

Round Pond Questions and Answers, 2015 CSLAP

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

A1. The condition of Round Pond appeared to be close to normal in 2015. Each of the trophic indicators (water clarity, algae and nutrient levels) was close to normal, and no shoreline blooms or invasive species were reported.

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

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

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

A3. Round Pond had slightly lower water clarity, but also slightly lower algae and nutrient levels, than other nearby lakes. Aquatic plant coverage was greater than in many of these lakes, but plant coverage varies from year to year.

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

A4. Nutrient and algae levels are lower now than in the early 1990s, but nutrient levels have increased slightly over the last decade and algae levels have been highly variable in the last two decades. pH readings have increased slightly over the last decade.

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

A5. The CSLAP data indicates some (but probably low) susceptibility to shoreline algae blooms, although these have not been apparent in recent years. It is not yet known what factors trigger these shoreline blooms, although reductions in nutrient loading to the lake may help to reduce the likelihood of blooms.

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 will help to improve lake conditions 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 found in the lake.

Lake Use				
	PWL	Average Year	2015	Primary issue
Potable Water				Algae levels
Swimming				No impacts
Recreation				No impacts
Aquatic Life				Low pH
Aesthetics				Native plants
Habitat				No impacts
Fish Consumption				

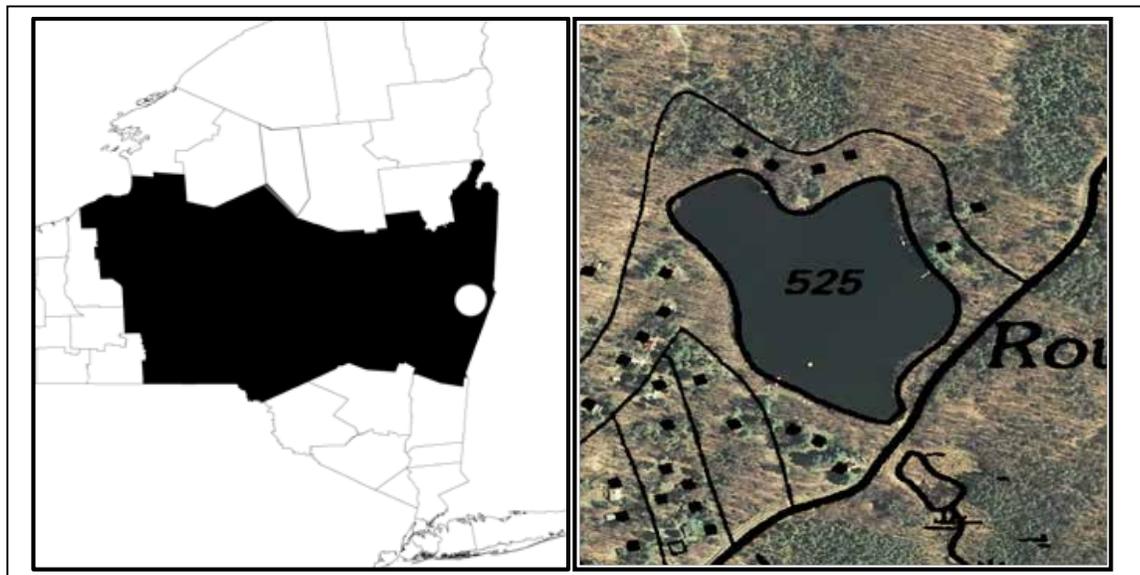
	Supported / Good
	Threatened / Fair
	Stressed / Poor
	Impaired
	Not Known

CSLAP 2015 Lake Water Quality Summary: Round Pond

General Lake Information

Location	Town of Berlin
County	Rensselaer
Basin	Lower Hudson River
Size	5.2 hectares (12.8 acres)
Lake Origins	Natural-small outlet structure
Watershed Area	57.3 hectares (141.5 acres)
Retention Time	0.4 years
Mean Depth	2.2 meters
Sounding Depth	5.1 meters
Public Access?	lake association beach
Major Tributaries	no named tribs
Lake Tributary To...	Round Pond outlet to Black River to Kinderhook Creek to Hudson River
WQ Classification	A (potable water)
Lake Outlet Latitude	42.643
Lake Outlet Longitude	-73.435
Sampling Years	1991-1995, 2001-2011, 2013-2015
2015 Samplers	Wayne Chaet
Main Contact	Wayne Chaet

Lake Map



Background

Round Pond is a 13 acre, class A lake found in the Town of Berlin in Rensselaer County, in the Capital District region of New York State. It was first sampled as part of CSLAP in 1991.

It is one of 11 CSLAP lakes among the more than 370 lakes found in Rensselaer County, and one of 67 CSLAP lakes among the more than 3680 lakes and ponds in the Lower Hudson River drainage basin.

Lake Uses

Round Pond is a Class A lake; this means that the best intended use for the lake is for potable water—drinking, contact recreation—swimming and bathing, non-contact recreation—boating and fishing, aquatic life, and aesthetics. The lake is used by lake residents and invited guests for swimming, non-power boating, and fishing. There is no public access to the lake, but lake residents use a swimming beach.

Round Pond is not stocked by the state, and it is not known if private stocking occurs.

General statewide fishing regulations are applicable in Round Pond. The open season for smelt, suckers, alewives, and blueback herring lasts from April 1st through May 15th, using a dip net with a less than 14 inch diameter. The daily take limit from 5am to 10pm is eight quarts.

Historical Water Quality Data

CSLAP sampling was conducted on Round Pond from 1991 to 1995, 2001 to 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 reports for Round Pond can also be found on the NYSDEC web page at <http://www.dec.ny.gov/lands/77850.html>.

Round Pond was not sampled as part of any other major New York State monitoring programs. It is not known if the lake was sampled by Rensselaer County or by the NYSDEC Region 4 offices as part of any fisheries management activities on the lake.

Neither the unnamed ephemeral inlets nor any outlet of the lake has been sampled as part of the state Rotating Intensive Basins (RIBS) stream chemistry or state macroinvertebrate biological monitoring program.

Lake Association and Management History

Round Pond is served by the Berlin Pond Fish and Game Club. It is not known to what extent the Fish and Game Club is involved in a lake management activities, nor if the Club maintains a website.

Summary of 2015 CSLAP Sampling Results

Evaluation of 2015 Annual Results Relative to 1991-2014

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 – Round Pond” section in Appendix C.

Evaluation of Eutrophication Indicators

Each of the trophic indicators (Secchi disk transparency, chlorophyll *a*, and total phosphorus) was close to normal in 2015. Algae levels (as measured by chlorophyll *a*) have decreased over the last 15 years, although these readings have been highly variable. Phosphorus readings decreased significantly from the early 1990s to the mid-2000s, but have increased slightly since then.

Lake productivity usually decreases slightly after mid-summer, as seen by slightly increasing water clarity and decreasing nutrient levels, but this trend was not apparent in the last several years. Algae levels were highly variable during the summer of 2015, consistent with the great variability over the last fifteen years.

The lake can be characterized as *mesotrophic*, or moderately productive, based on total phosphorus, water clarity, and chlorophyll *a* readings (all typical of *mesotrophic* lakes). The trophic state indices (TSI) evaluation suggest that phosphorus levels are lower than expected given the algae and water clarity readings. This may indicate that small increases in phosphorus may cause large increases in algae levels- this may have contributed to the large variability in algae levels noted above. Overall trophic conditions are summarized on the Lake Scorecard.

Evaluation of Potable Water Indicators

In most recent years, algae levels have not been 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 it is not known if potable use of the lake water suffers from this problem. The lake is not thermally stratified, as borne out by bottom phosphorus readings similar to those measured at the lake surface, so surface water intakes used “unofficially” for potable water cannot be dropped below the zone in which algae grow most strongly. 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 pH has increased slightly over the 10 to 15 years. NO_x readings have decreased slightly over the last decade, although these readings were close to the long-term average for the lake in 2015. None of the other water quality indicators has exhibited any clear long-term trends, and it is likely that the small changes in each of the limnological indicators have been within the normal range of variability in the lake.

Chloride levels in the 2015 samples, conducted for the first time through CSLAP and cited in Appendix A, ranged from 18 to 20 mg/l. These values are within the range of “moderate road salt” runoff levels cited by the New Hampshire DES, well below the state potable water quality standard of 250 mg/l and slightly below the range of values found in most NYS lakes

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

Evaluation of Biological Condition

The fluoroprobe samples analyzed by SUNY ESF in recent years found low total and blue green algae levels, and the open water algae samples were comprised primarily of green algae and diatoms. No shoreline blooms have been reported or sampled in recent years, including 2015.

The macrophyte surveys conducted through CSLAP have identified at least 15 aquatic plant species, including one protected plant species (*Utricularia cornuta*, horned bladderwort). The modified floristic quality index (FQI) data indicate that the quality of the aquatic plant community is “excellent.”

The 1992 zooplankton survey indicated that zooplankton community was dominated by rotifers, typical of other lakes with similar water quality characteristics. It is not known if this is representative of normal conditions in the lake.

The composition of the fish community is not known, but it is likely that the lake fishery can be described as coolwater to warmwater.

Macroinvertebrate surveys were conducted as part of the state biomonitoring study in 2012. The results from these samples are being evaluated through a long-term project conducted with SUNY ESF.

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

Evaluation of Lake Perception

Aquatic plant coverage was more extensive than normal in Round Pond since the late 2000s, including the last several years. Water quality assessments were slightly more favorable than normal in 2014 and 2015, contributing to more favorable recreational assessments. These assessments have improved slightly since the late 2000s.

Lake assessments do not typically exhibit seasonal trends, although plant coverage is generally higher in early summer and lower in late summer. 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 close to normal in the last few years, and have not exhibited any clear long-term trends. 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 have been well below the thresholds for harmful algal blooms (HABs) in open water samples, and no shoreline blooms have been reported, at least in recent years. An analysis of open water and shoreline algae samples indicate algal toxin readings well below the levels needed to support safe swimming, and below the levels needed to protect potable water.

