

Eagle Lake Questions and Answers, 2015 CSLAP

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

A1. Water quality conditions in Eagle Lake were again highly favorable in 2015; water clarity was very high (and higher than usual), and no blue green algae blooms were apparent. The lake has suffered from some invasive weed issues, although these impacts may not have been as apparent in 2015.

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

A2. Chloride testing was not done on Eagle Lake this year, but will likely be done in 2016.

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

A3. Eagle Lake has much higher water clarity, and much lower algae and nutrient levels, than most lakes in the area, and shoreline blooms are not regularly reported in the lake. The lake occasionally exhibits high weed levels (Eurasian watermilfoil), but this problem is common to some other lakes in the areas.

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






















A4. Phosphorus levels have increased slightly over the last decade, but algae levels have decreased slightly over the last two decades. pH and color readings have increased slightly, although the latter was primarily in association with the 2002 lab change. Conductivity readings have increased slightly over the last decade. Aquatic plant coverage is variable from year to year.






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

A5. Eagle Lake does not appear to be susceptible to algae blooms or other water quality problems. The primary issues in the lake relate to nuisance (invasive) weed growth, which is more significant in some years than in others.

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 should be continued to maintain water quality 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				
Potable Water				Not applicable
Swimming				No impacts
Recreation				No impacts
Aquatic Life				No impacts
Aesthetics				Invasive plants
Habitat				Invasive plants
Fish Consumption				
	PWL	Average Year	2015	Primary issue

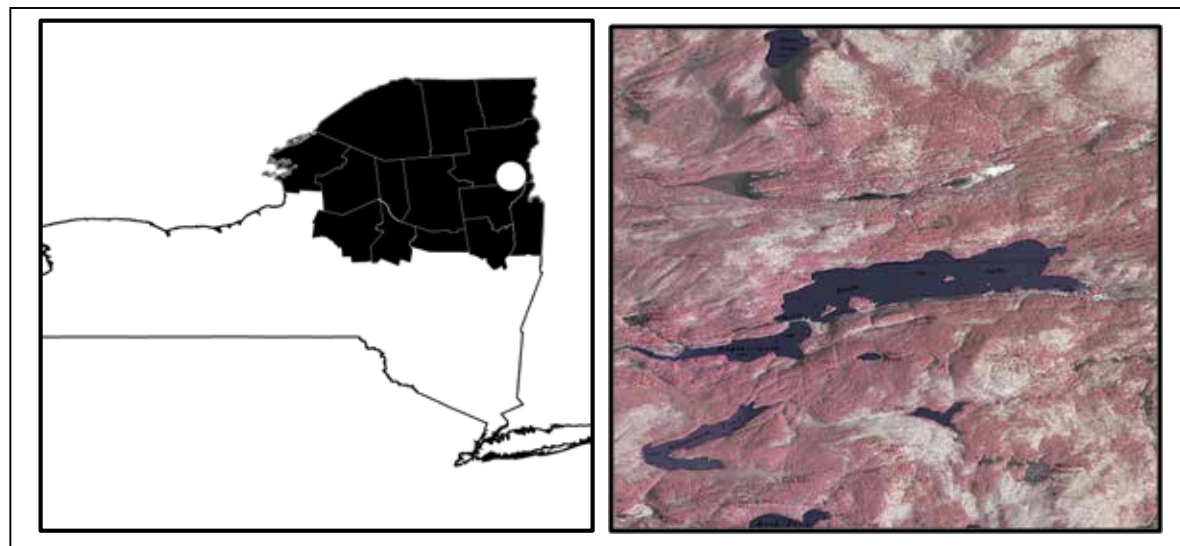
 Supported / Good
 Threatened / Fair
 Stressed / Poor
 Impaired
 Not Known

CSLAP 2015 Lake Water Quality Summary: Eagle Lake

General Lake Information

Location	Town of Ticonderoga
County	Essex
Basin	Upper Hudson River
Size	170.9 hectares (422.1 acres)
Lake Origins	Augmented by 6ft by 90ft earth and rockfill dam (1865)
Watershed Area	996.5 hectares (2,461.4 acres)
Retention Time	1.8 years
Mean Depth	5.4 meters
Sounding Depth	11.5 meters
Public Access?	DEC launch
Major Tributaries	Goosneck Pond Outlet
Lake Tributary To...	unnamed outlet to Pagagon Brook to Paradox Lake to Schroon River to Hudson River
WQ Classification	B (contact recreation = swimming)
Lake Outlet Latitude	43.872
Lake Outlet Longitude	-73.617
Sampling Years	2000-2015
2015 Samplers	Dianne and Rolf Tiedemann
Main Contact	Dianne and Rolf Tiedemann

Lake Map



Background

Eagle Lake is a 422 acre, class B lake found in the Town of Ticonderoga in Essex County, within the Eastern Adirondack region of New York State. Eagle Lake was first sampled as part of CSLAP in 2000.

It is one of nine CSLAP lakes among the more than 515 lakes and ponds found in Essex County, and one of 32 CSLAP lakes among the more than 1370 lakes and ponds in the Upper Hudson River drainage basin.

Lake Uses

Eagle Lake is a Class B lake; this means that the best intended use for the lake is for contact recreation—swimming and bathing, non-contact recreation—boating and fishing, aquatic life, and aesthetics. The lake is used by lake residents and visitors (via a DEC launch site) for a variety of recreational purposes.

Eagle Lake is stocked annually with about 3,800 nine inch brown trout, and 1,500 seven inch brown trout. Fish species in the lake include black crappie, brown bullhead, brown trout, largemouth bass, northern pike, pickerel, rock bass, smallmouth bass, pumpkinseed sunfish, lake whitefish, and yellow perch.

General statewide fishing regulations are applicable in Eagle Lake. In addition, the open season on sunfish and yellow perch lasts all year, with no size or take limits. There is also a year-long open season on trout, with no size limits, but a daily take limit of five fish.

Historical Water Quality Data

CSLAP sampling was conducted on Eagle Lake each year from 2000 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 Eagle Lake can also be found on the NYSDEC web page at <http://www.dec.ny.gov/lands/77872.html>.

Eagle Lake was sampled by the NYSDEC in 1999 as part of the Lake Classification and Inventory (LCI) survey, the Division of Water ambient lake monitoring program. It was also sampled by the New York State Conservation Department (the predecessor to the NYSDEC) as part of the Biological Survey of the Upper Hudson River basin in 1932. The LCI results from 1999 indicate that water transparency was slightly higher than in the contemporary CSLAP study of the lake, although nutrient and algae levels were comparable. These indicators suggest that water quality conditions from 1999 were similar to those measured in recent years through CSLAP.

The Biological Survey was intended to evaluate water quality conditions as they relate to fisheries management, so much of the information collected cannot be easily compared to the CSLAP dataset. The lake was described as follows:

“Eagle Lake comprises an area of 409 acres with little shallow water and few weed beds. The rocky bottom slopes rapidly away from the shores. Eighty to ninety percent of the lake is over twenty feet deep and temperature and oxygen relationships are satisfactory for fish everywhere..... few weed beds...This is a rather narrow lake with rocky shores. The weed areas

are limited mostly to a long narrow bay which includes the part of the lake west of the highway crossing. This bay gradually merges with Paragon Creek. This whole area, for a distance of over one mile, supports a very luxuriant growth of plants”.

Lake Association and Management History

Eagle Lake is served by the Eagle Lake Property Owners, Inc. Some of the activities conducted by the lake association include:

- Septic system inspection and dye testing (late 1990s)
- On-going education of lake residents (at annual meeting) discouraging feeding of waterfowl
- remove beaver dam and control of own water level
- plant control- plant monitoring, benthic mats, hand harvesting, mapping, grant writing, advocating and applying for aquatic herbicide control, signage to prevent or minimize new infestations
- adopt a highway, neighborhood watch

The Eagle Lake Association maintains a website at <http://www.eaglelake1.org/>.

Summary of 2015 CSLAP Sampling Results

Evaluation of 2015 Annual Results Relative to 2000-2014

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 –Eagle Lake” section in Appendix C.

Evaluation of Eutrophication Indicators

Water clarity readings were higher than normal in each of the last three years. Algae levels were lower than usual in 2015. Water clarity decreased slightly from about 2000 through 2013, while phosphorus readings also decreased from 2000 through 2007 and increased slightly since then (in surface and bottom samples). None of these indicators has exhibited any clear consistent long-term trends, and these findings suggest that all of these small changes are within the normal range of variability for this lake.

Lake productivity decreases slightly during the typical summer, as manifested in decreasing nutrient levels and increasing water clarity. These seasonal changes were also apparent in 2014 and 2015.

The lake continues to be characterized as *oligotrophic*, based on water clarity, chlorophyll *a* and total phosphorus readings. The trophic state indices (TSI) evaluation suggests that each of the trophic indicators are “internally consistent,” with readings for each of the trophic indicators within the expected range. 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 use. Deepwater phosphorus and ammonia readings are low

and similar to those measured at the lake surface. This suggests no impacts for any “unofficial” deepwater potable intakes.

Potable water conditions, at least as measurable through CSLAP, are summarized in the Lake Scorecard and Lake Condition Summary Table.

Evaluation of Limnological Indicators

Calcium readings were slightly higher than normal in 2014, but lower than normal in 2015. Conductivity, NO_x, and ammonia readings have increased slightly over the last decade, and conductivity was slightly higher than usual in 2015. Total nitrogen and pH readings were higher than usual in 2015, but have not exhibited any clear long-term trends. It is likely that the small changes in each of these indicators from year to year represent normal variability. Overall limnological conditions are summarized in the Lake Scorecard and Lake Condition Summary Table.

Evaluation of Biological Condition

Phytoplankton, zooplankton and macroinvertebrate data have not been collected through CSLAP at Eagle Lake. The fluoroprobe screening samples analyzed by SUNY ESF in the last several years found both very low overall algae levels and very low blue green algae levels, consistent with the other water quality data. The shoreline bloom sample collected and analyzed in 2013 was comprised primarily of green algae, not blue green algae. No shoreline blooms were reported in 2014 or 2015, and these blooms are unlikely to be regularly found in the lake due to low nutrient levels.

The Darrin Freshwater Institute (DFWI) and Allied Biological macrophyte surveys show very high diversity in the aquatic plant community, and identified 37 different aquatic plant species at the lake, including three protected plant species (*Megalodonta beckii*, water marigold, *Potamogeton alpinus*, northern pondweed, and *Isoetes lacustris*, lake quillwort) are found in the lake and one exotic plant species (*Myriophyllum spicatum*, Eurasian watermilfoil). The modified floristic quality index (FQI) indicates that the quality of the aquatic plant community is “excellent”, although the management of Eurasian watermilfoil continues to be a focus of the lake association.

The fish community is comprised of at least eleven fish species, two of which are coldwater species and three of which are coolwater fish species.

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

Evaluation of Lake Perception

Water quality and recreational assessments were more favorable than normal in 2015, consistent with higher water clarity in 2015. These assessments have improved slightly over the last few years, although this was also coincident with less extensive weed growth. None of these indicators of lake perception has exhibited a long-term trend. Recreational assessments often degrade slightly during the summer, coincident with seasonal increases in aquatic plant coverage and despite slight improvements in water quality assessments. These conditions were also

apparent in 2015. Overall lake perception is summarized on the Lake Scorecard and Lake Condition Summary Table.

Evaluation of Local Climate Change

Air and water temperatures were slightly lower than normal during the summer index period (mid-June through mid-September) in 2013 and 2014, but slightly higher than usual in 2015. No long-term changes have been apparent.

