	Peck L	8/17/2014	epi	19	22	1	3	2	0	0	0	7.40	0.30	<0.42	<0.03	<0.001	2.37	0.19	i	i
100	Peck L	9/1/2014	epi	24	23	1	2	1	0	0	0	5.80	0.20	<0.25	<0.14	<0.002	1.49	0.37	i	i
100	Peck L	9/15/2014	epi	17	20	1	1	1	0	0	0	7.60	0.30	<0.24	<0.03	<0.001	2.61	0.28	i	i
100	Peck L	6/9/2015	epi	21	20	2	2	2	0	0	0	12.20	0.20	<0.86	<0.027	<0.318	2.68	0.89	I	I
100	Peck L	6/22/2015	epi	27		1	2	2	0	0	0	9.00	0.50	<0.65	<0.004	<0.001	3.51	0.00	I	I
100	Peck L	7/6/2015	epi	27	24	3	2	2	1	0	0	4.00	0.80	<0.86	<0.008	<0.046	4.21	0.00	F	I
100	Peck L	7/21/2015	epi	24	26	2	3	2	15	0	0	3.00	0.40	<0.36	<0.003	<0.018	1.69	0.00	I	I
100	Peck L	8/3/2015	epi	28	26	1	3	2	5	0	0	4.58	0.34	<0.57	<0.010	<0.054	0.65	0.00	I	I
100	Peck L	8/17/2015	epi	27	27	1	3	1	0	0	0	0.05	0.20	<0.41	<0.035	<0.023	1.07	0.20	I	I
100	Peck L	8/31/2015	epi	23	25	1	2	2	8	0	0			<0.49	<0.031	<0.028	1.50	0.20	I	I
100	Peck L	9/22/2015	epi	16	22	1	3	2	0	0	0	0.05	0.60	<0.30	<0.007	<0.035	2.49	0.22	I	I
100	Peck L	7/27/1993	hypo	21	10															
100	Peck L	9/22/1993	hypo	13	9															
100	Peck L	6/21/1994	hypo		10															
100	Peck L	7/23/1994	hypo		11															
100	Peck L	9/17/1994	hypo	18	17	3	2	3	56											
100	Peck L	6/14/2009	hypo		18															
100	Peck L	6/28/2009	hypo		21															
100	Peck L	7/12/2009	hypo		21															
100	Peck L	8/23/2009	hypo		24															
100	Peck L	9/20/2009	hypo		19															
100	Peck L	10/6/2009	hypo		22															
100	Peck L	6/9/2015	hypo																	
100	Peck L	6/22/2015	hypo																	
100	Peck L	7/6/2015	hypo																	
100	Peck L	7/21/2015	hypo		23															
100	Peck L	8/3/2015	hypo		27															
100	Peck L	8/17/2015	hypo		26															
100	Peck L	8/31/2015	hypo		25															
100	Peck L	9/22/2015	hypo		22															

Legend Information

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

Appendix B- Priority Waterbody Listing for Peck Lake

Peck Lake (1201-0016)

NoKnownImpct

Waterbody Location Information

Revised: 02/10/2010

Water Index No:	H-240-127-25-P686	Drain Basin:	Mohawk River
Hydro Unit Code:	02020004/230	Str Class:	C
Waterbody Type:	Lake (Unknown Trophic)	Reg/County:	5/Fulton Co. (18)
Waterbody Size:	1425.8 Acres	Quad Map:	PECK LAKE (I-23-4)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

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

Resolution/Management Information

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

Further Details

Water Quality Sampling

Peck Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1992 through 2001 and again in 2008. An Interpretive Summary report of the findings of this sampling was published in 2009. These data indicate that the lake continues to be best characterized as mesoligotrophic, or moderately to highly unproductive. Phosphorus levels in the lake consistently fall below state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements typically exceed the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. The lake water is weakly to moderately colored, but this is considered to reflect natural conditions and does not limit water transparency. (DEC/DOW, BWAM/CSLAP, January 2009)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be very favorable. The recreational suitability of the lake is described most frequently as "could not be nicer" or "excellent." The lake itself is most often described as "crystal clear." Assessments have noted that aquatic plants occasionally grow to the lake surface, but have not been cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, January 2009)

Lake Uses

This lake waterbody is designated class C, suitable for use as a general recreation water and aquatic life support, but not for water supply use or public bathing. 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.