Lake Condition Summary

Category	Indicator	Min	Overall Avg	Max	2015 Avg	Classification	2015 Change?	Long-term Change?
Eutrophication Indicators	Water Clarity	1.30	2.51	4.50	2.41	Mesotrophic	Within Normal Range	No Change
	Chlorophyll <i>a</i>	0.10	4.18	23.90	3.91	Mesotrophic	Within Normal Range	Decreasing Slightly
	Total Phosphorus	0.003	0.011	0.031	0.012	Mesotrophic	Within Normal Range	Decreasing Slightly
Potable Water Indicators	Hypolimnetic Ammonia							
	Hypolimnetic Arsenic							
	Hypolimnetic Iron							
	Hypolimnetic Manganese							
Limnological Indicators	Hypolimnetic Phosphorus							
	Nitrate + Nitrite	0.00	0.02	0.74	0.01	Low NOx	Within Normal Range	No Change
	Ammonia	0.00	0.03	0.18	0.04	Low Ammonia	Within Normal Range	No Change
	Total Nitrogen	0.01	0.40	0.98	0.40	Low Total Nitrogen	Within Normal Range	No Change
	pH	4.57	6.88	8.45	7.40	Circumneutral	Higher than Normal	No Change
	Specific Conductance	26	59	104	84	Softwater	Higher than Normal	No Change
	True Color	4	28	109	30	Intermediate Color	Within Normal Range	No Change
	Calcium	1.5	2.8	10.6	2.7	Not Susceptible to Zebra Mussels	Within Normal Range	No Change
Lake Perception	WQ Assessment	1	2.1	4	1.0	Not Quite Crystal Clear	More Favorable Than Normal	No Change
	Aquatic Plant Coverage	1	2.3	3	2.7	Subsurface Plant Growth	Within Normal Range	No Change
	Recreational Assessment	1	1.7	4	1.0	Excellent	More Favorable Than Normal	No Change
Biological Condition	Phytoplankton					Open water-low blue green algae biomass	Not known	Not known
	Macrophytes					Excellent quality of the aquatic plant community	Not known	Not known
	Zooplankton					Dominated by rotifers?	Not known	Not known
	Macroinvertebrates					Not measured through CSLAP	Not known	Not known
	Fish					Not known	Not known	Not known
	Invasive Species					None observed	Not known	Not known
Local Climate Change	Air Temperature	10	22.2	32	26.3		Higher Than Normal	No Change
	Water Temperature	10	21.8	28	22.7		Within Normal Range	No Change

Category	Indicator	Min	Overall Avg	Max	2015 Avg	Classification	2015 Change?	Long-term Change?
Harmful Algal Blooms	Open Water Phycocyanin	-2	4	13	1	No readings indicate high risk of BGA	Not known	Not known
	Open Water FP Chl.a	1	3	5	2	No readings indicate high algae levels	Not known	Not known
	Open Water FP BG Chl.a	0	0	0	0	No readings indicate high BGA levels	Not known	Not known
	Open Water Microcystis	<DL	<DL	0.9	<DL	Low to undetectable open water microcystin	Not known	Not known
	Open Water Anatoxin a	<DL	<DL	<DL	<DL	Open water Anatoxin-a 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	<DL	<DL	0.0		Low to undetectable shoreline microcystins	Not known	Not known
	Shoreline Anatoxin a					No shoreline bloom anatoxin data	Not known	Not known

Evaluation of Lake Condition Impacts to Lake Uses

Round Pond is presently among the lakes listed on the 2008 Lower Hudson River basin Priority Waterbody List (PWL) as having “no use impairments.” The PWL listing for Round Pond is listed in Appendix B.

Potable Water (Drinking Water)

The CSLAP dataset at Round Pond, 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 classified for this purpose. The limited CSLAP data suggest that potable water use may be *threatened* by excessive algae, and these impacts can be substantial in some years. More data and other water quality indicators are needed to evaluate this use.

Public Bathing

The CSLAP dataset at Round Pond, including water chemistry data, physical measurements, and volunteer samplers’ perception data, suggests that public bathing should be supported, although 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 Round Pond, including water chemistry data, physical measurements, and volunteer samplers’ perception data, suggest that recreation should be supported.

Aquatic Life

The CSLAP dataset on Round Pond, including water chemistry data, physical measurements, and volunteer samplers’ perception data, suggest that aquatic life may be *stressed* at times by depressed pH, perhaps due to natural conditions, and *threatened* by road salt runoff, although no actual impacts have been measured. Additional data are needed to evaluate the food and habitat conditions for aquatic organisms in the lake.

Aesthetics and Habitat

The CSLAP dataset on Round Pond, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggest that aesthetics should be *good*, although at times this condition may be threatened by excessive native plant growth. Habitat should be *good*.

Fish Consumption

There are no fish consumption advisories posted for Round Pond.

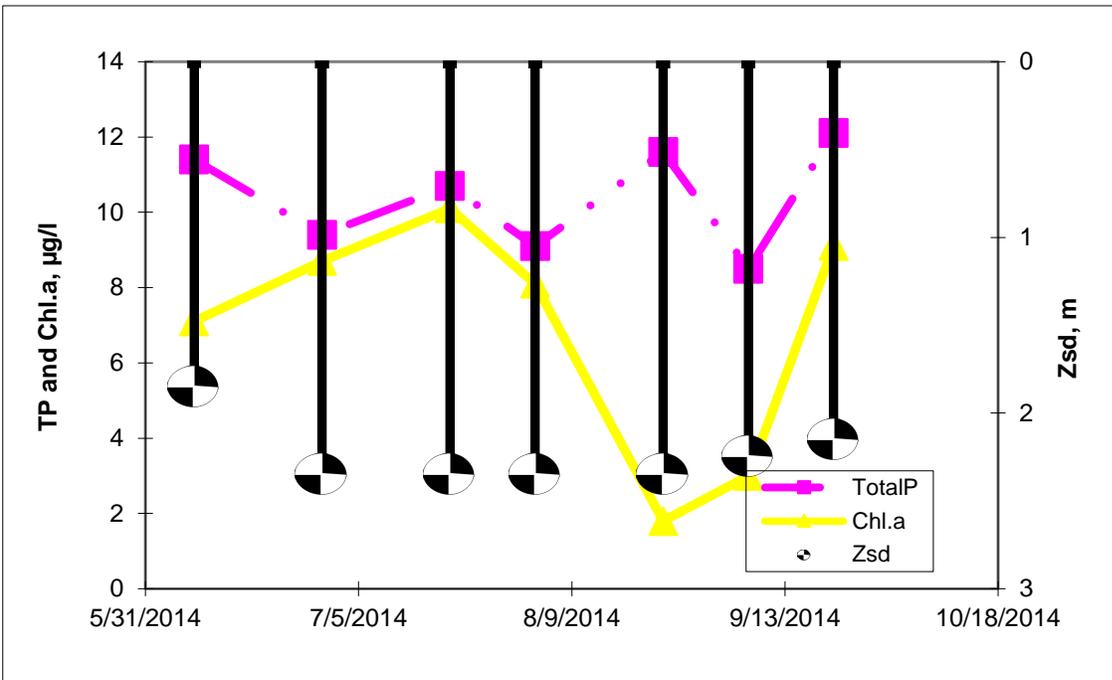
Additional Comments and Recommendations

Lake residents are advised to be on the lookout for invasive species and to report any shoreline algae blooms; these blooms should be avoided by lake residents and their pets.

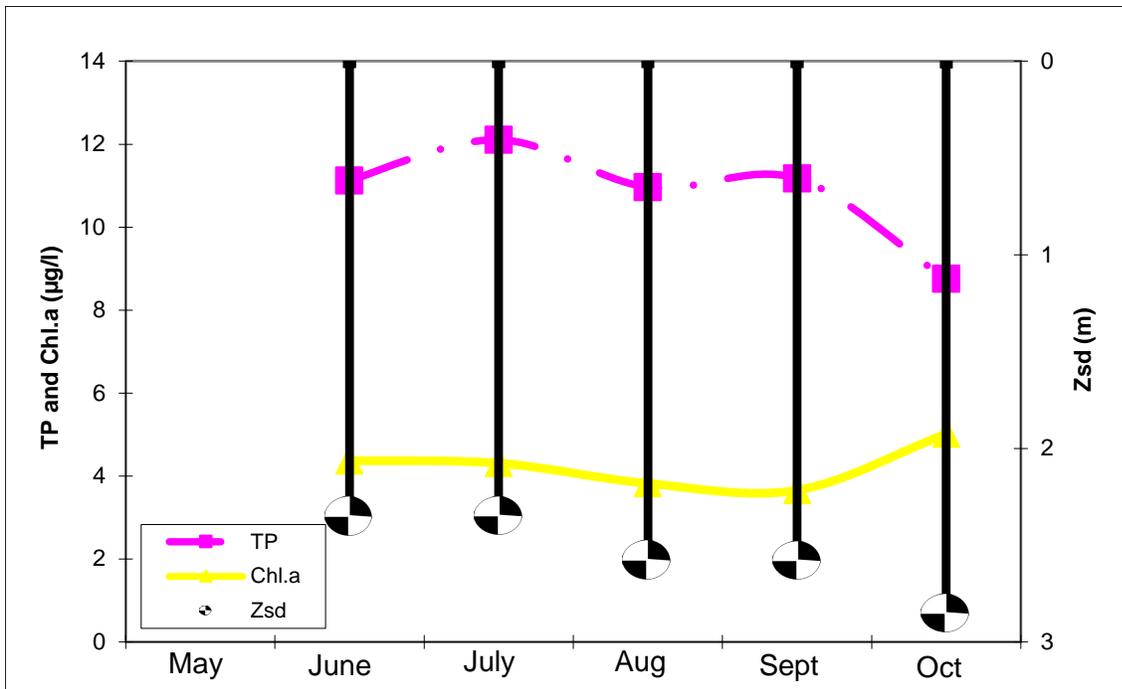
Aquatic Plant IDs-2015

None submitted for identification in 2015.