Evaluation of Algal Toxins

Algal toxin levels can vary significantly within blooms and from shoreline to lake, and the absence of toxins in a sample does not indicate safe swimming conditions. Fluoroprobe readings have been below the threshold for harmful algal blooms (HABs). The single 2013 shoreline bloom sample also showed low blue green algae levels – the sample was comprised primarily of diatoms. Microcystis readings have been well below the levels associated with safe swimming in the open water and along the shoreline.

Lake Condition Summary

Category	Indicator	Min	Annual Avg	Max	2015 Avg	Classification	2015 Change?	Long-term Change?
Eutrophication Indicators	Water Clarity	4.50	6.53	10.55	7.28	Oligotrophic	Higher Than Normal	No Change
	Chlorophyll <i>a</i>	0.10	1.05	8.20	0.76	Oligotrophic	Within Normal Range	No Change
	Total Phosphorus	0.002	0.006	0.013	0.006	Oligotrophic	Within Normal Range	No Change
Potable Water Indicators	Hypolimnetic Ammonia	0.00	0.03	0.38	0.03	Close to Surface NH4 Readings	Within Normal Range	Not known
	Hypolimnetic Arsenic							Not known
	Hypolimnetic Iron							Not known
	Hypolimnetic Manganese							Not known
Limnological Indicators	Hypolimnetic Phosphorus	0.002	0.007	0.030	0.011	Close to Surface TP Readings	Higher than Normal	Not known
	Nitrate + Nitrite	0.00	0.02	0.24	0.01	Low NOx	Within Normal Range	No Change
	Ammonia	0.00	0.05	0.50	0.04	Low Ammonia	Within Normal Range	No Change
	Total Nitrogen	0.09	0.35	1.13	0.43	Low Total Nitrogen	Within Normal Range	No Change
	pH	6.29	7.66	8.85	7.86	Alkaline	Within Normal Range	No Change
	Specific Conductance	88	142	203	166	Intermediate Hardness	Higher than Normal	No Change
	True Color	1	9	46	8	Uncolored	Within Normal Range	No Change
	Calcium	8.8	12.1	16.6	10.8	May be Susceptible to Zebra Mussels	Lower Than Normal	No Change
Lake Perception	WQ Assessment	1	1.9	3	1.0	Not Quite Crystal Clear	More Favorable Than Normal	Slightly Improving
	Aquatic Plant Coverage	1	2.8	4	2.7	Surface Plant Growth	Within Normal Range	No Change
	Recreational Assessment	2	3.0	4	2.5	Slightly Impaired	More Favorable Than Normal	No Change
Biological Condition	Phytoplankton					Open water-low blue green algae biomass; Shoreline-low blue green algae in bloom	Not known	Not known
	Macrophytes					Excellent quality of aquatic plant community	Not known	Not known
	Zooplankton					Not measured through CSLAP	Not known	Not known
	Macroinvertebrates					Not yet evaluated	Not known	Not known
	Fish					Warmwater fisheries	Not known	Not known
	Invasive Species					Brown trout, Eurasian watermilfoil, Curly leaf pondweed	Not known	Not known
Local Climate Change	Air Temperature	8	22.4	32	24.5		Higher Than Normal	No Change
	Water Temperature	14	21.7	28	23.8		Higher Than Normal	No Change

Category	Indicator	Min	Annual Avg	Max	2015 Avg	Classification	2015 Change?	Long-term Change?
Harmful Algal Blooms	Open Water Phycocyanin	-1	7	138	28	Most readings indicate low risk of BGA	Not known	Not known
	Open Water FP Chl.a	0	1	4	0	No readings indicate high algae levels	Not known	Not known
	Open Water FP BG Chl.a	0	0	2	0	No readings indicate high BGA levels	Not known	Not known
	Open Water Microcystis	<DL	<DL	0.9	<DL	Low to undetectable open water microcystins	Not known	Not known
	Open Water Anatoxin a	<DL	<DL	0.7	<DL	Open water Anatoxin-a at times detectable	Not known	Not known
	Shoreline Phycocyanin					No shoreline blooms sampled for PC	Not known	Not known
	Shoreline FP Chl.a	19	19	19		Some readings indicate high algae levels	Not known	Not known
	Shoreline FP BG Chl.a	0	0	0		No readings indicate high BGA levels	Not known	Not known
	Shoreline Microcystis	<DL	<DL	0.0		Low to undetectable shoreline microcystins	Not known	Not known
	Shoreline Anatoxin a	<DL	<DL	<DL		Shoreline bloom Anatoxin-a consistently not detectable	Not known	Not known

Evaluation of Lake Condition Impacts to Lake Uses

Eagle Lake is presently among the lakes listed on the 2007 Upper Hudson River basin Priority Waterbody List (PWL), with recreation listed as *stressed* due to excessive weeds. The PWL listing for the lake is in Appendix B.

Potable Water (Drinking Water)

The CSLAP dataset at Eagle 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 suggest no impacts for any "unofficial" use of the lake for this purpose, although this use is not authorized.

Public Bathing

The CSLAP dataset at Eagle Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggests that public bathing, if conducted at a public bathing beach, would be fully supported as related to water quality conditions, but may be *threatened* by excessive weeds. Additional information about bacteria levels is needed to determine if pathogens impact swimming.

Recreation (Swimming and Non-Contact Uses)

The CSLAP dataset on Eagle Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggest that recreation should be fully supported, although this use may be *threatened* by excessive weeds, particularly Eurasian watermilfoil. This might not have been the case in most year, when aquatic plant densities were much lower than normal.

Aquatic Life

The CSLAP dataset on Eagle Lake, including water chemistry data and physical measurements, suggest that aquatic life should be fully supported. Additional data are needed to evaluate the food and habitat conditions for aquatic organisms in the lake.

Aesthetics and Habitat

The CSLAP dataset on Eagle Lake, including volunteer samplers' perception data, suggest that aesthetics may at times be *poor* due to excessive invasive weeds. Habitat may be *fair* due to excessive weeds.

Fish Consumption

Fish consumption advisories are not posted for Eagle Lake.

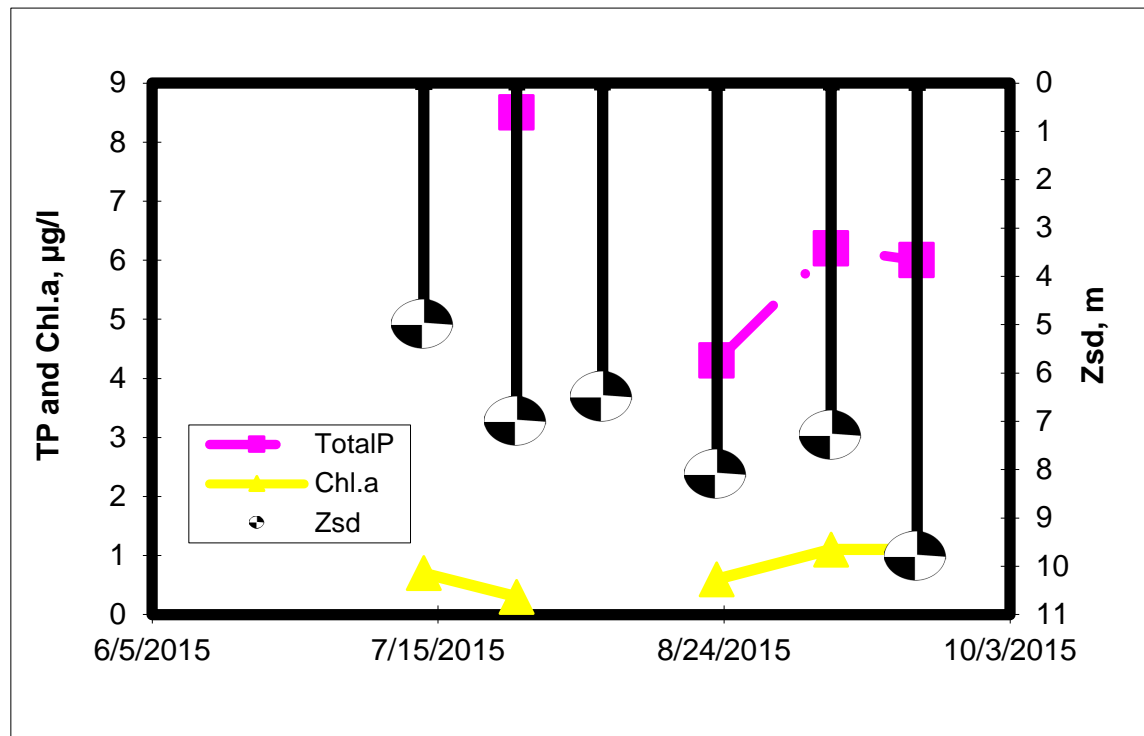
Additional Comments and Recommendations

Additional (more extensive) water quality evaluations may be conducted with the CSLAP dataset in the event of an herbicide treatment in the lake, to assure that no water quality impacts occur (or are attributable to the rapid milfoil dieoff anticipated as a result of a treatment). Lake residents are advised to report any shoreline algae blooms.

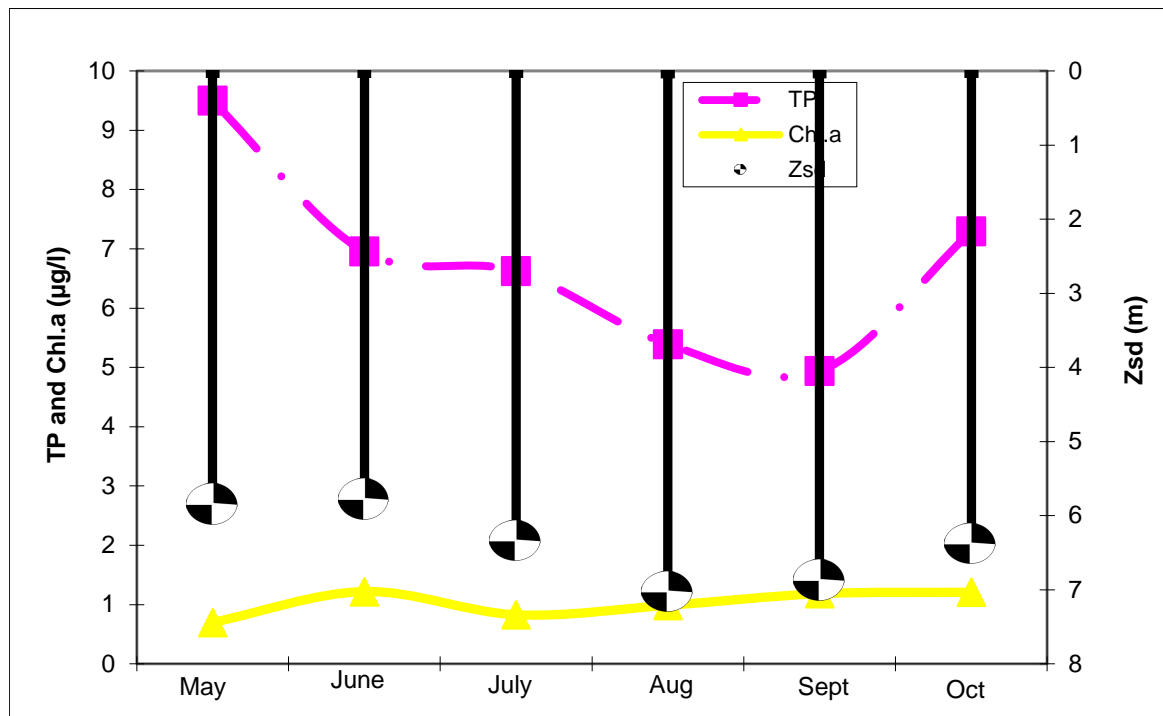
Aquatic Plant IDs-2015

None submitted for identification in 2015 (curly-leafed pondweed found by Paul Smiths College).