Fishery Assessment

A fishery survey of Peck Lake was conducted in 2000 by the SUNY Oneonta Biological Field Station. The survey found balanced and self-sustaining bass (warmwater) population. Summer temperature and dissolved oxygen measurements indicate the lake may not be suitable for cold water species. However the lake is not classified as a trout water and is considered to fully support appropriate aquatic life. (Fishery Survey of Peck Lake, SUNY, Oneonta Biological Field Station, June 2002)

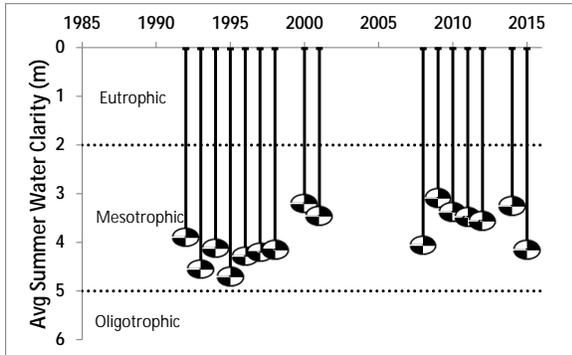
Segment Description

This segment includes the total area of the entire lake.

Appendix C- Long Term Trends: Peck Lake

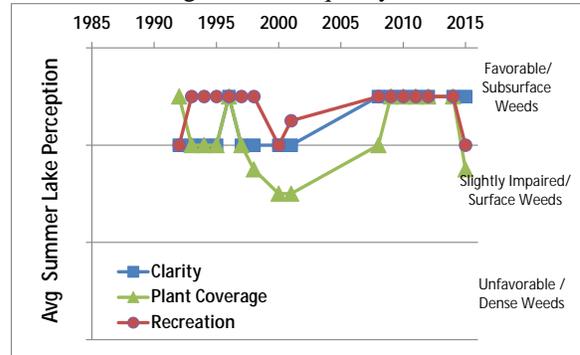
Long Term Trends: Water Clarity

- Transparency ↓ slightly since mid-1990s
- Most readings now typical of *mesotrophic* lakes



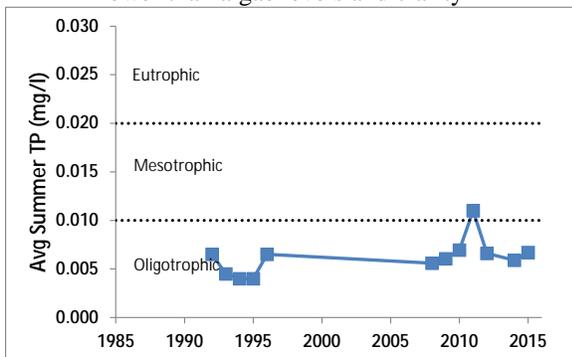
Long Term Trends: Lake Perception

- WQ assessments ↑; less favorable rec 2015
- Recreational perception only loosely linked to changes in water quality or weeds



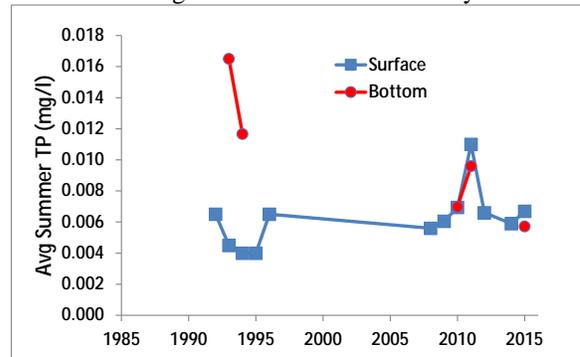
Long Term Trends: Phosphorus

- No trends apparent; mostly stable readings
- Most readings typical of *oligotrophic* lakes, lower than algae levels and clarity



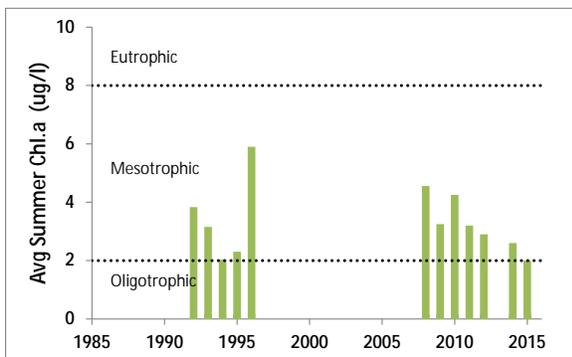
Long Term Trends: Bottom Phosphorus

- Deepwater TP only slightly elevated
- Mostly similar surface and bottom TP readings indicate weak thermal layers