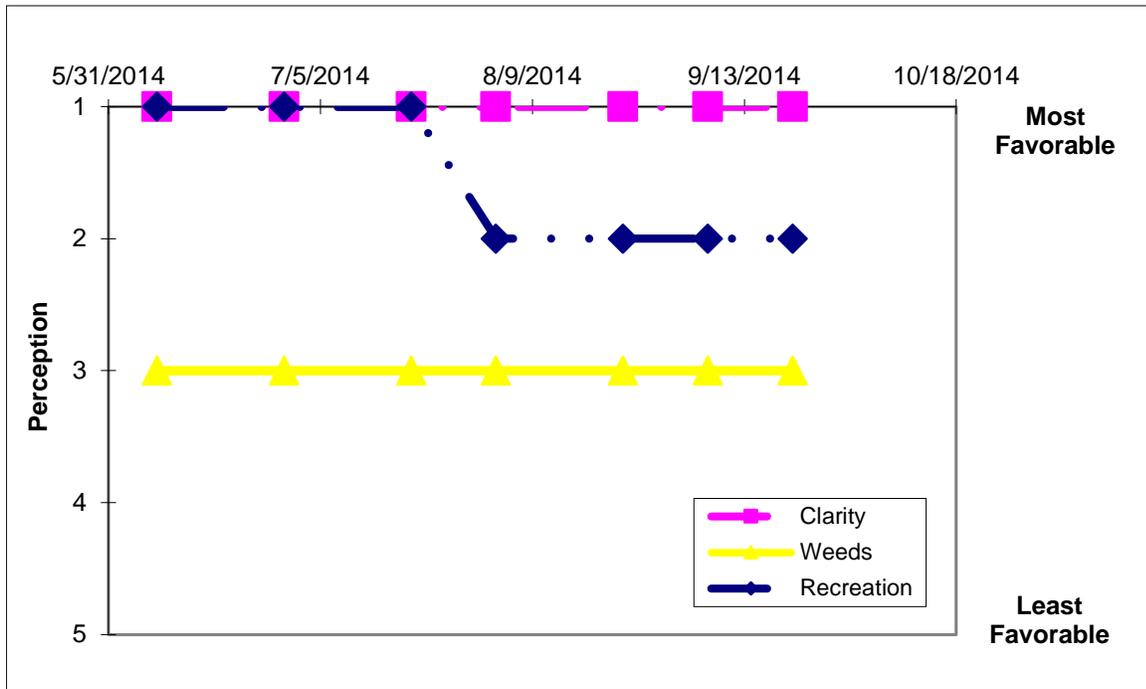
Time Series: Trophic Indicators, 2015



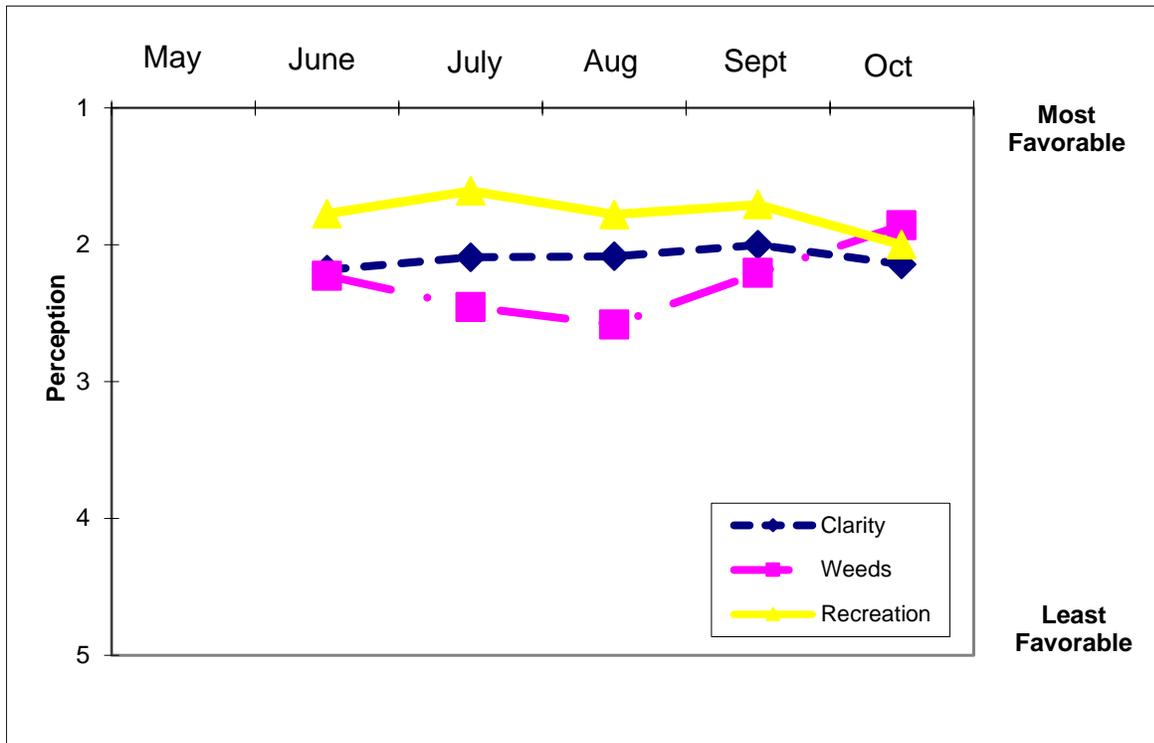
Time Series: Trophic Indicators, Typical Year (1991-2015)



Time Series: Lake Perception Indicators, 2015



Time Series: Lake Perception Indicators, Typical Year (1991-2015)



Appendix A- CSLAP Water Quality Sampling Results for Round Pond

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
91	Round P	6/11/1991	4.9	2.50	1.5	0.015	0.01				22	7.13	41		7.81	
91	Round P	6/23/1991	4.3	2.88	1.5	0.012	0.01				18	6.69	42		8.37	
91	Round P	7/7/1991	4.5	2.20	1.5	0.014	0.01				18	7.03	42		11.10	
91	Round P	7/7/1991	4.5	2.15	1.5	0.017	0.01				17	6.85	42		12.20	
91	Round P	7/21/1991	4.6	2.75	1.5	0.013	0.01				11	6.74	43		10.20	
91	Round P	8/4/1991	4.6	3.13	1.5	0.026	0.01				13	6.94	45		5.58	
91	Round P	8/18/1991	4.6	2.50	1.5	0.019	0.01				15	7.14	44		10.60	
91	Round P	9/2/1991	4.8	2.80	1.5	0.025	0.01				19	7.21	45		17.20	
91	Round P	9/15/1991	4.6	2.28	1.5	0.031	0.01				13	7.29	45		5.54	
91	Round P	6/8/1992	4.6	1.88	1.5	0.014	0.01				24	6.52	46		7.72	
91	Round P	6/21/1992	4.8	2.30	1.5	0.015	0.01				50	6.83	47		4.03	
91	Round P	7/5/1992	4.6	2.60	1.5	0.014	0.01				18	6.52			4.70	
91	Round P	7/19/1992	4.8	3.00	1.5	0.016	0.01				16	6.56			6.43	
91	Round P	8/2/1992	4.8	2.10	1.5	0.016	0.01				22	6.88	26		8.33	
91	Round P	8/16/1992	4.8	1.95	1.5	0.013	0.01				20	6.92	44		7.48	
91	Round P	8/30/1992	4.8	2.10	1.5	0.021	0.01				19	7.25	45		11.60	
91	Round P	9/13/1992	4.7	2.40	1.5	0.015	0.01				19	6.95	43		4.21	
91	Round P	6/14/1993	4.6	3.60	1.5	0.012	0.01				12	5.34	60		2.96	
91	Round P	6/27/1993	4.7	3.35	1.5	0.013					8	6.62	56		1.99	
91	Round P	7/12/1993	4.8	2.50	1.5	0.019	0.01				8	6.47	56		3.44	
91	Round P	7/25/1993	4.8	2.35	1.5	0.013					4	6.19	55		2.55	
91	Round P	8/9/1993	4.8	2.45	1.5	0.014	0.01				9	7.13	58		3.74	
91	Round P	8/23/1993	4.8	3.00	1.5											
91	Round P	9/6/1993	4.7	3.10	1.5	0.012	0.01				8	6.38	58		5.85	
91	Round P	9/19/1993	4.8	3.00	1.5	0.011					10	7.59	58		3.91	
91	Round P	10/3/1993	4.9	2.88	1.5	0.013					12	7.16	57		6.54	
91	Round P	6/5/1994	4.7	2.80	1.5	0.010	0.01				17	6.23	53		2.00	
91	Round P	6/19/1994	4.8	1.70	1.5	0.009					17	6.47	53		4.88	
91	Round P	7/4/1994	4.8	2.60	1.5	0.012	0.01				17	6.27	52		5.82	
91	Round P	7/17/1994	4.8	2.50	1.5	0.023					12	6.68	54		5.56	
91	Round P	7/31/1994	4.9	2.05	1.5	0.014	0.01				8	6.42	52		3.70	
91	Round P	8/14/1994	4.9	2.10	1.5	0.010					18	6.54	53		6.24	
91	Round P	8/27/1994	4.9	2.20	1.5	0.010	0.01				22	6.62	50		7.04	
91	Round P	9/11/1994	4.9	2.00	1.5	0.014					19	6.80	50		6.20	
91	Round P	6/20/1995	4.7	2.55	1.5	0.014	0.02				17				11.90	
91	Round P	7/3/1995	4.6	2.50	1.5	0.018	0.01				15	7.08	53		4.80	
91	Round P	7/16/1995	4.6	1.85	1.5	0.014	0.01				10	6.82	54		7.86	
91	Round P	7/30/1995	4.8	2.00	1.5	0.012	0.01				20	7.30	53		1.52	
91	Round P	8/13/1995	4.8			0.013	0.01				20	6.59	52		5.47	
91	Round P	8/27/1995	4.8	2.00	1.5	0.014	0.01				15	6.74	53		6.92	
91	Round P	9/10/1995	4.7	2.05	1.5	0.010	0.01				10	6.41	55		10.70	
91	Round P	9/24/1995	4.8	1.65	1.5	0.014	0.01				15	6.69	52		14.70	
91	Round P	10/9/1995	4.8	1.30	1.5	0.014	0.01				20	6.48	51		23.90	
91	Round P	6/23/2001	4.7	2.40	1.5	0.009	0.01				22	7.48	72		11.00	
91	Round P	7/7/2001	4.3	3.18	1.5	0.014	0.01				20	7.40	70		5.10	
91	Round P	7/21/2001	4.6	2.78	1.5	0.008	0.01				18	7.31	69		2.29	
91	Round P	8/7/2001	4.7	2.23	1.5	0.007	0.01				18	7.85	70		5.98	
91	Round P	8/18/2001	5.6	2.15	3.0	0.010	0.01				20	6.92	71		4.87	
91	Round P	9/1/2001	4.6	3.05	1.5	0.013	0.01				15	7.58	73		3.00	
91	Round P	9/15/2001	4.6	3.88	1.5	0.008	0.01				17	7.52	88		2.49	
91	Round P	9/29/2001	4.7	2.30	1.5	0.008	0.01				20	6.57	84			
91	Round P	06/22/02	4.6	1.83	1.5	0.016	0.02	0.04	0.58	37.34		6.12	52		5.06	
91	Round P	07/06/02	4.8	2.25	1.5	0.013	0.00	0.02	0.32	24.93	36	6.35	51		4.42	
91	Round P	07/20/02	4.5	2.20	1.5	0.006	0.00	0.05	0.67	108.80	31	6.45	50		4.08	
91	Round P	08/11/02	4.7	2.75	1.5	0.013	0.01	0.04	0.44	33.34	27	6.60	54		7.43	
91	Round P	08/25/02	4.5	2.80	1.5	0.011	0.00	0.06	0.46	40.90	12	6.58	56		4.41	
91	Round P	09/07/02	4.6	3.00	1.5	0.011	0.00	0.06	0.50	43.37	16	6.50	56		4.71	
91	Round P	09/22/02	4.6	2.75	1.5	0.004	0.00	0.01	0.38	87.62	20	6.71	56		1.10	
91	Round P	10/06/02	4.6	3.15	1.5		0.01	0.04	0.46							
91	Round P	6/8/2003	4.8	2.20	1.5		0.03	0.03	0.37		26	4.57	87	2.6	4.12	
91	Round P	6/28/2003	4.7	2.55	1.5	0.011	0.00	0.02	0.27	56.02	32	6.36	67		4.37	
91	Round P	7/12/2003	4.7	2.45	1.5	0.011	0.15	0.00	0.24	47.50	24	6.35	66		8.11	
91	Round P	7/30/2003	4.6	1.55	1.5	0.022	0.00	0.00	0.17	16.94	31	6.35	65		23.31	