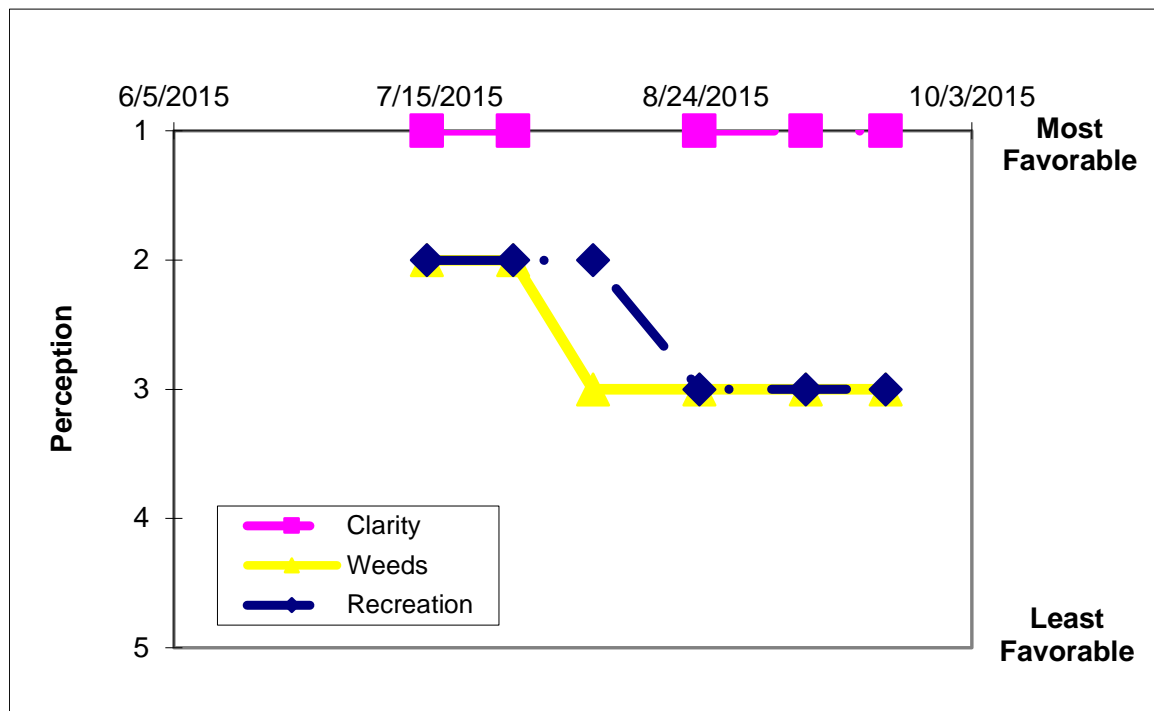
Time Series: Trophic Indicators, 2015



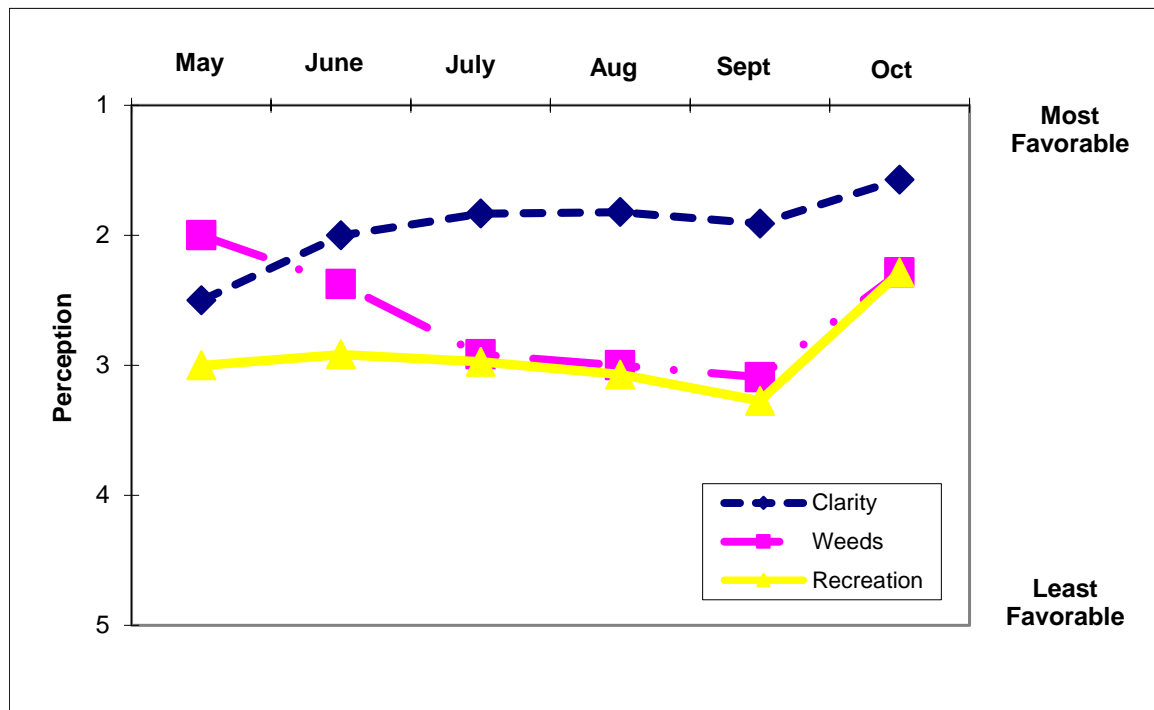
Time Series: Trophic Indicators, Typical Year (2000-2015)



Time Series: Lake Perception Indicators, 2015



Time Series: Lake Perception Indicators, Typical Year (2000-2015)



Appendix A- CSLAP Water Quality Sampling Results for Eagle Lake

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
169	Eagle L	5/30/2000	11.8	5.00	1.5	0.010	0.01				8	7.87	133		1.79	
169	Eagle L	6/12/2000	12.4	5.55	1.5	0.006	0.01				7	7.57	129		8.20	
169	Eagle L	6/26/2000	11.5	7.95	1.5	0.010	0.01				8	7.94	137		0.56	
169	Eagle L	7/10/2000	11.6	5.95	1.5	0.004	0.01				3	7.49	139		1.08	
169	Eagle L	7/24/2000	11.5	7.00	1.5	0.004	0.01				7	7.47	136		1.15	
169	Eagle L	8/7/2000	11.5	7.40	1.5	0.005	0.01				4	6.82	137		2.08	
169	Eagle L	8/22/2000	11.7	7.00	1.5	0.008	0.01				3	8.15	134		0.42	
169	Eagle L	9/4/2000	11.5	6.25	1.5	0.006	0.01				6	6.75	138		1.41	
169	Eagle L	7/8/2001	11.5	7.00	1.5	0.006	0.01				3	7.91	136		1.51	
169	Eagle L	7/22/2001	11.5	7.25	1.5	0.005	0.01				4	7.94	138		0.77	
169	Eagle L	8/5/2001	11.5	7.35	1.5	0.005	0.01				3	7.19	117		0.99	
169	Eagle L	9/3/2001	11.5	6.95	1.5	0.006	0.01				4	7.64	139			
169	Eagle L	9/30/2001	11.5	7.60	1.5	0.004	0.01				6	6.80	142			
169	Eagle L	10/10/2001	11.5	7.35	1.5	0.012	0.01				5	7.57	145			
169	Eagle L	10/23/2001	11.5	7.20	1.5	0.007	0.01				8	7.31	153		0.78	
169	Eagle L	06/10/02	11.5	5.50	1.5	0.009	0.01	0.02	0.56	64.65	9	7.04	142		1.04	
169	Eagle L	06/23/02	11.5	6.50	1.5	0.009	0.00	0.03	0.40	46.00	2	7.70	140			
169	Eagle L	07/07/02	11.5	5.90	1.5	0.007	0.00	0.02	0.38	52.77	11	7.93	141		1.23	
169	Eagle L	07/19/02	11.5	6.10	1.5	0.007	0.00	0.05	0.54	76.15	16	6.71	147		0.75	
169	Eagle L	07/21/02	11.5	6.95	1.5	0.006	0.00	0.03	0.37	66.32	8	7.63	143			
169	Eagle L	08/04/02	11.5	6.30	1.5	0.006	0.00	0.04	0.74	128.35	6	7.95	144		0.99	
169	Eagle L	09/01/02	11.5	7.05	1.5	0.007	0.00	0.04	0.55	83.09	2	7.74	141		1.11	
169	Eagle L	09/21/02	11.5	6.85	1.5	0.002	0.00	0.01	0.33	172.97	5	7.94	142		1.04	
169	Eagle L	6/9/2003	11.5	5.10	1.5	0.005	0.00	0.01	0.36	70.59	7	7.72	147	12.0	1.47	
169	Eagle L	6/24/2003	11.5	5.60	1.5	0.008	0.01	0.00	0.32	39.70	5	7.70	148		0.71	
169	Eagle L	6/29/2003	11.5	5.10	1.5	0.005	0.01	0.00	0.35	69.03	11	6.74	153		0.92	
169	Eagle L	7/13/2003	11.5	6.50	1.5		0.01	0.02	0.23	9.98	9	6.33	157		1.22	
169	Eagle L	7/27/2003	11.5	4.75	1.5	0.008	0.00	0.01	0.11	13.12				13.0	0.56	
169	Eagle L	8/10/2003	11.5	8.20	1.5	0.005	0.02	0.00	0.41	75.85	9	7.62	149		0.81	
169	Eagle L	8/24/2003	11.5	6.35	1.5	0.008	0.00	0.00	0.13	16.23	15	7.60	146		0.44	
169	Eagle L	9/8/2003	11.5	7.10		0.002	0.00	0.00	0.32	133.67	2	7.43	147		0.87	
169	Eagle L	6/12/2004	11.5	6.80	1.5	0.007	0.01	0.01			9	6.31	120		0.16	
169	Eagle L	6/26/2004	11.5	5.60	1.5	0.005	0.03	0.01	0.15	29.44	19	6.69	161			
169	Eagle L	7/10/2004	11.5	6.80	1.5		0.03	0.01	0.32		4	6.94	140		0.20	
169	Eagle L	7/24/2004	11.5	6.45	1.5	0.013	0.01	0.01	0.21	15.95	16	8.04	117		1.20	
169	Eagle L	8/9/2004	11.5	6.35	1.5	0.004	0.01	0.02	0.19	52.62	15	7.78	157	11.8	1.30	
169	Eagle L	8/24/2004	11.5	6.50	1.5	0.003	0.02	0.01	0.29	102.47	17	7.89	168		1.30	
169	Eagle L	9/6/2004	11.5	5.60	1.5	0.004	0.01	0.01	0.26	68.24	8	7.88	121		2.50	
169	Eagle L	9/18/2004	11.5	5.75	1.5	0.004	0.01	0.01	0.57	135.61	9	7.22	115		0.93	
169	Eagle L	6/28/2005	11.5	4.70	1.5	0.008	0.01	0.01	0.15	17.33	11	8.80	147	12.3	0.82	
169	Eagle L	7/11/2005	11.5	4.50	1.5	0.005	0.02	0.04	0.24	50.44	9	7.50	134			
169	Eagle L	7/25/2005	11.5	6.20	1.5	0.004	0.03	0.01	0.16	37.53	7	7.59	133		1.11	
169	Eagle L	8/7/2005	11.5	7.10	1.5	0.004	0.01	0.01	0.26	64.05	9	8.28	144		0.70	
169	Eagle L	8/22/2005	11.5	5.75	1.5	0.005	0.01	0.01	0.11	23.69	46	7.78	138	11.8	0.87	
169	Eagle L	9/4/2005	11.5	7.35	1.5	0.004	0.01	0.01	0.61	140.48	6	8.35	129		0.99	
169	Eagle L	9/19/2005	11.5	6.25	1.5	0.004	0.01	0.01	0.10	23.88	10	7.63	147		1.08	
169	Eagle L	10/1/2005	11.5	5.50	1.5	0.010	0.01	0.01	0.12	12.30	6	7.30	131		0.97	
169	Eagle L	6/6/2006	11.5	5.45	1.5	0.006	0.03	0.01	0.44	170.30	13		115	11.0	1.17	
169	Eagle L	6/18/2006	11.5	6.25	1.5	0.005	0.02	0.02	0.36	168.10	12	7.88	117		0.87	
169	Eagle L	7/2/2006	11.5	4.95	1.5	0.007	0.01	0.01	0.59	188.65	10	8.33	145		0.54	
169	Eagle L	7/16/2006	11.5	6.65	1.5	0.006	0.01	0.02	0.61	238.14	4	7.56	128		0.64	
169	Eagle L	7/30/2006	11.5	6.25	1.5	0.009	0.02	0.02	0.46	115.55	10	8.02	143	12.3	0.35	
169	Eagle L	8/13/2006	11.5	6.35	1.5	0.003	0.01	0.02	0.55	366.93	14	7.58	131		0.76	
169	Eagle L	8/27/2006	11.5	6.50	1.5	0.006	0.03	0.04	0.60	240.05	2	7.35	131		1.94	
169	Eagle L	9/11/2006	11.5	7.55	1.5	0.003	0.03	0.02	0.59	390.71	2	7.44	123		1.00	
169	Eagle L	6/23/2007	11.5	5.10	1.5	0.006	0.02	0.04	0.49	171.7	9	7.3	111	9.9	0.79	
169	Eagle L	7/6/2007	11.5	5.35	1.5	0.006	0.01	0.02	1.13	439.9	10	7.3	151		1.21	
169	Eagle L	7/19/2007	11.5	6.35	1.5	0.006	0.01	0.01	0.44	158.7	12	8.2	112		0.51	
169	Eagle L	7/29/2007	11.5	5.80	1.5	0.005	0.02	0.01	0.49	199.8	13	8.1	130		0.61	
169	Eagle L	8/15/2007	11.5	5.40	1.5	0.006	0.01	0.06	0.48	187.9	7	7.6	102	12.4	0.85	
169	Eagle L	8/28/2007	11.5	6.45	1.5	0.004	0.12	0.03	0.54	272.8	7	8.2	137		0.41	
169	Eagle L	9/10/2007	11.5	6.45	1.5	0.005	0.00	0.12	0.76	309.9	10	8.5	135		1.91	
169	Eagle L	9/23/2007	11.5	6.65	1.5	0.005	0.01	0.02	0.51	226.1	8	7.9	142		0.83	