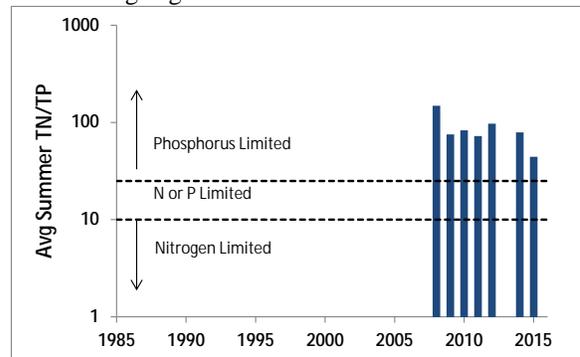
Long Term Trends: Chlorophyll a

- Slight ↓ since late 00s, but no long trends
- Most readings typical of *mesotrophic* lakes



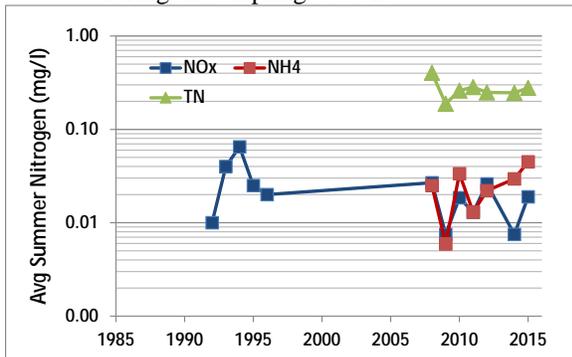
Long Term Trends: N:P Ratio

- No trends apparent, but recent ↓
- Most readings indicate phosphorus limits algae growth



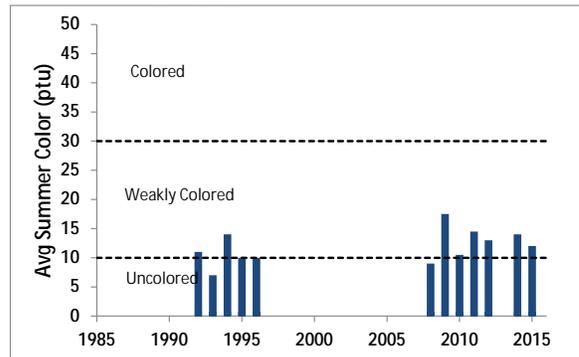
Long Term Trends: Nitrogen

- ↓ NOx since mid-90s; NH4 increasing?
- Low NOx, ammonia and total nitrogen during all sampling seasons



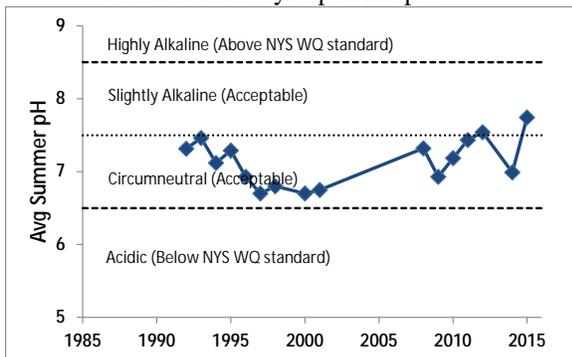
Long Term Trends: Color

- No trends apparent
- Most readings typical of *uncolored to weakly colored* lakes



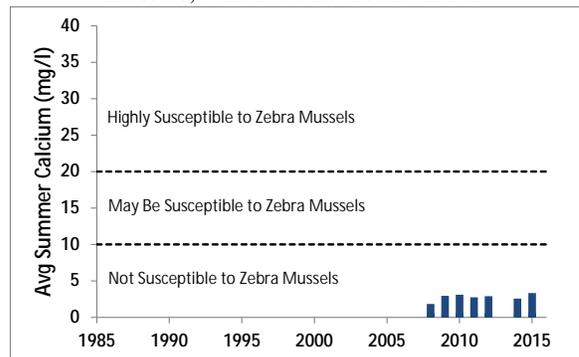
Long Term Trends: pH

- ↑ since early 00s but pH now similar to 90s
- Most readings typical of *circumneutral* lakes, with occasionally depressed pH