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
91	Round P	8/8/2003	4.9	1.85	1.5	0.008	0.00	0.02	0.40	114.41	56	5.93	47	2.2	18.58	
91	Round P	8/23/2003	4.7	2.00	1.5	0.008	0.00	0.01	0.34	98.35	92	5.81	47		4.67	
91	Round P	9/7/2003	4.7	2.10	1.5	0.008	0.01	0.04			58	5.56	52		3.14	
91	Round P	9/21/2003	2.3	2.30	1.5	0.007	0.01	0.03	0.20	64.97	43	6.10	52		5.96	
91	Round P	6/19/2004	5.1	2.50	1.5	0.005	0.01	0.01	0.38	182.67	21	6.10	69		3.64	
91	Round P	7/5/2004	4.6	2.70	1.5	0.005	0.02	0.01	0.05	20.45	17	6.54	68		3.70	
91	Round P	7/20/2004	4.7	2.30	1.5	0.006	0.02	0.01	0.13	51.54	24		67		2.80	
91	Round P	7/31/2004	4.8	2.60	1.5	0.008	0.03	0.02	0.01	1.38	26	6.96	66		10.00	
91	Round P	8/17/2004	4.6	2.95	1.5	0.008	0.01	0.01	0.29	81.35	19	6.50	68	3.4	5.80	
91	Round P	8/28/2004	4.9	2.45		0.008	0.01	0.02	0.35	93.03	26	6.94	43		6.90	
91	Round P	9/19/2004	4.7	1.75	1.5	0.012	0.02	0.01	0.55	103.07	57	6.79	34			
91	Round P	10/15/2004	4.6	2.65	1.5	0.003	0.01	0.01	0.13	99.15	28	6.15	46		1.66	
91	Round P	6/25/2005	4.9	2.80	1.5	0.007	0.01	0.01	0.10	33.00	17	5.89	70		1.01	
91	Round P	7/9/2005	4.7	1.90	1.5	0.009	0.01	0.01	0.28	64.02	5	7.20	80		4.53	
91	Round P	7/26/2005	4.6	2.50	1.5		0.13	0.01	0.60		16	7.15	69		5.07	
91	Round P	8/9/2005	4.5	3.00	1.5	0.007	0.01	0.01	0.27	88.66	16	6.96	84		4.26	
91	Round P	8/21/2005	4.5	2.90	1.5	0.004	0.02	0.01	0.44	240.51	4	6.61	82	3.1	2.07	
91	Round P	9/4/2005	4.6	2.90	1.5	0.006	0.01	0.01	0.22	84.11	18	6.89	78		2.20	
91	Round P	9/20/2005	4.6	2.95	1.5	0.006	0.02	0.01	0.10	38.23	13	7.26	80		2.08	
91	Round P	10/1/2005	4.6	3.45	1.5	0.007	0.04	0.02	0.19	64.03	25	6.29	77	2.8	1.91	
91	Round P	5/29/2006		3.25	1.5	0.008	0.02	0.03	0.45	119.63	16		68	2.3	0.33	
91	Round P	6/11/2006	3.3	1.95	1.5	0.008	0.03	0.05	0.47	123.72	57		54		0.70	
91	Round P	6/24/2006	4.7	2.90	1.5	0.010	0.02	0.02	0.44	100.87	42	6.37			0.94	
91	Round P	7/8/2006	4.7	2.10	1.5	0.008	0.00	0.02	0.58	152.64	46	6.42	37		0.45	
91	Round P	7/23/2006	4.7	2.00	1.5	0.010	0.01	0.03	0.59	135.28	47	6.29	46	2.1	0.67	
91	Round P	8/5/2006	4.8	2.45	1.5	0.007	0.01	0.03	0.64	198.19	43	6.78			0.22	
91	Round P	8/20/2006	4.1	3.30	1.5		0.01	0.02	0.87		24	6.85	45		0.51	
91	Round P	9/2/2006	4.6	2.65	1.5	0.011	0.01	0.04	0.57	110.51	14	6.75	44		0.39	
91	Round P	7/12/2007	3.0	2.35		0.009	0.01	0.02	0.60	144.00	30	6.77	64	2.5	1.43	
91	Round P	7/24/2007	4.8	2.30	1.5	0.010	0.01	0.01	0.63	141.14	34	8.07	47		0.64	
91	Round P	8/7/2007	4.1	3.00		0.015	0.01	0.01	0.75	112.50	46	6.85	48		0.36	
91	Round P	8/20/2007	10.1	3.20	1.5	0.009	0.12	0.02	0.85	221.49	19	8.03	54		0.38	
91	Round P	9/4/2007	3.3	2.60	1.5	0.008	0.00	0.01	0.69	200.93	32	6.96	56	10.6	0.47	
91	Round P	9/16/2007	4.6	3.50	1.5	0.007	0.01	0.01	0.55	184.80	23	7.21	65		0.41	
91	Round P	9/30/2007	4.6	3.35	1.5	0.007	0.01	0.04	0.72	235.75	14	7.59	65		0.40	
91	Round P	10/14/2007	4.0	3.40	1.5	0.007	0.02	0.03	0.54	176.03	23	7.43	59		0.23	
91	Round P	6/30/2008				0.011	0.03	0.02	0.20	39.90	22	6.92	56	2.5	0.80	
91	Round P	7/15/2008				0.012	0.02	0.03	0.34	64.05	25	6.27	73		1.23	
91	Round P	8/4/2008				0.008	0.00	0.02	0.36	97.21	40	6.99	57		0.63	
91	Round P	8/19/2008				0.010	0.01	0.02	0.31	68.70	31	6.96	44		0.85	
91	Round P	8/27/2008	4.7	2.80	1.5	0.009	0.00	0.04	0.30	72.20	36	6.65	51		0.22	
91	Round P	9/7/2008	4.7	2.70	1.5	0.006	0.01	0.02	0.30	104.36	50	7.09	55		0.36	
91	Round P	9/21/2008	5.0	3.85	1.5	0.009	0.01	0.03	0.33	84.50	30	7.06	49		0.41	
91	Round P	10/12/2008	5.1	3.15	1.5	0.008	0.02	0.02	0.33	88.64	40	6.93	64		0.33	
91	Round P	06/13/2009	4.9	2.35	1.5	0.012	0.01	0.02	0.32	57.60	27	7.75	61	2.1	1.98	
91	Round P	06/29/2009	4.8	2.30	1.5	0.011	0.09	0.02	0.24	49.43	41	7.62	59		0.70	
91	Round P	07/13/2009	4.8	2.80	1.5	0.010	0.00	0.01	0.32	70.84	50	5.90	43		0.30	
91	Round P	07/27/2009	4.8	2.53	1.5	0.010	0.74	0.03	0.24	54.01	56	7.50	39		0.98	
91	Round P	08/18/2009	4.6	1.65	1.5	0.011	0.02	0.03	0.25	49.35	105	5.97	35	1.5	0.50	
91	Round P	08/18/2009	grab	bloom												
91	Round P	08/18/2009	grab	bloom												
91	Round P	08/30/2009	5.2	1.55	1.5	0.010	0.01	0.02	0.98	224.35	109	6.45	32		0.70	
91	Round P	09/20/2009	4.9	2.38	1.5	0.008	0.01	0.18	0.37	103.59	68	6.64	30		0.70	
91	Round P	10/04/2009				0.010	0.01	0.10	0.35	79.98	82	6.71	33		0.56	
91	Round P	6/12/2010	4.6	2.23	1.5	0.011	0.16	0.09			16	7.35	63	2.7	0.20	
91	Round P	6/27/2010	5.1	2.05	1.5	0.009	0.01	0.03			31	6.66	59		1.40	
91	Round P	7/18/2010	4.9	2.75	1.5	0.008	0.01	0.02	0.37	98.46	20	6.37	66		0.90	
91	Round P	8/4/2010	4.7	2.90	1.5	0.009	0.04	0.03	0.33	82.94	16	7.12	66		3.30	
91	Round P	8/15/2010	4.7	3.95	1.5	0.005	0.03	0.03	0.36	151.04	28	6.48	69	2.2	0.40	
91	Round P	8/29/2010	4.6	4.00	1.5	0.012	0.01	0.02	0.39	70.69	18	7.51	71		0.10	
91	Round P	9/11/2010	4.5	4.50	1.5	0.007	0.01	0.04	0.36	107.59	5	6.87	74		0.30	
91	Round P	9/19/2010	4.6	4.00	1.5	0.012	0.09	0.04	0.36	67.69	19	6.44	69		0.40	
91	Round P	6/12/2011	4.8	1.75	1.5	0.014	0.06	0.04	0.21	33.08	15	7.41	76	1.8	1.40	
91	Round P	6/19/2011	4.8	1.75	1.5	0.011	0.01	0.03	0.26	50.42	12	7.67	104		1.50	
91	Round P	7/10/2011	4.7	2.45	1.5	0.013	0.01	0.02	0.38	63.80	23	6.35	71		1.00	
91	Round P	8/2/2011	4.7	2.95	1.5	0.015	0.02	0.03	0.37	54.19	20	8.29	78		0.60	