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
169	Eagle L	6/12/2008	11.5	5.80	1.5	0.005	0.01	0.02	0.21	104.28	5	7.42	191	12.1	0.10	
169	Eagle L	6/26/2008	11.5	6.00	1.5	0.007	0.04	0.03	0.29	97.78	6	8.10	140		0.10	
169	Eagle L	7/11/2008	11.5	6.00	1.5	0.003	0.01	0.01	0.23	152.62	10	8.29	120		0.10	
169	Eagle L	7/25/2008	11.5	6.15	1.5	0.004	0.01	0.03	0.21	127.22	10	8.11	129		0.10	
169	Eagle L	8/7/2008	11.5	6.10	1.5	0.004	0.01	0.02	0.17	87.51	6	8.22	150	11.6	0.29	
169	Eagle L	8/22/2008	11.5	7.10	1.5	0.004	0.00	0.01	0.16	95.34	9	8.19	126			
169	Eagle L	9/4/2008	11.5	6.25	1.5	0.003	0.00	0.01	0.18	152.49	5	6.76	144		0.81	
169	Eagle L	9/18/2008	11.5	6.20	1.5	0.002	0.02	0.03	0.26	289.18	6	7.38	100		0.68	
169	Eagle L	06/12/2009	11.5	5.75	1.5	0.006	0.03	0.27	0.46	161.87	9			12.6	2.03	
169	Eagle L	06/26/2009	11.5	6.35	1.5	0.009	0.01	0.16	0.40	98.51	10	7.54	143		0.39	
169	Eagle L	07/10/2009	11.5	6.50	1.5	0.005	0.02	0.43	0.40	184.25	13	6.29	131		0.64	
169	Eagle L	07/24/2009	11.5	5.90	1.5	0.006	0.06	0.50	0.89	311.14	22	7.69	88		0.70	
169	Eagle L	07/30/2009	11.5	7.25	1.5	0.005	0.01	0.14	0.30	130.68	8	7.60	107	13.9	0.70	
169	Eagle L	08/20/2009	11.5	6.25	1.5	0.006	0.02	0.29	0.52	188.62	14	8.23	112		1.00	
169	Eagle L	09/04/2009	11.5	6.25	1.5	0.005		0.22	0.43	208.27	14	7.14	126		0.40	
169	Eagle L	09/16/2009	11.5	6.50	1.5	0.005	0.01	0.29	0.52	215.43	12	7.38	117		1.10	
169	Eagle L	5/26/2010	11.5	6.70	1.5	0.009	0.02	0.05			6	7.99	203	12.9	0.70	
169	Eagle L	6/9/2010	11.5	6.65	1.5	0.007	0.09	0.07			3	8.56	161		0.10	
169	Eagle L	6/23/2010	11.5	6.65	1.5	0.006	0.05	0.07	0.30	110.37	1	7.39	160		0.90	
169	Eagle L	7/6/2010	11.5	7.05	1.5	0.005	0.01	0.01	0.20	87.12	7	8.08	163		1.00	
169	Eagle L	7/19/2010	11.5	7.20	1.5	0.004	0.02	0.02	0.26	140.05	9	8.22	163	13.3	0.90	
169	Eagle L	8/3/2010	11.5	7.30	1.5	0.007	0.01	0.03	0.47	146.25	6	8.30	151		0.70	
169	Eagle L	8/17/2010		6.40	1.5	0.004	0.03	0.09	0.21	113.85	5	8.05	155		0.90	
169	Eagle L	8/31/2010	11.5	6.20	1.5	0.004	0.02	0.04	0.27	142.73	5	7.88	162		0.90	
169	Eagle L	6/3/2011	11.5	5.10	1.5	0.007	0.04	0.04	0.22	72.00	10	7.63	151	11.9	1.00	
169	Eagle L	6/17/2011	11.5	4.65	1.5	0.007	0.01	0.03	0.09	29.65	13	6.43	187		1.50	
169	Eagle L	7/1/2011	11.5	5.05	1.5	0.006	0.01	0.02	0.25	91.25	8	8.85	156		1.40	
169	Eagle L	7/15/2011	11.5	6.50	1.5	0.006	0.01	0.02	0.17	61.67	13	7.73	158		0.90	
169	Eagle L	7/29/2011	11.5	6.55	1.5	0.005	0.01	0.03	0.19	85.71	10	8.31	136	12.9	1.00	
169	Eagle L	8/12/2011	11.5	7.20	1.5	0.005	0.01	0.01	0.43	194.41	8	8.27	154		1.10	
169	Eagle L	8/26/2011	11.5	6.35	1.5	0.006	0.03	0.03	0.26	91.90	6	8.35	161		3.70	
169	Eagle L	9/12/2011	11.5	5.95	1.5	0.004	0.04	0.03	0.20	102.33	12	7.61	140		2.50	
169	Eagle L	6/1/2012	11.5	5.00	1.5	0.007	0.01	0.01	0.29	92.14	10	7.41	135	8.8	1.10	
169	Eagle L	6/15/2012	11.5	5.70	1.5	0.007	0.01	0.03	0.27	81.07	9	7.21	147		1.50	
169	Eagle L	6/30/2012	11.5	6.00	1.5	0.012	0.01	0.01	0.25	48.40	8	8.26	135		1.40	
169	Eagle L	7/13/2012	11.5	7.20	1.5	0.023	0.01	0.04	0.16	15.50	9	7.89	145			
169	Eagle L	7/28/2012	11.5	6.25	1.5	0.010	0.01	0.02	0.42	93.28	7	7.63	146	11.8	1.00	
169	Eagle L	8/10/2012	11.5	6.40	1.5	0.012	0.01	0.02			7	7.52	139		1.20	
169	Eagle L	8/25/2012	11.5	6.95	1.5	0.012	0.01	0.02	0.37	70.40	7	7.51	144		1.10	
169	Eagle L	9/7/2012	11.5	6.80	1.5	0.009	0.01	0.03	0.21	50.15	5	7.60	144		1.70	
169	Eagle L	7/15/2013	11.7	6.85	1.5	0.012	0.10	0.03	0.25	45.45	12	7.46	146		0.90	
169	Eagle L	7/30/2013	11.6	6.25	1.5	0.008			0.38	110.00	14	7.88	148		1.10	
169	Eagle L	7/30/2013			bloom											
169	Eagle L	8/2/2013	11.5	7.05	1.5	0.007	0.02	0.03	0.16	52.29	10	7.97	149		1.10	
169	Eagle L	8/25/2013	11.5	8.90	1.5	0.005			0.40	164.58	8	7.86	151		0.60	
169	Eagle L	9/9/2013	11.5	9.45	1.5	0.006	0.01	0.01	0.31	104.97	9	7.34	146		1.10	
169	Eagle L	9/23/2013		7.00	1.5	0.009			0.33	84.89	8	7.62	151		0.90	
169	Eagle L	10/8/2013	11.5	6.20	1.5	0.004	0.01	0.01	0.34	170.82	8	7.57	153		1.30	
169	Eagle L	10/21/2013	11.5	6.00	1.5	0.007			0.41	123.30	9	7.05	153		1.70	
169	Eagle L	7/12/2014	11.6	7.05	1.5	0.007	0.01	0.03	0.29	89.57	4	7.49	152	16.6	0.90	
169	Eagle L	7/29/2014	11.6	8.20	1.5	0.006			0.31	117.97	2	7.02	153		1.20	
169	Eagle L	8/10/2014	11.5	10.55	1.5	0.007	0.01	0.03	0.39	131.32	6	7.81	153		0.80	
169	Eagle L	8/24/2014	11.6	10.45	1.5	0.004			0.25	137.50	6	7.48	153		0.80	
169	Eagle L	9/7/2014	11.7	10.00	1.5											
169	Eagle L	9/21/2014	11.5	6.60	1.5	0.005			0.18	86.57	7	7.87	155		0.90	
169	Eagle L	10/6/2014	11.6	7.50	1.5	0.006	0.01	0.01	0.19	76.80	8	7.59	155		0.70	
169	Eagle L	10/19/2014	11.5	5.00	1.5	0.006			0.22	84.59	5	7.41	143		1.90	
169	Eagle L	7/13/2015	11.7	5.00	1.5		0.02	0.04	0.79	24.16	13	7.25	170	11	0.70	
169	Eagle L	7/26/2015	12.5	7.00	1.5	0.009			0.30	35.18	11	7.58	167		0.30	
169	Eagle L	8/7/2015	11.4	6.50	1.5											
169	Eagle L	8/23/2015	11.4	8.10	1.5	0.004			0.45	104.88	7	8.46	173		0.60	
169	Eagle L	9/8/2015	11.5	7.30	1.5	0.006	0.01	0.04	0.21	34.35	6	7.87	155	10.5	1.10	
169	Eagle L	9/20/2015	11.4	9.80	1.5	0.006			0.41	68.50	3	8.14	167		1.10	
169	Eagle L	06/10/02	11.5			0.009	0.01	0.03	0.58	67.04						
169	Eagle L	06/23/02	11.5			0.009	0.00	0.01	0.31	34.03						
169	Eagle L	07/07/02	11.5			0.007	0.00	0.01	0.45	68.53						