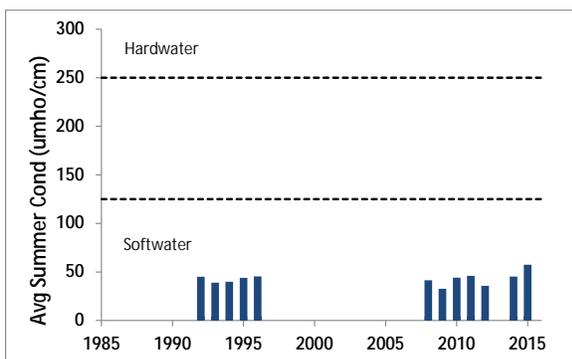
Long Term Trends: Calcium

- No trends apparent; perhaps slight ↑
- Data indicates low susceptibility to zebra mussels, which are not found in lake



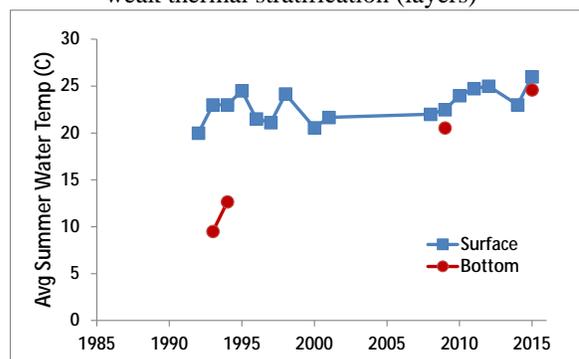
Long Term Trends: Conductivity

- No trends apparent, but recently higher
- Most readings typical of *softwater* lakes



Long Term Trends: Water Temperature

- ↑ in surface/bottom T since early 90s?
- Similar deepwater temperatures indicate weak thermal stratification (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.