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
91	Round P	8/13/2011	4.6	3.20	1.5	0.009	0.03	0.02	0.41	106.64	16	8.14	65	2.0	0.60	
91	Round P	8/21/2011	4.8	3.35	1.5	0.010	0.04	0.02	0.39	88.69	27	7.33	67		0.70	
91	Round P	9/11/2011	4.9	1.75	1.5	0.013	0.14	0.04	0.37	63.40	78	8.36	82		0.90	
91	Round P	9/24/2011	4.8	1.75	1.5	0.011	0.05	0.04	0.54	104.16	66	7.08	58		0.40	
91	Round P	7/14/2013	3.3	1.60	1.5	0.020	0.02	0.03	0.15	15.64	51	7.69	60		0.70	
91	Round P	7/29/2013	3.3	1.60	1.6	0.012			0.79	149.39	48	6.36	42		0.50	
91	Round P	8/11/2013	3.3	1.70	1.6	0.013	0.01	0.02	0.44	73.56	63	7.29	42		0.60	
91	Round P	9/1/2013	3.3	1.60	1.6	0.013			0.48	84.02	41	7.32	40		1.40	
91	Round P	9/15/2013	3.3	1.60	1.6	0.013	0.01	0.02	0.57	97.40	60	7.13	44		1.40	
91	Round P	9/29/2013	4.4	1.70	1.6	0.015			0.49	71.71	42	7.12	40		1.00	
91	Round P	6/8/2014	4.8	1.85	1.5	0.011	0.01	0.03	0.31	59.44	32	7.23	75	2.4	7.10	
91	Round P	6/29/2014	4.8	2.35	1.5	0.009			0.41	95.72	28	7.24	73		8.70	
91	Round P	7/20/2014	4.8	2.35	1.5	0.011	0.01	0.04	0.44	89.64	37	7.34	65		10.10	
91	Round P	8/3/2014	4.8	2.35	1.5	0.009			0.46	110.73	32	7.59	62		8.10	
91	Round P	8/24/2014	4.8	2.35	1.5	0.012	0.01	0.01	0.40	74.91	47	7.41	60	2.5	1.80	
91	Round P	9/7/2014	4.8	2.25	1.5	0.009			0.31	79.20	31	7.41	60		3.00	
91	Round P	9/21/2014	4.8	2.15	1.5	0.012	0.01	0.14	0.38	68.73	29	7.46	65		9.10	
91	Round P	6/7/2015	4.0	2.20	1.5	0.012	0.01	0.03	0.36	68.87	16	7.61	101	2.8	5.60	
91	Round P	7/5/2015	4.0	2.40	1.5	0.013			0.43	76.21	41	7.06	86		7.70	
91	Round P	8/2/2015	4.0	2.40	1.5	0.016	0.01	0.03	0.35	48.65	48	7.41	78		2.30	18.0
91	Round P	8/17/2015	4.0	2.40	1.5	0.014			0.59	92.21	27	7.24	81		2.70	
91	Round P	9/1/2015	4.0	2.40	1.5	0.010	0.01	0.05	0.44	98.66	27	8.45	82	2.5	2.10	
91	Round P	9/16/2015	4.0	2.70	1.5	0.009			0.28	66.97	23	7.03	77		2.70	
91	Round P	9/28/2015	4.0	2.40	1.5	0.012	0.00	0.04	0.37	67.64	25	7.00	86		4.30	19.5
91	Round P	6/25/2005				0.005										
91	Round P	7/26/2005				0.005										
91	Round P	5/29/2006				0.010										
91	Round P	6/11/2006				0.008										
91	Round P	8/20/2006				0.010										

LNum	PName	Date	Type	TAir	TH20	QA	QB	QC	QD	QF	QG	AQ-PC	AQ-Chla	MC-LR	Ana-a	Cylin	FP-Chl	FP-BG	HAB form	Shore HAB
91	Round P	6/11/1991	epi	16	21															
91	Round P	6/23/1991	epi	19	21															
91	Round P	7/7/1991	epi	24	22															
91	Round P	7/7/1991	epi	24	22															
91	Round P	7/21/1991	epi	32	27															
91	Round P	8/4/1991	epi	24	22															
91	Round P	8/18/1991	epi	24	23															
91	Round P	9/2/1991	epi	17	20															
91	Round P	9/15/1991	epi	16	18															
91	Round P	6/8/1992	epi	23	24															
91	Round P	6/21/1992	epi	17	19															
91	Round P	7/5/1992	epi	24	21	1	1	1	56											
91	Round P	7/19/1992	epi	32	24	2	1	1												
91	Round P	8/2/1992	epi	25	21	3	3	2	14											
91	Round P	8/16/1992	epi	17	21	3	3	2	5											
91	Round P	8/30/1992	epi	22	23	2	3	1	56											
91	Round P	9/13/1992	epi	20	20	2	2	1	6											
91	Round P	6/14/1993	epi	25	23	2	3	1												
91	Round P	6/27/1993	epi	27	26	2	3	1												
91	Round P	7/12/1993	epi	27	28	2	3	2												
91	Round P	7/25/1993	epi	32	24	1	3	1												
91	Round P	8/9/1993	epi	25	24	2	3	1												
91	Round P	8/23/1993	epi	21	22	1	3	1												
91	Round P	9/6/1993	epi	27	24	1	3	1												
91	Round P	9/19/1993	epi	14	19	1	2	1	5											
91	Round P	10/3/1993	epi	12	14	1	3	1	5											
91	Round P	6/5/1994	epi	23	19															
91	Round P	6/19/1994	epi	27	25	2	3	1												
91	Round P	7/4/1994	epi	25	24	2	3	1												
91	Round P	7/17/1994	epi	25	24	2	3	2	5											
91	Round P	7/31/1994	epi	25	25	2	3	2												

LNum	PName	Date	Type	TAir	TH20	QA	QB	QC	QD	QF	QG	AQ-PC	AQ-Chla	MC-LR	Ana-a	Cylin	FP-Chl	FP-BG	HAB form	Shore HAB
91	Round P	8/14/1994	epi	21	20	3	3	2	5											
91	Round P	8/27/1994	epi	18	20	2	3	2	5											
91	Round P	9/11/1994	epi	15	17	2	3	2	5											
91	Round P	6/20/1995	epi	28	25	2	3	2												
91	Round P	7/3/1995	epi	22	24	2	3	2												
91	Round P	7/16/1995	epi	24	27	3	3	2												
91	Round P	7/30/1995	epi	22	27	2	3	1												
91	Round P	8/13/1995	epi																	
91	Round P	8/27/1995	epi	18	22	2	3	1	5											
91	Round P	9/10/1995	epi	16	19	3	3	1	5											
91	Round P	9/24/1995	epi	15	15	3	1	2	6											
91	Round P	10/9/1995	epi	11	13	3	2	4	5											
91	Round P	6/23/2001	epi			2	2	1	5											
91	Round P	7/7/2001	epi	25	21	2	2	1	0											
91	Round P	7/21/2001	epi	25	24	1	2	1												
91	Round P	8/7/2001	epi	25	25	2	2	1												
91	Round P	8/18/2001	epi	21	23	2	2	3	5											
91	Round P	9/1/2001	epi	20	23	2	2	2	5											
91	Round P	9/15/2001	epi	15	18	1	2	1	5											
91	Round P	9/29/2001	epi	15	16	2	1	1	5											
91	Round P	06/22/02	epi	25	22	3	2	3												
91	Round P	07/06/02	epi	24	25	3	2	2												
91	Round P	07/20/02	epi	25	25	2	2	2												
91	Round P	08/11/02	epi	29	24	2	3	1												
91	Round P	08/25/02	epi	23	23	3	2	2												
91	Round P	09/07/02	epi	24	21	3	3	3	2											
91	Round P	09/22/02	epi	21	22	3	3	2	5											
91	Round P	10/06/02	epi	17	18	2	1	1	5											
91	Round P	6/8/2003	epi	19	17	3	2	2	5											
91	Round P	6/28/2003	epi	25	25	3	2	2	0											
91	Round P	7/12/2003	epi	24	23	2	3	2	5											
91	Round P	7/30/2003	epi	27	25	3	2	1	0											
91	Round P	8/8/2003	epi	22	26	3	3	3	5											
91	Round P	8/23/2003	epi	22	23	3	3	2	5											
91	Round P	9/7/2003	epi	20	20	3	2	2	5											
91	Round P	9/21/2003	epi	25	20	3	2	1	5											
91	Round P	6/19/2004	epi	25	24	2	3	2	5											
91	Round P	7/5/2004	epi	21		3	2	3	5											
91	Round P	7/20/2004	epi	23		2	3	2	0											
91	Round P	7/31/2004	epi	27	26	3	2	2	0											
91	Round P	8/17/2004	epi	22	21	2	3	2	0											
91	Round P	8/28/2004	epi	25	22	2	3	2	5											
91	Round P	9/19/2004	epi	16	16	3	2	2	5											
91	Round P	10/15/2004	epi	10	11	2	3	2	5											
91	Round P	6/25/2005	epi	29	28	2	3	1	0											
91	Round P	7/9/2005	epi	26	23	3	2	3	5											
91	Round P	7/26/2005	epi	27	23	3	3	2	2											
91	Round P	8/9/2005	epi	26	26	2	3	2	2											
91	Round P	8/21/2005	epi	26	23	3	2	1	0											
91	Round P	9/4/2005	epi	23	21	3	3	2	0											
91	Round P	9/20/2005	epi	18	21	3	2	3	5											
91	Round P	10/1/2005	epi	16	22	2	1	1	5											
91	Round P	5/29/2006	epi	24		3	1	2	0											
91	Round P	6/11/2006	epi	12	14	3	3	4	5											
91	Round P	6/24/2006	epi	24	22	2	2	1	5											
91	Round P	7/8/2006	epi	24	24	3	2	2	0											
91	Round P	7/23/2006	epi	19	23	2	3	1	0											
91	Round P	8/5/2006	epi	23	26	2	2	2	0											
91	Round P	8/20/2006	epi	28	22	2	2	1	0											
91	Round P	9/2/2006	epi	17	18	3	2	2	5											