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
169	Eagle L	07/19/02	11.5			0.004	0.00	0.03	0.51	121.37						
169	Eagle L	07/21/02	11.5			0.007	0.00	0.01	0.34	48.04						
169	Eagle L	08/04/02	11.5			0.006	0.00	0.04	0.51	83.32						
169	Eagle L	09/01/02	11.5			0.013	0.00	0.02	0.44	34.96						
169	Eagle L	09/21/02	11.5			0.002	0.00	0.01	0.33	214.16						
169	Eagle L	6/9/2003				0.011	0.00	0.01	0.18	15.80						
169	Eagle L	6/24/2003				0.006	0.01	0.02	0.29	50.61						
169	Eagle L	6/29/2003				0.005	0.01	0.01	0.30	63.42						
169	Eagle L	7/13/2003				0.008	0.00	0.02	0.34	40.48						
169	Eagle L	7/27/2003				0.013	0.00	0.00	0.03	1.87						
169	Eagle L	8/10/2003				0.006	0.02	0.02								
169	Eagle L	8/24/2003				0.004	0.00	0.00	0.29	71.68						
169	Eagle L	9/8/2003			1.5	0.003	0.00	0.00	0.38	124.40						
169	Eagle L	6/12/2004	11.5			0.006	0.01	0.01								
169	Eagle L	6/26/2004	11.5			0.009	0.01	0.01	0.20	21.80						
169	Eagle L	7/10/2004	11.5			0.006	0.02	0.01	0.38	67.34						
169	Eagle L	7/24/2004	11.5			0.004	0.01	0.01	0.27	61.95						
169	Eagle L	8/9/2004	11.5			0.007	0.01	0.01	0.21	31.95						
169	Eagle L	8/24/2004	11.5			0.003	0.02	0.09	1.05	328.55						
169	Eagle L	9/6/2004	11.5			0.004	0.01	0.01	0.25	65.60						
169	Eagle L	9/18/2004	11.5			0.004	0.01	0.01	0.40	96.28						
169	Eagle L	6/28/2005	11.5			0.007										
169	Eagle L	7/11/2005	11.5			0.005										
169	Eagle L	7/25/2005	11.5			0.010										
169	Eagle L	8/22/2005	11.5			0.006										
169	Eagle L	9/4/2005	11.5			0.005										
169	Eagle L	9/19/2005	11.5			0.006										
169	Eagle L	10/1/2005	11.5			0.008										
169	Eagle L	6/6/2006	11.5			0.007										
169	Eagle L	6/18/2006	11.5			0.008										
169	Eagle L	7/2/2006	11.5			0.006										
169	Eagle L	7/16/2006	11.5			0.007										
169	Eagle L	7/30/2006	11.5			0.006										
169	Eagle L	8/13/2006	11.5			0.005										
169	Eagle L	8/27/2006	11.5			0.005										
169	Eagle L	9/11/2006	11.5			0.006										
169	Eagle L	6/23/2007	11.5			0.005										
169	Eagle L	7/6/2007	11.5			0.005										
169	Eagle L	7/19/2007	11.5			0.004										
169	Eagle L	7/29/2007	11.5			0.006										
169	Eagle L	8/15/2007	11.5			0.005										
169	Eagle L	8/28/2007	11.5			0.004										
169	Eagle L	9/10/2007	11.5			0.005										
169	Eagle L	9/23/2007	11.5			0.005										
169	Eagle L	6/12/2008				0.006										
169	Eagle L	6/26/2008				0.004										
169	Eagle L	7/11/2008				0.005										
169	Eagle L	7/25/2008				0.004										
169	Eagle L	8/7/2008				0.004										
169	Eagle L	8/22/2008				0.007										
169	Eagle L	9/4/2008				0.003										
169	Eagle L	9/18/2008				0.005										
169	Eagle L	06/12/2009	11.5			0.007		0.32								
169	Eagle L	06/26/2009	11.5			0.008										
169	Eagle L	07/10/2009	11.5			0.006		0.38								
169	Eagle L	07/24/2009	11.5			0.007										
169	Eagle L	07/30/2009	11.5			0.006		0.08								
169	Eagle L	08/20/2009	11.5			0.004										
169	Eagle L	09/04/2009	11.5			0.005		0.08								
169	Eagle L	09/16/2009	11.5			0.006										
169	Eagle L	5/26/2010	11.5			0.007		0.03								
169	Eagle L	6/23/2010	11.5			0.005		0.02								
169	Eagle L	7/19/2010	11.5			0.006		0.01								
169	Eagle L	8/17/2010				0.004		0.01								
169	Eagle L	6/3/2011				0.007		0.03								
169	Eagle L	7/1/2011				0.008		0.02								

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
169	Eagle L	7/29/2011				0.007		0.02								
169	Eagle L	8/26/2011				0.009		0.03								
169	Eagle L	6/1/2012				0.008		0.02								
169	Eagle L	6/30/2012				0.015		0.01								
169	Eagle L	7/28/2012				0.010		0.02								
169	Eagle L	8/25/2012				0.010		0.02								
169	Eagle L	7/15/2013			10.5	0.007		0.03								
169	Eagle L	8/2/2013			10.0	0.006		0.02								
169	Eagle L	9/9/2013			10.0	0.012		0.01								
169	Eagle L	10/8/2013			10.0	0.005		0.01								
169	Eagle L	7/12/2014			10.1	0.030		0.04								
169	Eagle L	7/29/2014			10.1	0.009										
169	Eagle L	8/10/2014			10.0	0.009		0.04								
169	Eagle L	8/24/2014			10.1	0.005										
169	Eagle L	9/21/2014			10.0	0.005										
169	Eagle L	10/6/2014			10.1	0.005		0.02								
169	Eagle L	10/19/2014			10.0	0.006										
169	Eagle L	7/13/2015			10.5	0.017		0.03								
169	Eagle L	7/26/2015			11.0	0.009										
169	Eagle L	8/23/2015			9.9	0.006										
169	Eagle L	9/8/2015			10.0	0.009		0.03								
169	Eagle L	9/20/2015			9.9	0.013										

LNum	PName	Date	Zsamp	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
169	Eagle L	5/30/2000	epi	20	15	2	1	3													
169	Eagle L	6/12/2000	epi	17	16	2	2	3	25												
169	Eagle L	6/26/2000	epi	30	24	2	3	3	2												
169	Eagle L	7/10/2000	epi	22	22	2	3	3	56												
169	Eagle L	7/24/2000	epi	25	22	2	3	3	2												
169	Eagle L	8/7/2000	epi	21	23	2	3	3	125												
169	Eagle L	8/22/2000	epi	26	24	2	3	3	2												
169	Eagle L	9/4/2000	epi	11	21	2	3	3	25												
169	Eagle L	7/8/2001	epi	24	21	2	3	3	5												
169	Eagle L	7/22/2001	epi	24	24																
169	Eagle L	8/5/2001	epi	29	25																
169	Eagle L	9/3/2001	epi	27	24	2	3	3	2												
169	Eagle L	9/30/2001	epi	20	18																
169	Eagle L	10/10/2001	epi	11	15																
169	Eagle L	10/23/2001	epi	13	14	2	3	3	5												
169	Eagle L	06/10/02	epi	22	16	2	2	3	2												
169	Eagle L	06/23/02	epi	24	20	2	2	2	5												
169	Eagle L	07/07/02	epi	22	24	2	3	3	2												
169	Eagle L	07/19/02	epi	21	25	2	3	3	2												
169	Eagle L	07/21/02	epi	29	25	2	3	3	2												
169	Eagle L	08/04/02	epi	26	24	2	3	3	2												
169	Eagle L	09/01/02	epi	20	22	2	3	3	258												
169	Eagle L	09/21/02	epi	25	21	2	3	3	2												
169	Eagle L	6/9/2003	epi	20	16	2	2	3	25												
169	Eagle L	6/24/2003	epi	30	24	2	2	3	2												
169	Eagle L	6/29/2003	epi	25	24	2	3	3	25												
169	Eagle L	7/13/2003	epi	22	24	2	3	3	25												
169	Eagle L	7/27/2003	epi	24	24	2	3	3	25												
169	Eagle L	8/10/2003	epi	22	25																
169	Eagle L	8/24/2003	epi	18	24	2	3	3	2												
169	Eagle L	9/8/2003	epi	19	21	2	3	3	28												
169	Eagle L	6/12/2004	epi	20	20	2	3	3	256												
169	Eagle L	6/26/2004	epi	21	21	2	3	3	25												
169	Eagle L	7/10/2004	epi	23	22	2	3	3	2												
169	Eagle L	7/24/2004	epi	22	23	2	3	3	25												
169	Eagle L	8/9/2004	epi	20	22	2	3	3	2												
169	Eagle L	8/24/2004	epi	21	22	2	3	3	2												
169	Eagle L	9/6/2004	epi	21	22	2	3	3	125												