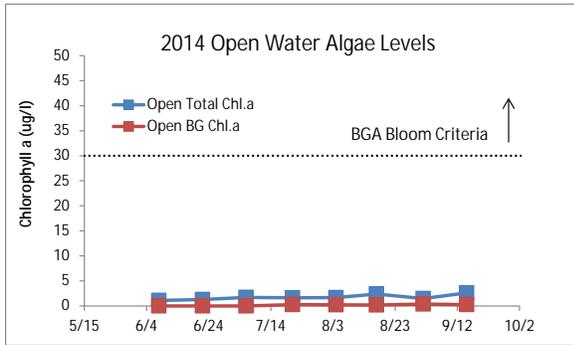


Figure D1:
2014 Open Water Total and BGA Chl.a

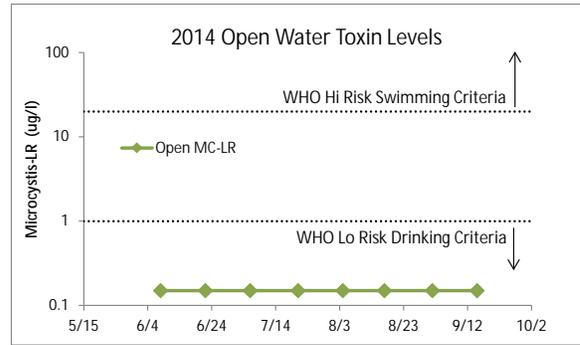


Figure D2:
2014 Open Water Microcystin-LR

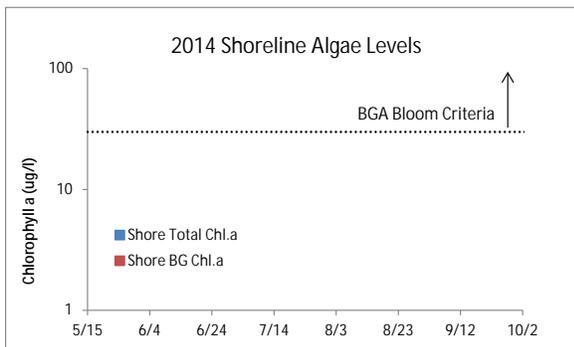


Figure D3:
2014 Shoreline Total and BGA Chl.a

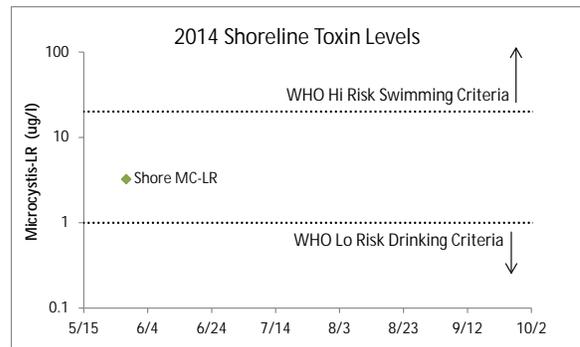


Figure D4:
2014 Shoreline Microcystin-LR

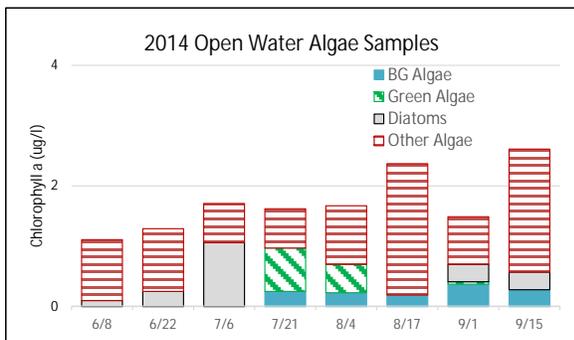


Figure D5:
2014 Open Water Algae Types

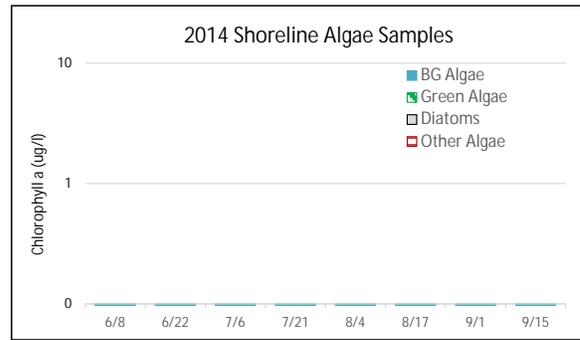


Figure D6:
2014 Shoreline Algae Types

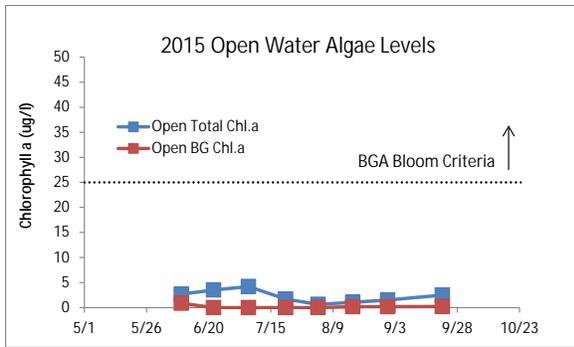


Figure D7:
2015 Open Water Total and BGA Chl.a

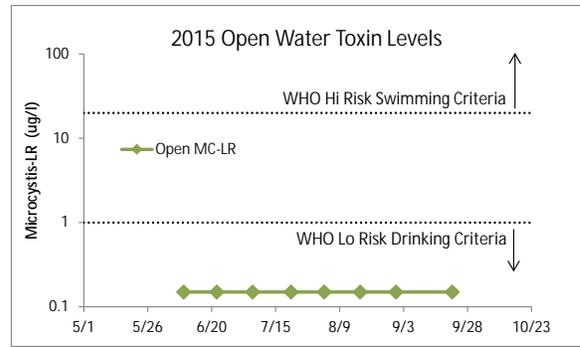


Figure D8:
2015 Open Water Microcystin-LR

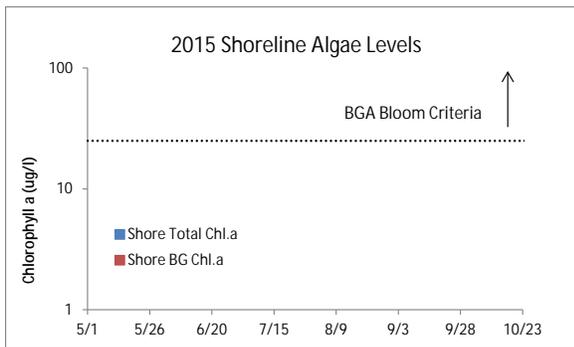


Figure D9:
2015 Shoreline Total and BGA Chl.a

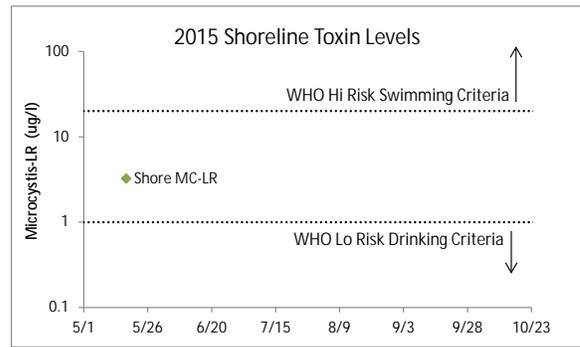


Figure D10:
2015 Shoreline Microcystin-LR

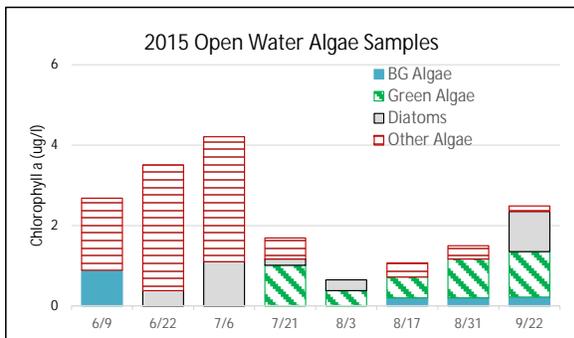


Figure D11:
2015 Open Water Algae Types

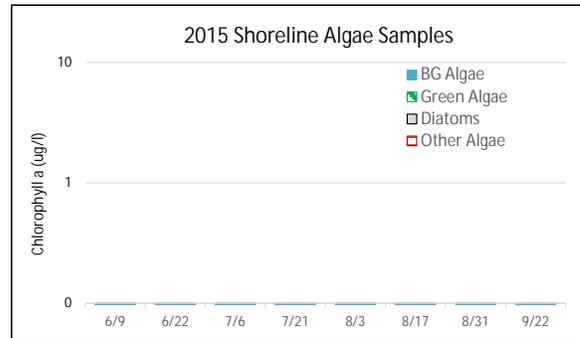


Figure D12:
2015 Shoreline Algae Types

Appendix E: AIS Species in Fulton County

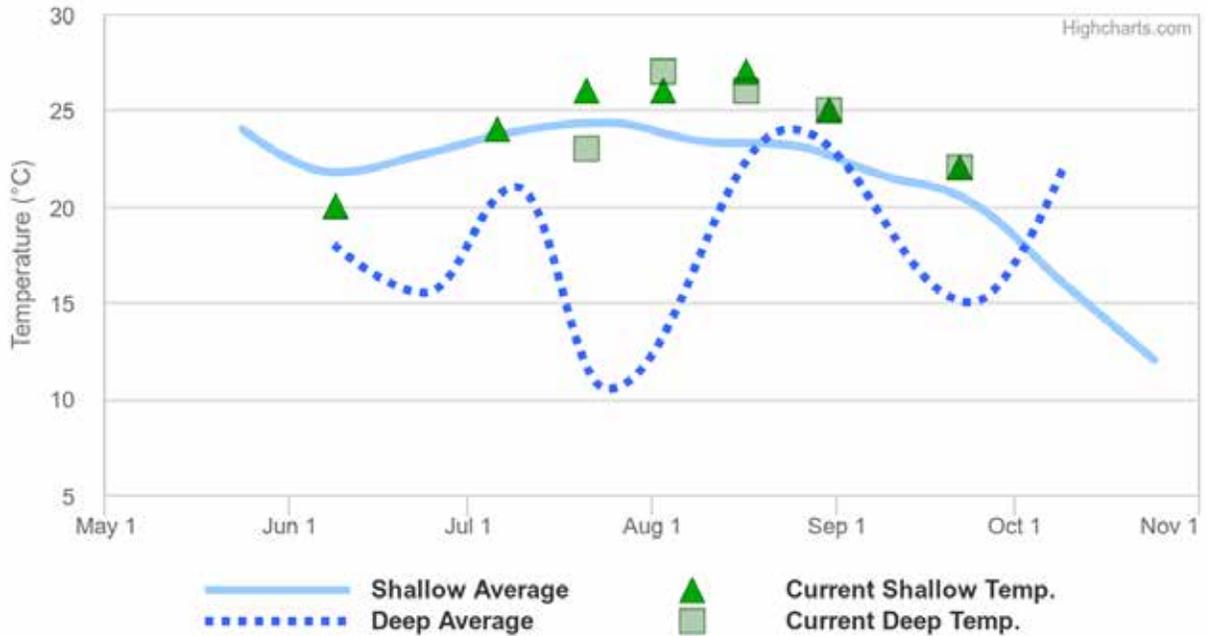
The table below shows the invasive aquatic plants and animals that have been documented in Fulton County, as cited in either the iMapInvasives database (<http://www.imapinvasives.org/>) or in the NYSDEC Division of Water database. These databases may include some, but not all, non-native plants or animals 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 - Fulton County			
Waterbody	Kingdom	Common name	Scientific name
Canada Lake	Plant	Brittle naiad	<i>Najas minor</i>
Caroga Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
East Caroga Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Great Sacandaga Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Great Sacandaga Lake	Plant	Brittle naiad	<i>Najas minor</i>
Great Sacandaga Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Great Sacandaga Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Kyser Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Mayfield Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Mayfield Lake	Plant	Brittle naiad	<i>Najas minor</i>
Mayfield Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Peck Lake	Animal	Spiny waterflea	<i>Bythotrephes longimanus</i>
Stewarts Landing	Plant	Brittle naiad	<i>Najas minor</i>
West Caroga Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>