LNum	PName	Date	Type	TAir	TH20	QA	QB	QC	QD	QE	QF	QG	AQ-PC	AQ-Chla	MC-LR	Ana-a	Cylin	FP-Chl	FP-BG	HAB form	Shore HAB
91	Round P	7/12/2007	epi	20	23	2	3	1	0												
91	Round P	7/24/2007	epi	20	22	3	2	2	5												
91	Round P	8/7/2007	epi	25	26	3	3	3	5												
91	Round P	8/20/2007	epi	16	21	3	3	4	5												
91	Round P	9/4/2007	epi		22	2	2	2	5												
91	Round P	9/16/2007	epi	12	18	2	1	3	5												
91	Round P	9/30/2007	epi	19	22	2	2	1	5												
91	Round P	10/14/2007	epi	10	14	3	2	3	5												
91	Round P	8/27/2008	epi	21	23	2	2	1	0												
91	Round P	9/7/2008	epi	20	23	2	2	1	0												
91	Round P	9/21/2008	epi	20	19	1	2	1	0												
91	Round P	10/12/2008	epi	16	10	2	1	2	0												
91	Round P	06/13/2009	epi	20	20	3	1	3	5												
91	Round P	06/29/2009	epi	28	25	2	1	1	0												
91	Round P	07/13/2009	epi	20	22	1	2	2	0												
91	Round P	07/27/2009	epi	24	19	3	2	3	5												
91	Round P	08/18/2009	epi	27	27	3	2	2	0						0.00						
91	Round P	08/18/2009	bloom												0.03						
91	Round P	08/18/2009	bloom												0.03						
91	Round P	08/30/2009	epi	24	22	2	3	2	0												
91	Round P	09/20/2009	epi	18	16	2	1	1	0				9.2		0.00						
91	Round P	10/04/2009	epi			3	1	3	5				12.6		0.00						
91	Round P	6/12/2010	epi	16	19	4	1	4	0	0											
91	Round P	6/27/2010	epi	27	17	2	1	2	0	0	0										
91	Round P	7/18/2010	epi	27	20	1	2	1	0	0	0										
91	Round P	8/4/2010	epi	23	24	2	2	2	0	0	0										
91	Round P	8/15/2010	epi	19	24	2	2	2	0	0	0										
91	Round P	8/29/2010	epi	27	24	1	2	1	0	0	0										
91	Round P	9/11/2010	epi	22	18	1	2	2	0	0	0										
91	Round P	9/19/2010	epi	16	18	1	1	2	0	0	0										
91	Round P	6/12/2011	epi	19	21	3	1	3	5	0	0	6.60	5.10								
91	Round P	6/19/2011	epi	24	22	2	1	1	0	0	0	4.30	3.40								
91	Round P	7/10/2011	epi	27	22	2	2	1	0	0	0	3.40	3.50								
91	Round P	8/2/2011	epi	24	27	2	2	1	0	0	0	5.20	43.00								
91	Round P	8/13/2011	epi	22	25	1	2	1	0	0	0	5.20	3.10								
91	Round P	8/21/2011	epi	30	26	2	2	2	5	0	0	8.20	5.50	<0.30	<0.185						
91	Round P	9/11/2011	epi	18	20	3	2	3	5			11.00	12.10	<0.30	<0.178	<0.014					
91	Round P	9/24/2011	epi	24	21	3	1	2	0			7.50	8.30	<0.30	<0.161						
91	Round P	7/14/2013	epi	24	27	2	3	1	0	0	0										
91	Round P	7/29/2013	epi	22	25	2	3	1	0	0	0										
91	Round P	8/11/2013	epi	20	23	2	2	1	0	0	0										
91	Round P	9/1/2013	epi	26	25	2	3	1	0	0	0										
91	Round P	9/15/2013	epi	16	19	1	3	1	0	0	0										
91	Round P	9/29/2013	epi	16	17	1	3	1	0	0	0										
91	Round P	6/8/2014	epi	29	23	1	3	1	0	5	0	0.30	2.10	<1.83	<0.17	<0.001	2.70	0.00	i		
91	Round P	6/29/2014	epi	30	26	1	3	1	0	6	0	1.00	0.60	<0.62	<0.03	<0.002	2.01	0.00	i		
91	Round P	7/20/2014	epi	26	25	1	3	1	0	67	0	2.00	0.80	<0.39	<0.21	<0.003	2.60	0.00	i		
91	Round P	8/3/2014	epi	24	23	1	3	2	8	7	0	1.20	1.00	<0.33	<0.01	<0.002	5.13	0.00	i	i	
91	Round P	8/24/2014	epi	23	22	1	3	2	0	0	0	3.30	0.40	<1.06	<0.16	<0.002	1.68	0.00	i	i	
91	Round P	9/7/2014	epi	23	24	1	3	2	0	0	0	2.20	0.70	<0.29	<0.14	<0.002	2.59	0.00	i	i	
91	Round P	9/21/2014	epi	19	18	1	3	2	0	0	0	2.00	0.80	<0.48	<0.04	<0.001	3.10	0.00	i	i	
91	Round P	6/7/2015	epi	23	21	1	1	1	5	0	0	1.70	0.50	<0.86	<0.027	<0.318	1.63	0.00	i	i	
91	Round P	7/5/2015	epi	27	22	1	3	1	0	0	0	2.70	1.00		-		3.15	0.00	i	i	
91	Round P	8/2/2015	epi	27	26	1	3	1	0	0	0	-1.79	0.75	<0.19	<0.004	<0.015	2.57	0.00	i	i	
91	Round P	8/17/2015	epi	29	26	1	3	1	0	0	0	0.05	0.50	<0.41	<0.035	<0.023	1.06	0.00	i	i	
91	Round P	9/1/2015	epi	30	24	1	3	1	0	0	0			<0.45	<0.031	<0.028	3.23	0.23	i	i	
91	Round P	9/16/2015	epi	25	21	1	3	1	8	7	7	4.80	0.80	<0.40	<0.009	<0.022	3.01	0.00	i	i	
91	Round P	9/28/2015	epi	23	19	1	3	1	0	0	0	0.05	0.80	<0.58	<0.082	<0.016	1.98	0.00	i	i	

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 Round Pond

Round Pond (1310-0044)

NoKnownImpct

Waterbody Location Information

Revised: 04/16/2008

Water Index No:	H-204- 2-36- 4- 1-P80	Drain Basin:	Lower Hudson River
Hydro Unit Code:		Str Class:	A
Waterbody Type:	Lake	Reg/County:	4/Rensselaer Co. (42)
Waterbody Size:	12.6 Acres	Quad Map:	TABORTON (K-27-1)
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

Round Pond has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1991 and most recently 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 mesotrophic, or moderately productive, although more recent phosphorus levels are more typical of unproductive lakes. Phosphorus levels in the lake only occasionally exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements consistently exceed what is the recommended minimum for swimming beaches. Measurements of pH are occasionally below the state water quality range of 6.5 to 8.5 and levels should continue to be monitored. The lake water is moderately colored, and both color and algae appear to influence water transparency. (DEC/DOW, BWAM/CSLAP, March 2008)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be generally favorable, although these assessments have been less favorable in recent years. The recreational suitability of the lake were described most frequently as "could not be nicer" to "excellent" in most years, but more frequently as "slightly" impacted in more recent years. The lake itself is most often described as

"not quite crystal clear" to "having" definite algae greenness." These assessments are less favorable than expected given the measured water quality characteristics in the lake. Assessments have noted that aquatic plants occasionally grow to the lake surface, but do not impact recreational uses. (DEC/DOW, BWAM/CSLAP, March 2008)

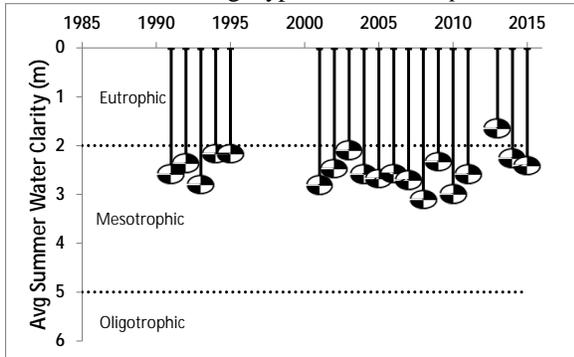
Lake Uses

This lake waterbody is designated class A, suitable for use as a water supply, public bathing beach, general recreation and aquatic life support. 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.

Appendix C- Long Term Trends: Round Pond

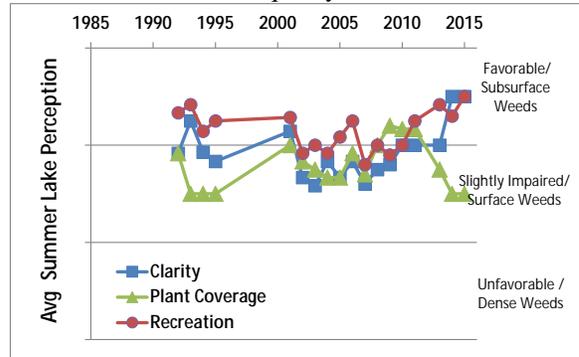
Long Term Trends: Water Clarity

- No trends are apparent, though slightly lower recently
- Most readings typical of *mesotrophic* lakes



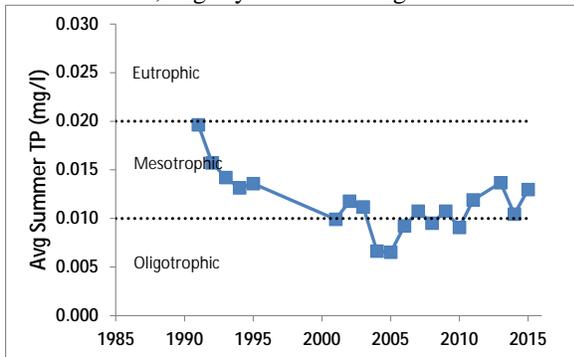
Long Term Trends: Lake Perception

- Improved rec/WQ ↑ weeds since late 00s
- Few recreational impacts; not closely linked to either water quality or weeds



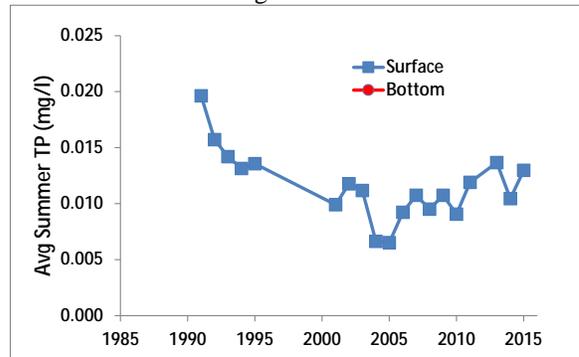
Long Term Trends: Phosphorus

- Long term ↓, but ↑2005-present
- Most readings typical of *mesoligotrophic* lakes, slightly lower than algae levels



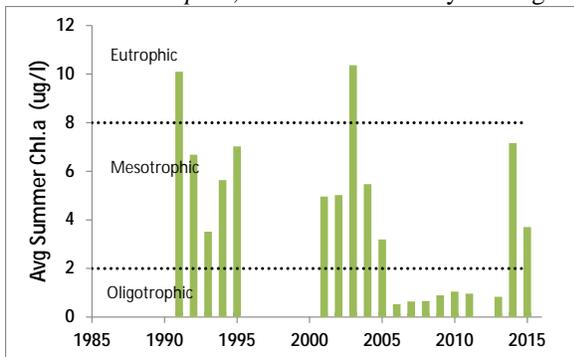
Long Term Trends: Bottom Phosphorus

- Deepwater TP levels not measured
- Deepwater TP readings likely similar to surface readings in most shallow lakes



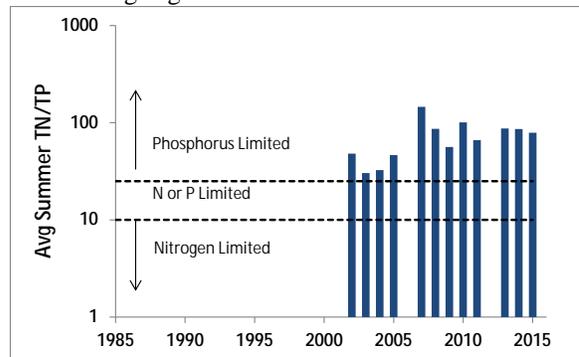
Long Term Trends: Chlorophyll a

- Highly variable; lower since early 00s
- Most readings range from *oligotrophic* to *mesotrophic*; consistent w/ clarity readings