LNum	PName	Date	Zsamp	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
169	Eagle L	9/18/2004	epi	19	20	2	3	3	125											
169	Eagle L	6/28/2005	epi	27	26	2	3	3	125											
169	Eagle L	7/11/2005	epi	29	26	2	3	3	2											
169	Eagle L	7/25/2005	epi	22	26	2	3	3	25											
169	Eagle L	8/7/2005	epi	27	28	2	3	3	2											
169	Eagle L	8/22/2005	epi	20	25	2	3	3	25											
169	Eagle L	9/4/2005	epi	21	21	2	3	3	2											
169	Eagle L	9/19/2005	epi	21	21	2	3	3	2											
169	Eagle L	10/1/2005	epi	19	18	2	3	3	28											
169	Eagle L	6/6/2006	epi	23	20	2	1	2	25											
169	Eagle L	6/18/2006	epi	24	21	2	3	3	25											
169	Eagle L	7/2/2006	epi	23	22	2	3	3	25											
169	Eagle L	7/16/2006	epi	31	26	2	3	3	2											
169	Eagle L	7/30/2006	epi	28	26	2	3	3	2											
169	Eagle L	8/13/2006	epi	22	22	2	3	3	2											
169	Eagle L	8/27/2006	epi	16	20	2	3	4	24568											
169	Eagle L	9/11/2006	epi	16	19	2	3	3	2											
169	Eagle L	6/23/2007	epi	22	21	2	2	3	25											
169	Eagle L	7/6/2007	epi	24	22	2	3	3	25											
169	Eagle L	7/19/2007	epi	24	22	2	3	3	2											
169	Eagle L	7/29/2007	epi	32	27	2	3	3	2											
169	Eagle L	8/15/2007	epi	26	25	2	3	3	2											
169	Eagle L	8/28/2007	epi	22	22	2	3	3	2											
169	Eagle L	9/10/2007	epi	22	22	2	3	3	2											
169	Eagle L	9/23/2007	epi	20	19	2	3	4	2											
169	Eagle L	6/12/2008	epi	26	22	2	3	3	2											
169	Eagle L	6/26/2008	epi	22	21	2	3	3	2											
169	Eagle L	7/11/2008	epi	21	23	2	3	3	2											
169	Eagle L	7/25/2008	epi	23	22	2	3	3	2											
169	Eagle L	8/7/2008	epi	22	24	2	3	3	2											
169	Eagle L	8/22/2008	epi	26	21	2	3	3	2											
169	Eagle L	9/4/2008	epi	27	23	2	3	4	2											
169	Eagle L	9/18/2008	epi	15	20	2	3	3	2											
169	Eagle L	06/12/2009	epi	23	20	2	2	3	256											
169	Eagle L	06/26/2009	epi	30	23	2	3	3	2											
169	Eagle L	07/10/2009	epi	27	21	2	3	3	2											
169	Eagle L	07/24/2009	epi	23	22	2	3	3	2											
169	Eagle L	07/30/2009	epi	24	22	2	3	3	2											
169	Eagle L	08/20/2009	epi	25	22	2	3	3	2											
169	Eagle L	09/04/2009	epi	24	22	3	4	4	2			12.33								
169	Eagle L	09/16/2009	epi	20	20	2	4	4	2			44.26								
169	Eagle L	5/26/2010	epi	29	18	3	3	3	2	0	0	15.14								
169	Eagle L	6/9/2010	epi	20	21	2	2	3	2	0	0									
169	Eagle L	6/23/2010	epi	27	21	2	2	3	2	0	0									
169	Eagle L	7/6/2010	epi	31	22	2	3	3	2	0	0									
169	Eagle L	7/19/2010	epi	27	26	2	3	3	2	0	0									
169	Eagle L	8/3/2010	epi	27	24	2	3	3	2	0	0									
169	Eagle L	8/17/2010	epi	24	23	2	3	3	2	0	0									
169	Eagle L	8/31/2010	epi	27	22	2	3	3	2											
169	Eagle L	6/3/2011	epi	18	17	2	1	3	25	0	0									
169	Eagle L	6/17/2011	epi	22	20	2	2	3	2	0	0		1.40							
169	Eagle L	7/1/2011	epi	22	21	2	3	3	2	0	0	3.50	1.10							
169	Eagle L	7/15/2011	epi	25	22	2	3	3	2	0	0	3.50	1.60						i	
169	Eagle L	7/29/2011	epi	26	22	2	3	3	2	0	0	3.70	1.30	0.92	<0.5	<0.1				
169	Eagle L	8/12/2011	epi	26	22	2	3	3	2	0	0	5.40	5.10	0.97	<0.5	<0.1				
169	Eagle L	8/26/2011	epi	23	22	2	3	3	2	0	0	4.80	1.30	0.15	<0.5	<0.1				
169	Eagle L	9/12/2011	epi	20	20	2	3	3	2	0	0	5.10	0.80							
169	Eagle L	6/1/2012	epi	18	19	2	2	3	25	0	0	-1.00	0.30	<0.30	<0.417		0.00	0.00	I	
169	Eagle L	6/15/2012	epi	26	22	2	3	3	2	0	0	0.10	0.20	<0.30	<0.413		0.78	0.40	I	
169	Eagle L	6/30/2012	epi	23	26	2	3	3	2	0	0	1.20	0.20	<0.30	<0.423		0.49	0.14	F	
169	Eagle L	7/13/2012	epi	26	22	2	3	3	2	0	0	2.60	0.10	<0.30	<0.328		1.30	0.90	I	

LNum	PName	Date	Zsamp	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
169	Eagle L	7/28/2012	epi	26	22	2	3	3	2	0	0	0	1.90	0.20	<0.30	<0.292		1.85	1.07	I	
169	Eagle L	8/10/2012	epi	27	24	2	3	3	2	0	0	0	4.20	0.30	<0.30	<0.537		1.48	0.55	I	
169	Eagle L	8/25/2012	epi	26	25	2	3	3	2	0	0	0	2.10	0.90	<0.30	<0.551		1.88	1.51	I	
169	Eagle L	9/7/2012	epi	26	22	2	4	4	2	0	0	0	0.70	0.20	<0.30	<3.299		0.89	0.79	I	
169	Eagle L	7/15/2013	epi	31	27	1	3	3	2	4	0	0	0.60	0.70	<0.30	<0.910		0.60	0.00	I	B
169	Eagle L	7/30/2013	epi	22	23	1	4	4	2	4	0	0	0.05	0.90	<0.30	<0.380		0.90	0.00	I	dh
169	Eagle L	7/30/2013	epi												<0.60	<0.680		18.50	0.00		
169	Eagle L	8/2/2013	epi	22	22	1	4	4	2	0	0	0	2.70	0.70	<0.30	<0.380		0.40	0.00	I	I
169	Eagle L	8/25/2013	epi	20	22	1	4	4	2	0	0	0	1.00	0.50	<0.30	<0.570		0.00	0.00	I	I
169	Eagle L	9/9/2013	epi	11	20	1	3	4	2	0	0	0	2.60	0.60	0.38	<19.130		0.10	0.00	I	
169	Eagle L	9/23/2013	epi	11	18	1	3	3	2	0	0	0	2.20	0.60	<0.30	<19.130		0.00	0.00	I	I
169	Eagle L	10/8/2013	epi	12	16	1	3	3	2	0	0	0	1.80	0.70	<0.30	<0.090		3.50	2.20	I	
169	Eagle L	10/21/2013	epi	8	14								2.30	0.70	<0.30	<0.090		0.10	0.00		
169	Eagle L	7/12/2014	epi	23	24	1	2	3	2	0	0	0	2.60	0.05	<0.40	<0.48	<0.001	0.00	0.00	i	i
169	Eagle L	7/29/2014	epi	21	24	1	2	3	2	0	0	0	0.80	0.20	<0.31	0.74	<0.002			i	i
169	Eagle L	8/10/2014	epi	28	23	2	2	3	2	0	0	0	0.30	0.10	<0.28	0.19	<0.001	0.00	0.00	i	i
169	Eagle L	8/24/2014	epi	18	21	2	2	3	2	0	0	0	1.80	0.10	<1.06	0.73	<0.002	0.00	0.00	i	i
169	Eagle L	9/7/2014	epi	21	23	2	2	3	2	0	0	0								i	i
169	Eagle L	9/21/2014	epi	19	18	2	2	3	2	0	0	0	1.00	0.10	<0.48	0.27	<0.001	0.20	0.00	i	i
169	Eagle L	10/6/2014	epi	13	16	2	2	2	2	0	0	0	0.50	0.10	<0.88	<0.12	<0.001	0.40	0.00	i	i
169	Eagle L	10/19/2014	epi	8	14	1	2	2	2	0	0	0	1.00	0.10	<0.95	<0.09	<0.006			i	i
169	Eagle L	7/13/2015	epi	32	25	1	2	2	0	0	0	0	0.05	0.10				0.42	0.00	I	I
169	Eagle L	7/26/2015	epi	20	24	1	2	2	2	0	0	0	1.90	0.10	<0.19	<0.002	<0.014	0.28	0.00	I	I
169	Eagle L	8/7/2015	epi	21	23		3	2	2	0	0	0								I	I
169	Eagle L	8/23/2015	epi	24	25	1	3	3	2	0	0	0	138.30	5.30	<0.28	<0.003	<0.010	0.34	0.00	I	I
169	Eagle L	9/8/2015	epi	26	24	1	3	3	2	0	0	0	1.00	0.30	<0.40	<0.004	<0.012	0.58	0.00	I	I
169	Eagle L	9/20/2015	epi	24	22	1	3	3	2	0	0	0	0.05	0.10	<0.30	<0.007	<0.035	0.52	0.00	I	I
169	Eagle L	7/15/2013	hypo		26																
169	Eagle L	8/2/2013	hypo		22																
169	Eagle L	9/9/2013	hypo		20																
169	Eagle L	10/8/2013	hypo		16																
169	Eagle L	7/12/2014	hypo		12																
169	Eagle L	7/29/2014	hypo		15																
169	Eagle L	8/10/2014	hypo		17																
169	Eagle L	8/24/2014	hypo		17																
169	Eagle L	9/7/2014	hypo		19																
169	Eagle L	9/21/2014	hypo		18																
169	Eagle L	10/6/2014	hypo		16																
169	Eagle L	10/19/2014	hypo		15																
169	Eagle L	7/13/2015	hypo		15																
169	Eagle L	7/26/2015	hypo		16																
169	Eagle L	8/7/2015	hypo		14																
169	Eagle L	8/23/2015	hypo		15																
169	Eagle L	9/8/2015	hypo		17																
169	Eagle L	9/20/2015	hypo		16																

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 Eagle Lake

Eagle Lake (1104-0235)

Need Verific

Waterbody Location Information

Revised: 02/09/2007

Water Index No:	H-391..39-P432..P438	Drain Basin:	Upper Hudson River
Hydro Unit Code:	02020001/090	Str Class:	B
Waterbody Type:	Lake	Reg/County:	5/Essex Co. (16)
Waterbody Size:	422.3 Acres	Quad Map:	GRAPHITE (F-26-3)
Seg Description:	entire lake		

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

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Possible

Type of Pollutant(s)

Known:	---
Suspected:	ALGAL/WEED GROWTH, PROBLEM SPECIES (Eurasian milfoil)
Possible:	---

Source(s) of Pollutant(s)

Known:	---
Suspected:	HABITAT MODIFICATION
Possible:	---

Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))	
Verification Status:	1 (Waterbody Nominated, Problem Not Verified)	
Lead Agency/Office:	DOW/BWAM	Resolution Potential: Medium
TMDL/303d Status:	n/a ()	

Further Details

Recreational uses in Eagle Lake may be threatened by non-native invasive aquatic plant growth. Other water chemistry indicators suggest good water quality.