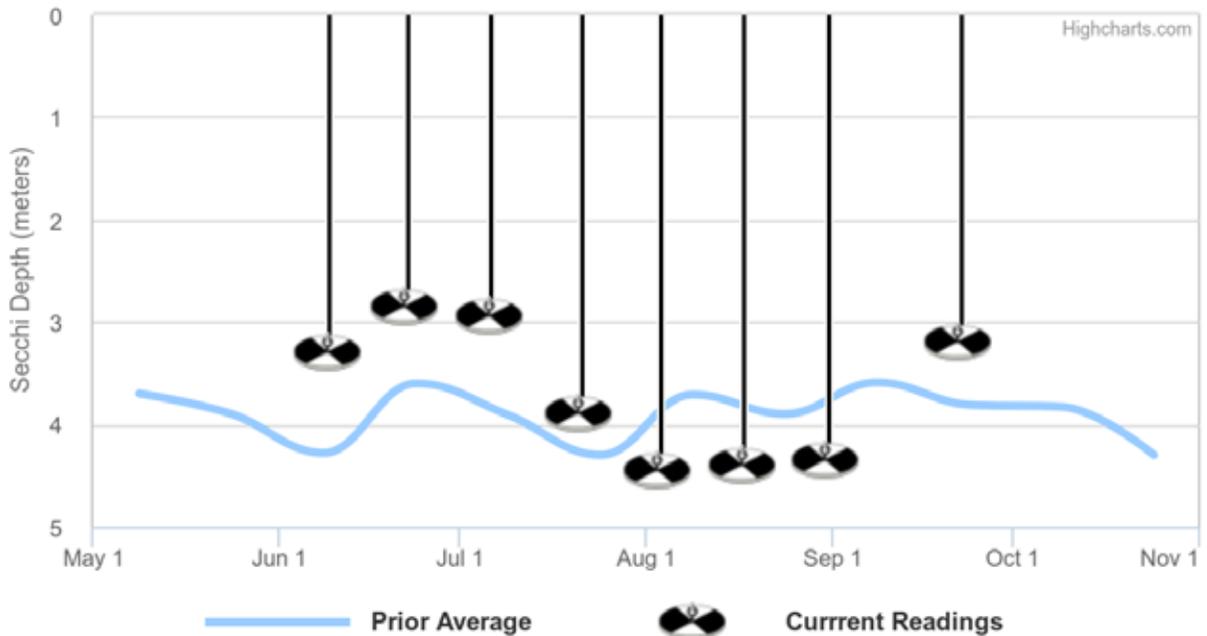
Appendix F: Current Year vs. Prior Averages for Peck Lake

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 1992 to 2014. There are not enough deep water sample temperatures to determine a trend for the current year when compared to the average of readings collected from 1993 to 2009.

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 1992 to 2014

Appendix G: Watershed and Land Use Map for Peck 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.