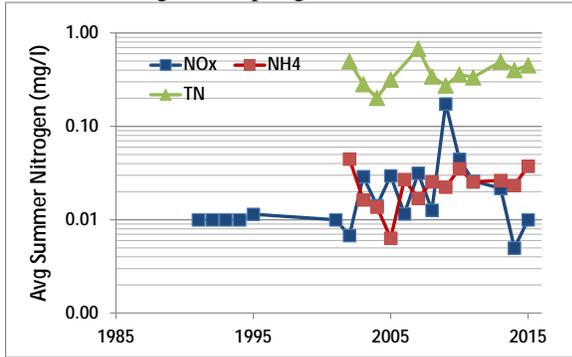
Long Term Trends: N:P Ratio

- Slightly ↑ since early 00s, but stable 09-15
- Most readings indicate phosphorus limits algae growth



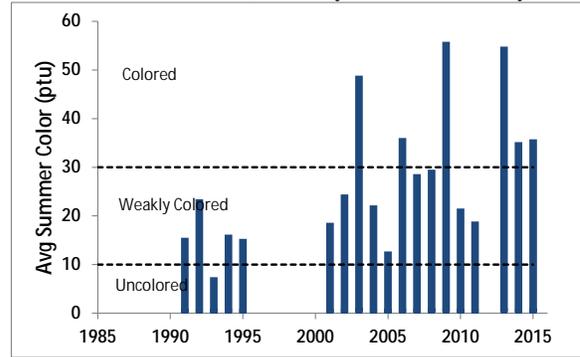
Long Term Trends: Nitrogen

- NO_x ↓ since late 00s; NH₄ and TN variable
- Low NO_x, ammonia and total nitrogen during all sampling seasons



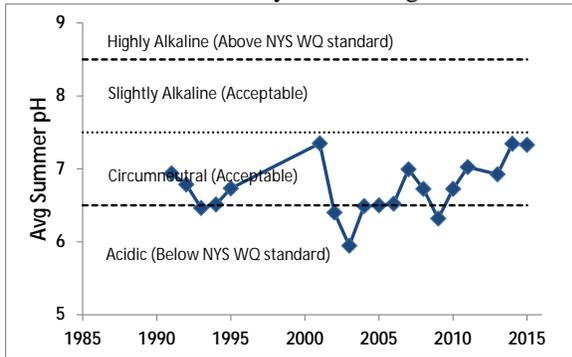
Long Term Trends: Color

- Higher since early 2000s since lab change
- Most readings typical of *weakly to highly colored* lakes, but may not affect clarity



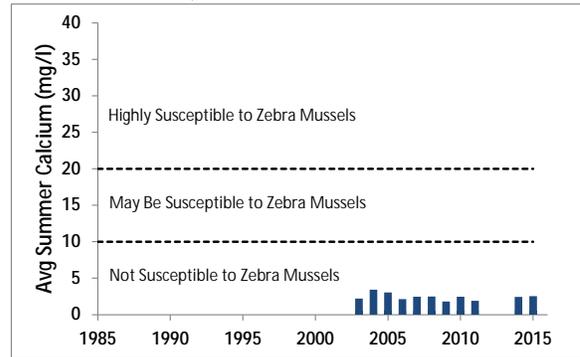
Long Term Trends: pH

- No long-term trends; pH ↑ since early 00s
- Most readings typical of *circumneutral* lakes, with occasionally low readings



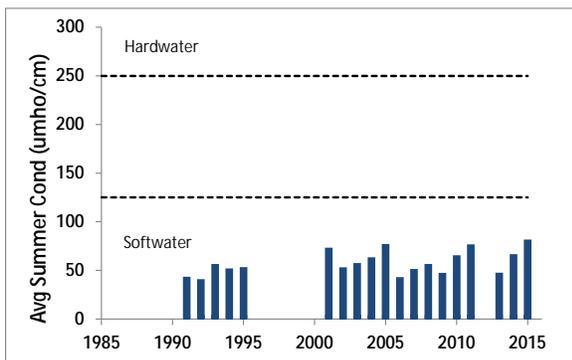
Long Term Trends: Calcium

- No trends apparent; very low calcium
- Data indicates low susceptibility to zebra mussels, which are not found in lake



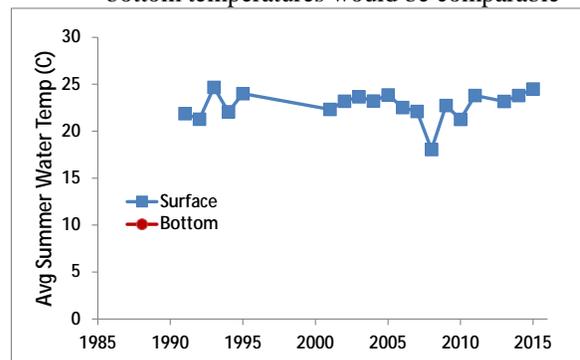
Long Term Trends: Conductivity

- No trends apparent; all readings low
- Most readings typical of *softwater* lakes



Long Term Trends: Water Temperature

- No trends apparent
- Shallow lake depth suggests that surface and bottom temperatures would be comparable



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.

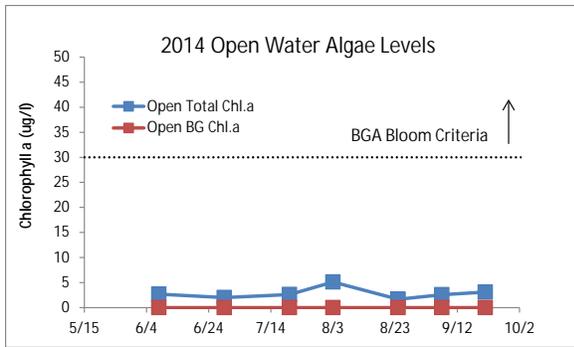


Figure D1:
2014 Open Water Total and BGA Chl.a

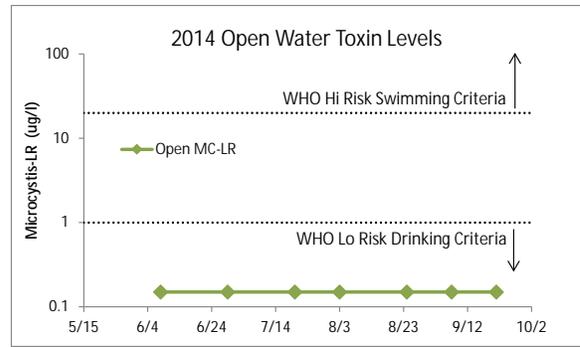


Figure D2:
2014 Open Water Microcystin-LR

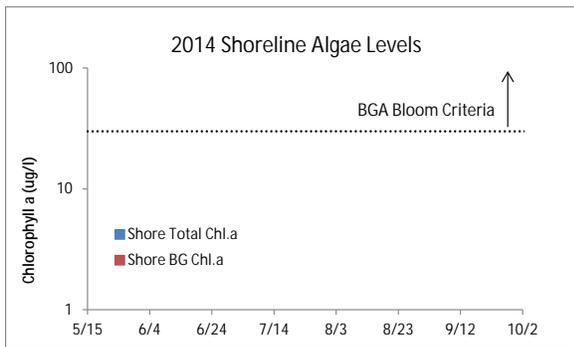


Figure D3:
2014 Shoreline Total and BGA Chl.a

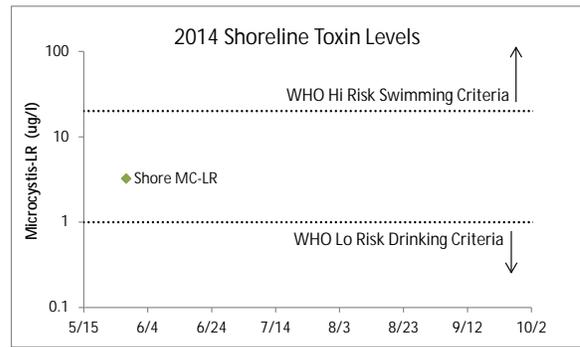


Figure D4:
2014 Shoreline Microcystin-LR

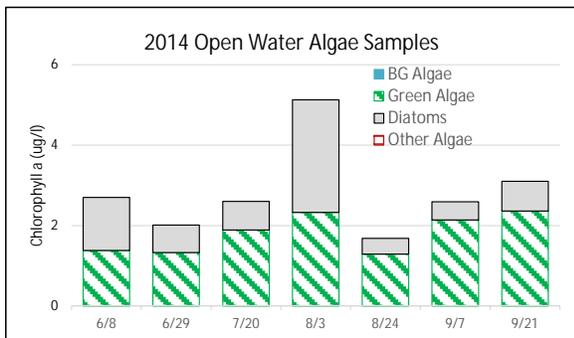


Figure D5:
2014 Open Water Algae Types

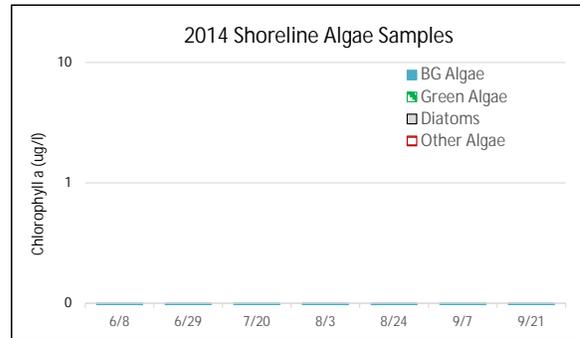


Figure D6:
2014 Shoreline Algae Types

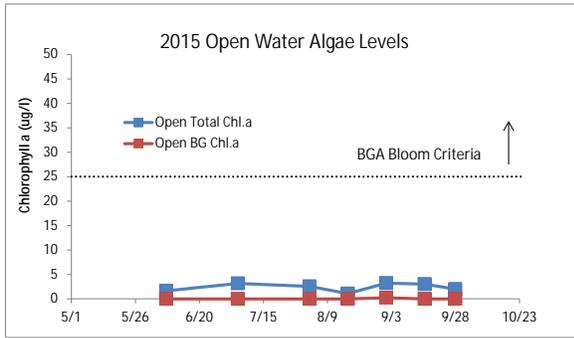


Figure D7:
2015 Open Water Total and BGA Chl.a

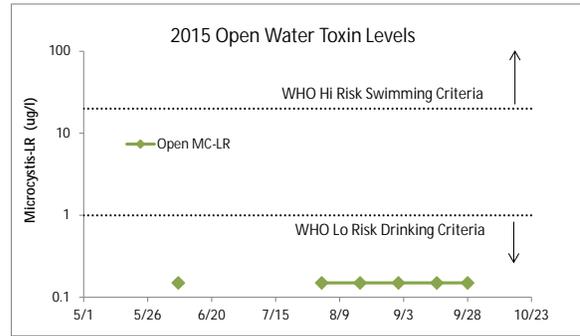


Figure D8:
2015 Open Water Microcystin-LR

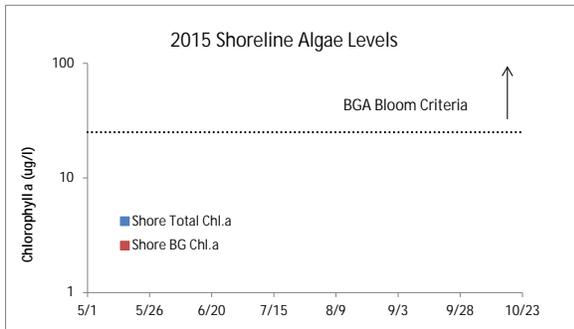


Figure D9:
2015 Shoreline Total and BGA Chl.a

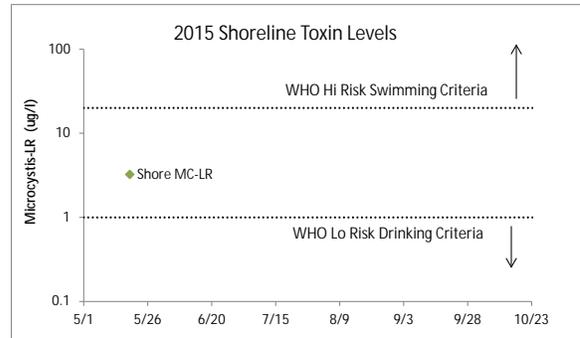


Figure D10:
2015 Shoreline Microcystin-LR

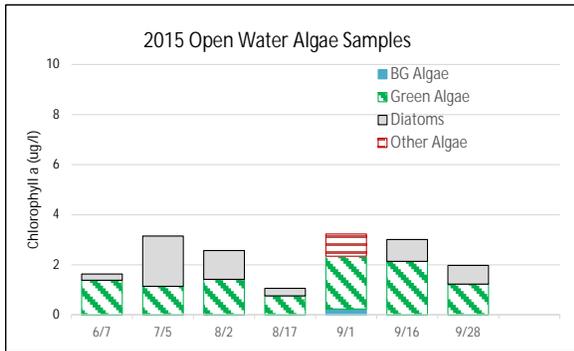


Figure D11:
2015 Open Water Algae Types

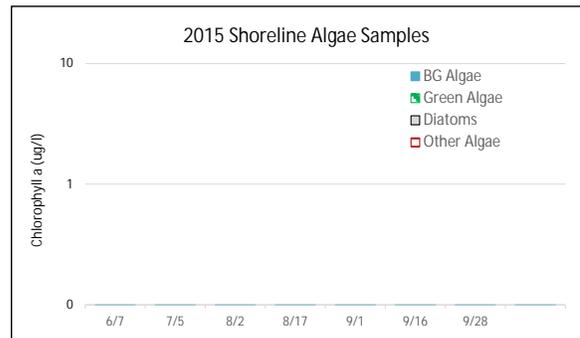


Figure D12:
2015 Shoreline Algae Types

Appendix E: AIS Species in Rensselaer County

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

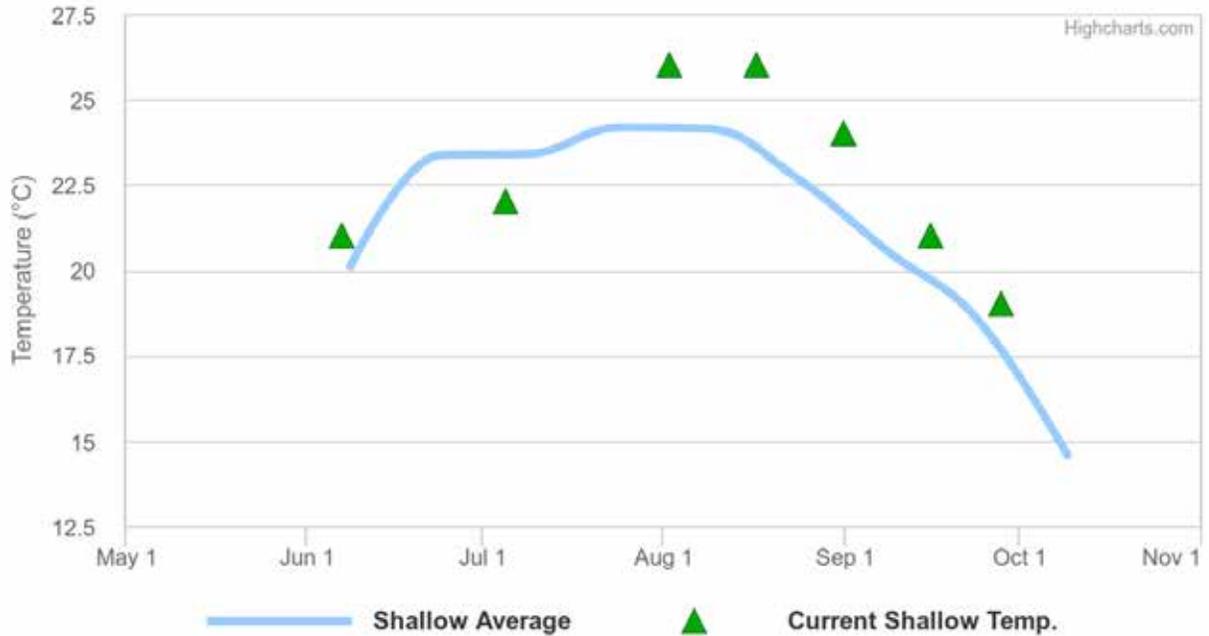
This list is not complete, but instead represents only those species that have been reported and verified within the county. If any additional aquatic invasive species (AIS) are known or suspected in these or other waterbodies in the county, this information should be reported through iMap invasives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

Aquatic Invasive Species – Rensselaer County			
Waterbody	Kingdom	Common name	Scientific name
Burden Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Burden Lake	Animal	Virile crayfish	<i>Orconectes virilis</i>
Burden Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Burden Lake	Plant	Water chestnut	<i>Trapa natans</i>
Burden First Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Burden First Lake	Plant	Water chestnut	<i>Trapa natans</i>
Burden Second Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Burden Second Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Burden Third Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Burden Third Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Castleton Reservoir	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Coopers Pond	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Crooked Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Crystal Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Crystal Lake	Animal	Virile crayfish	<i>Orconectes virilis</i>
Glass Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Glass Lake	Animal	Virile crayfish	<i>Orconectes virilis</i>
Golden Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Golden Pond	Plant	Water chestnut	<i>Trapa natans</i>
Hampton Manor Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Hampton Manor Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Hampton Manor Lake	Plant	Water chestnut	<i>Trapa natans</i>
Hudson River	Animal	Zebra mussel	<i>Dreissena polymorpha</i>
Hudson River	Plant	Water chestnut	<i>Trapa natans</i>

Waterbody	Kingdom	Common name	Scientific name
Hudson River (Schodack Island Park)	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Johnsonville Reservoir	Plant	Water chestnut	<i>Trapa natans</i>
Johnsonville Reservoir	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Links Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Links Pond	Plant	Water chestnut	<i>Trapa natans</i>
Long Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Mill Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Nassau Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Nassau Lake	Plant	Water chestnut	<i>Trapa natans</i>
Pine Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Pine Lake	Plant	Water chestnut	<i>Trapa natans</i>
Racquet Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Red Pond	Animal	Virile crayfish	<i>Orconectes virilis</i>
Reichards Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Second Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Shaver Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Snyders Lake	Animal	Zebra mussel	<i>Dreissena polymorpha</i>
Snyders Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Snyders Lake	Plant	Brittle naiad	<i>Najas minor</i>
Snyders Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Tamarack Pond	Plant	Water chestnut	<i>Trapa natans</i>
Tomhannock Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Troy Reservoir	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Vanderhyden Reservoir	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>

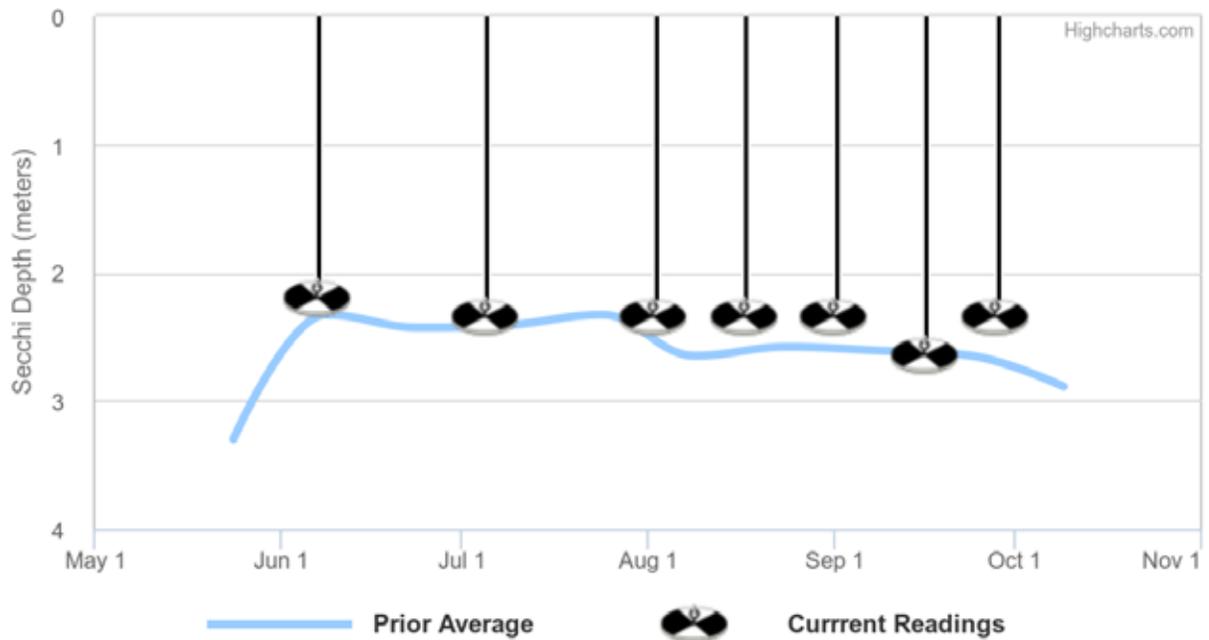
Appendix F: Current Year vs. Prior Averages for Round Pond

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 1991 to 2014.

Current Year Secchi Readings vs. Prior Average



This year's session Secchi readings are about the same as the average of readings collected from 1991 to 2014

Appendix G: Watershed and Land Use Map for Round Pond

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.