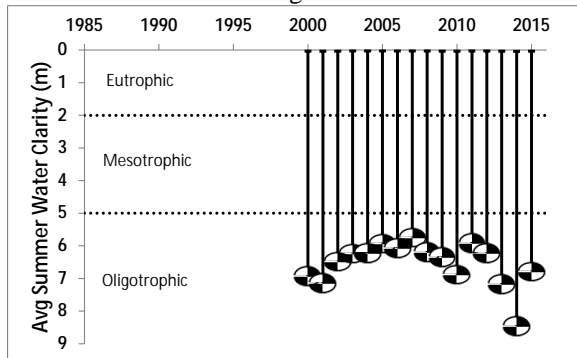
Eagle Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 2000 and continuing through 2005. An Interpretive Summary report of the findings of this sampling was published in 2006. These data indicate that the lake continues to be best characterized as oligotrophic, or highly unproductive. Phosphorus levels in the lake are well below criteria that would indicate impacted recreational uses and transparency measurements easily satisfy what is recommended for swimming beaches. (DEC/DOW, BWAM/CSLAP, May 2006)

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. These assessment indicate recreational suitability of the lake to be somewhat impacted, primarily due to aquatic weed growth. Recreational conditions in the lake have been most often described as "slightly impacted" for most uses. The lake is regularly described as "not quite crystal clear." Such an assessment is atypical of lakes with similar water chemistry, but indicative of lakes with plant densities that grow to the lake surface. No aquatic plant surveys have been conducted through the CSLAP program, but Eurasian milfoil has been identified by other sources. (DEC/DOW, BWAM/CSLAP, May 2006)

Appendix C- Long Term Trends: Eagle Lake

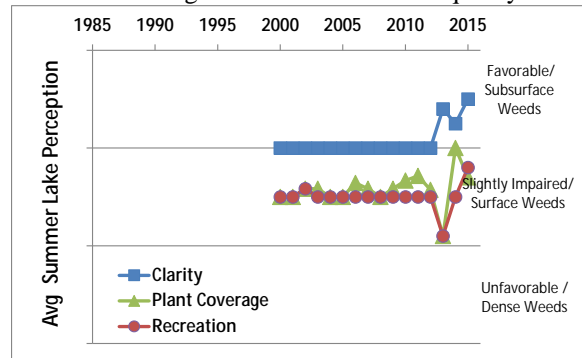
Long Term Trends: Water Clarity

- No trends, but clarity ↑ in 2013 thru 2015
- Most readings typical of *oligotrophic* lakes, consistent with algae and TP levels



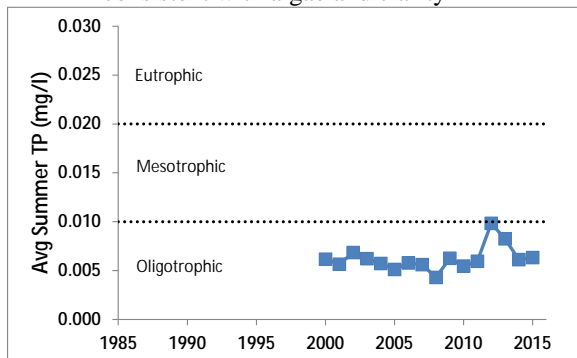
Long Term Trends: Lake Perception

- No trends, but all indicators better 2013-15
- Recreational perception more closely linked to changes in weeds than water quality



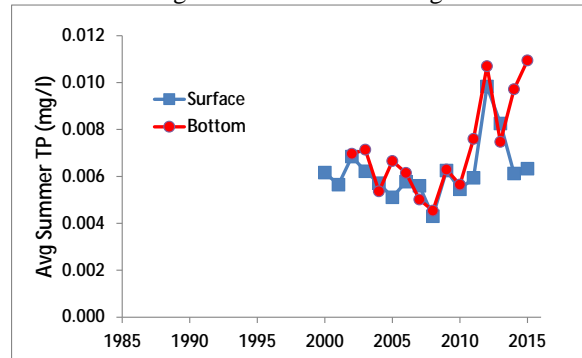
Long Term Trends: Phosphorus

- No trends; last two years back to “normal”
- Most readings typical of *oligotrophic* lakes, consistent with algae and clarity



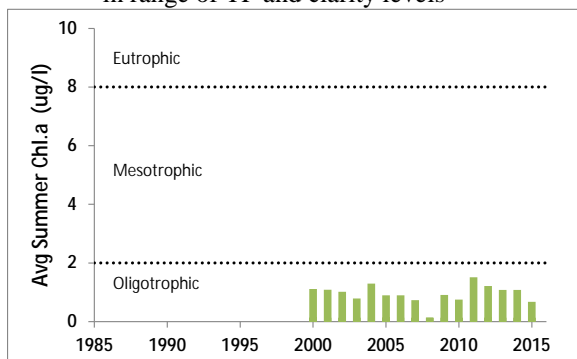
Long Term Trends: Bottom Phosphorus

- Similar surface and bottom TP
- Bottom TP may indicate little to no nutrient loading to surface levels during late summer



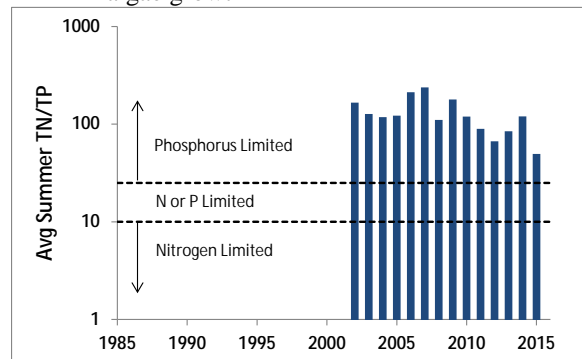
Long Term Trends: Chlorophyll a

- No trends apparent, but recent decrease
- Most readings typical of *oligotrophic* lakes, in range of TP and clarity levels



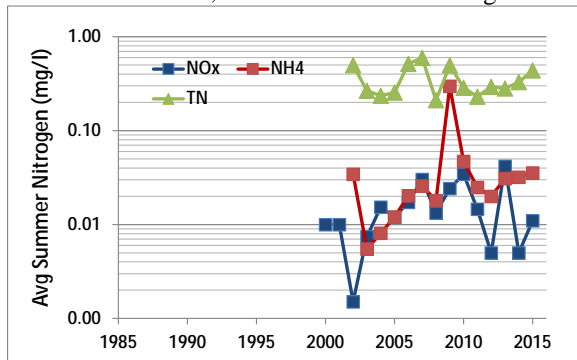
Long Term Trends: N:P Ratio

- Recent decrease
- Most readings indicate phosphorus limits algae growth



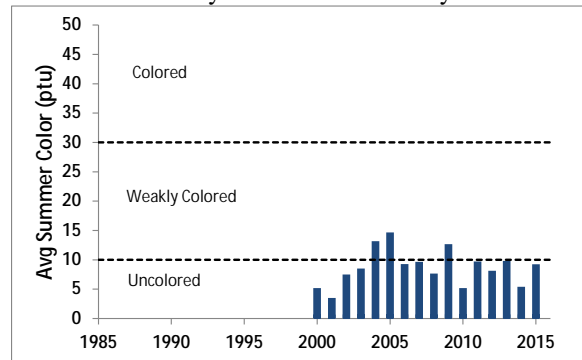
Long Term Trends: Nitrogen

- Slight increase in NO_x and NH₄; recent increase in TN
- Low NO_x, ammonia and TN readings



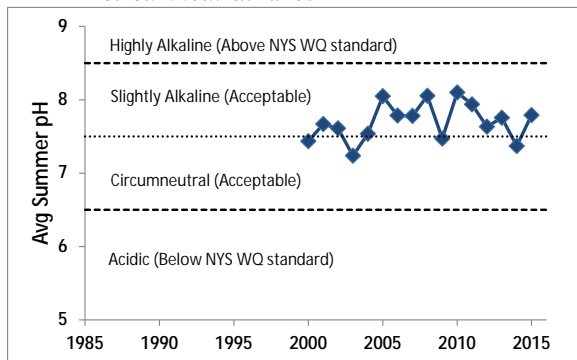
Long Term Trends: Color

- No trends apparent despite rise since 2002
- Most readings typical of *uncolored* lakes with likely little effect on clarity



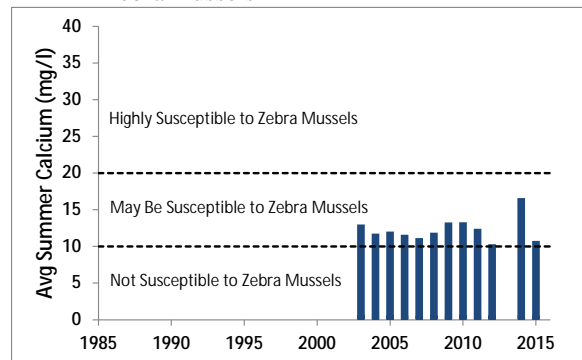
Long Term Trends: pH

- Slight increase not statistically significant
- Most readings typical of *slightly alkaline* to *circumneutral* lakes



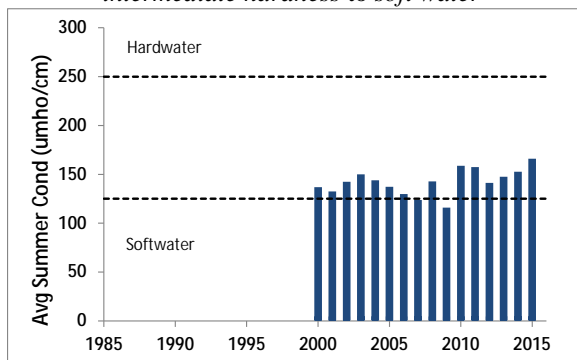
Long Term Trends: Calcium

- No trends apparent; slightly variable
- Most readings indicate low susceptibility to zebra mussels



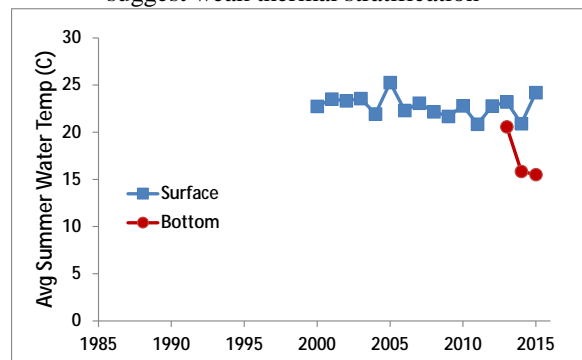
Long Term Trends: Conductivity

- No trends; perhaps higher since late 00s
- Most readings typical of lakes with *intermediate hardness* to *soft water*



Long Term Trends: Water Temperature

- No trends apparent
- Similar bottom and surface temperatures suggest weak thermal stratification



Appendix D:

Algae Testing Results from SUNY ESF Study

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

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

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

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

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

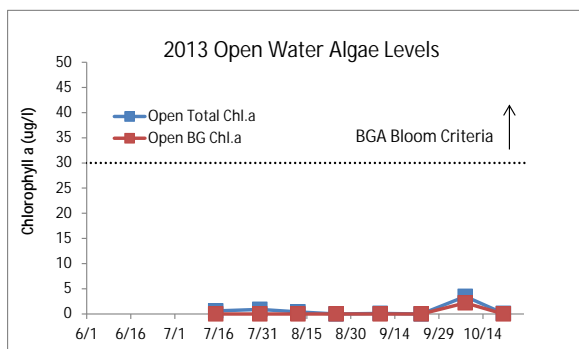


Figure D1:
2013 Open Water Total and BGA Chl.a

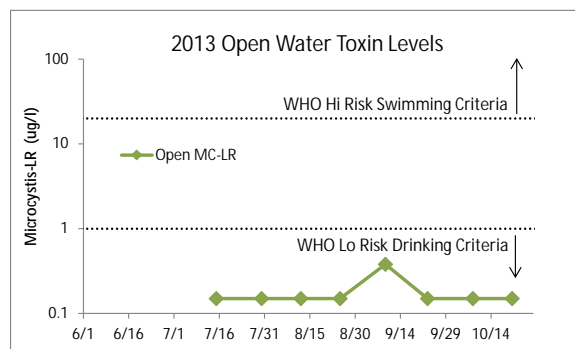


Figure D2:
2013 Open Water Microcystin-LR

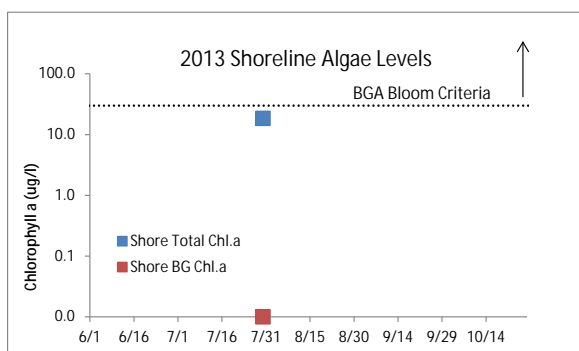


Figure D3:
2013 Shoreline Total and BGA Chl.a

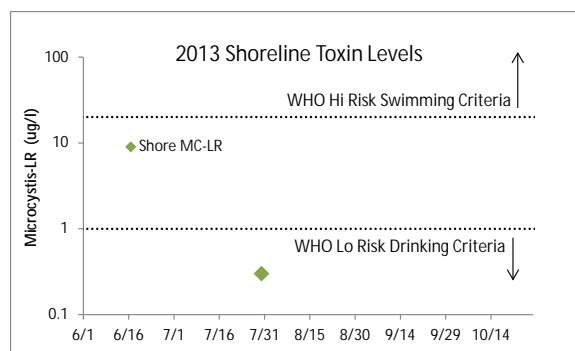


Figure D4:
2013 Shoreline Microcystin-LR

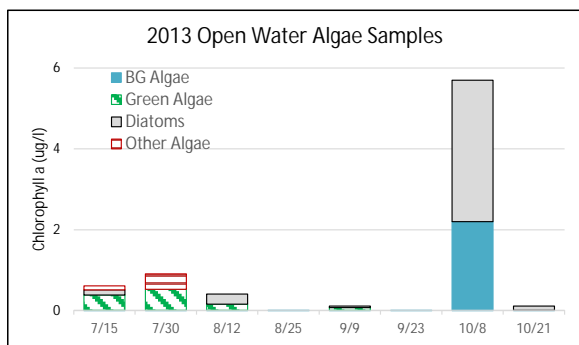


Figure D5:
2013 Open Water Algae Types

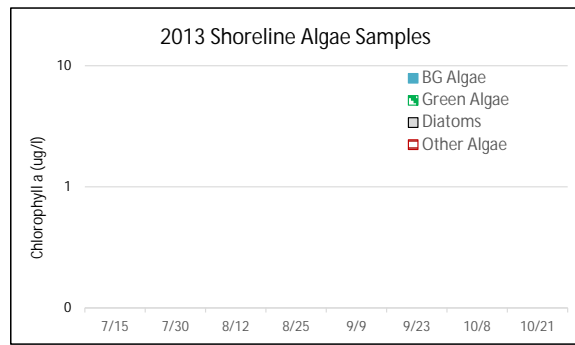


Figure D6:
2013 Shoreline Algae Types

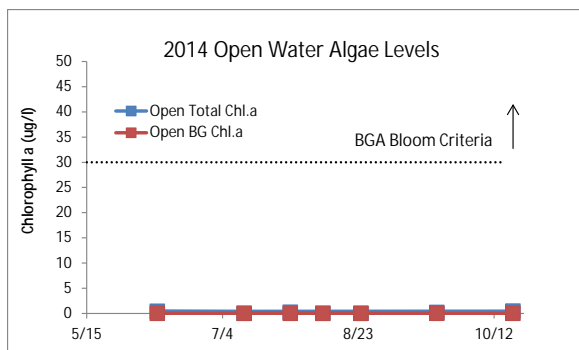


Figure D7:
2014 Open Water Total and BGA Chl.a

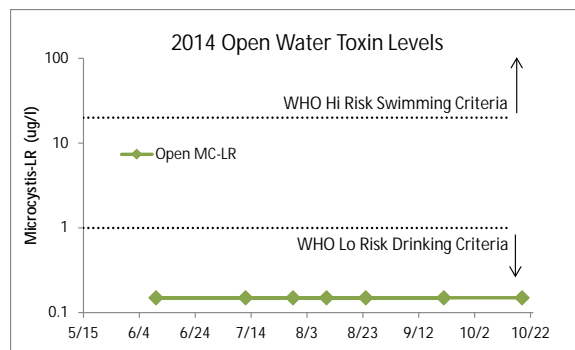


Figure D8:
2014 Open Water Microcystin-LR

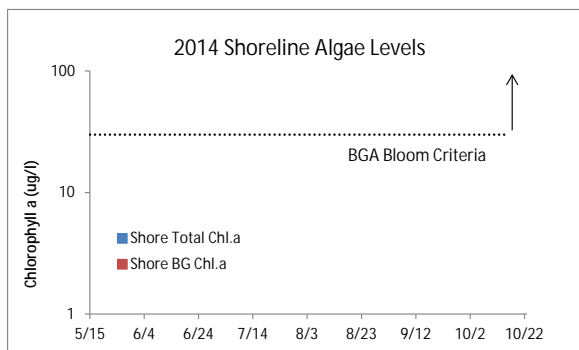


Figure D9:
2014 Shoreline Total and BGA Chl.a

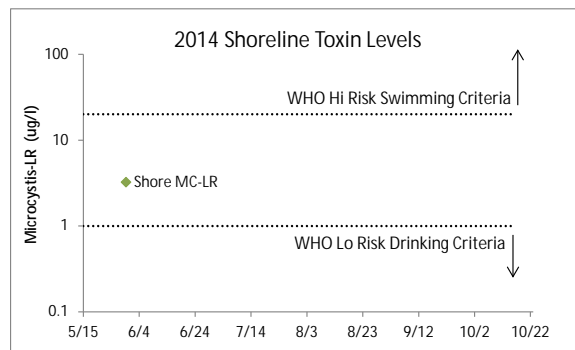


Figure D10:
2014 Shoreline Microcystin-LR

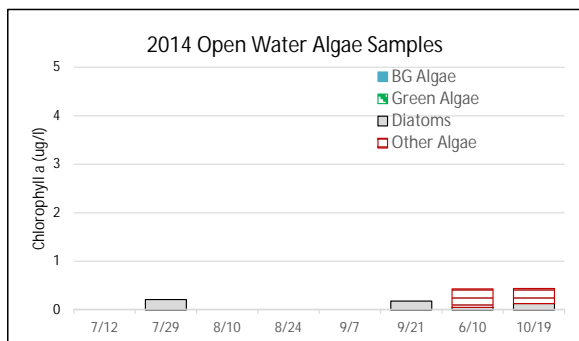


Figure D11:
2014 Open Water Algae Types

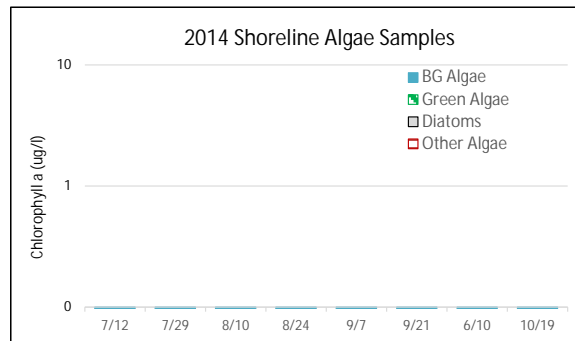


Figure D12:
2014 Shoreline Algae Types

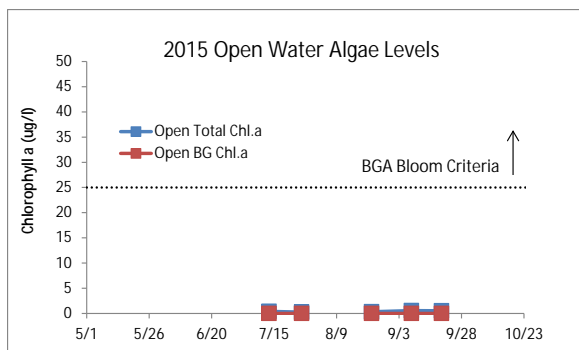


Figure D13:
2015 Open Water Total and BGA Chl.a

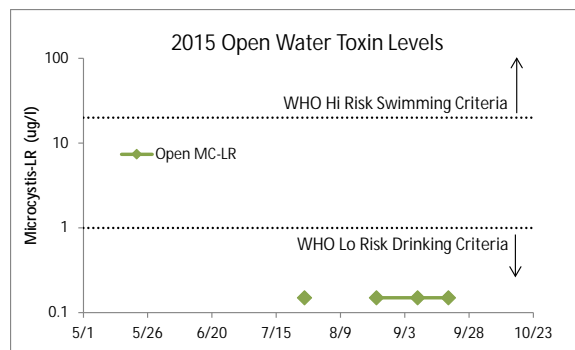


Figure D14:
2015 Open Water Microcystin-LR

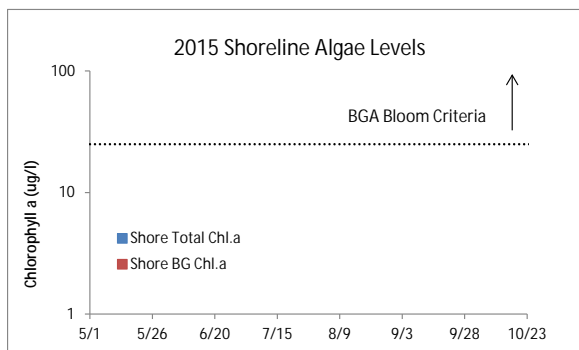


Figure D15:
2015 Shoreline Total and BGA Chl.a

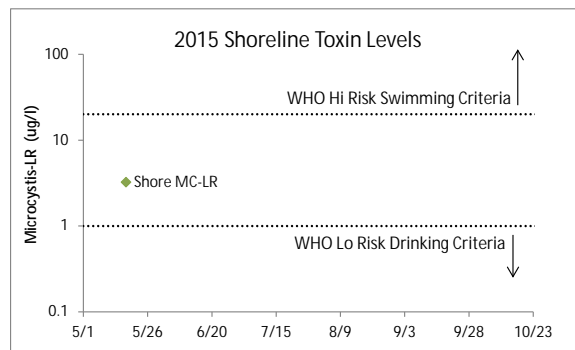


Figure D16:
2015 Shoreline Microcystin-LR

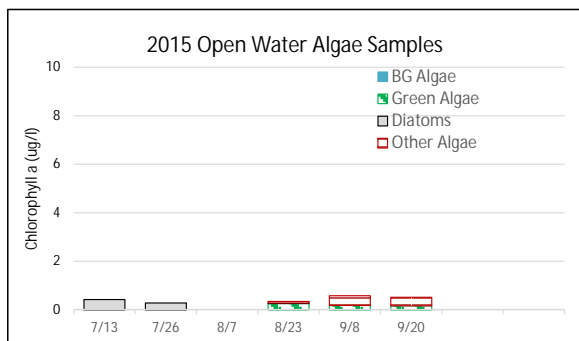


Figure D17:
2015 Open Water Algae Types

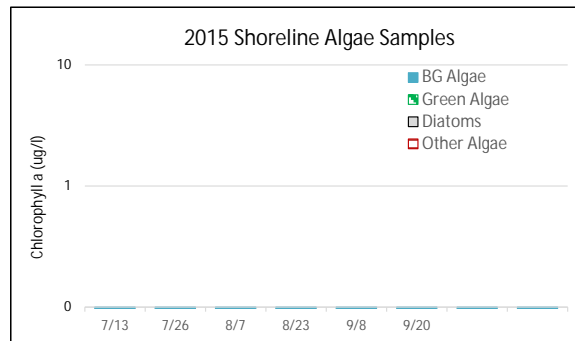


Figure D18:
2015 Shoreline Algae Types

Appendix E: AIS Species in Essex County

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

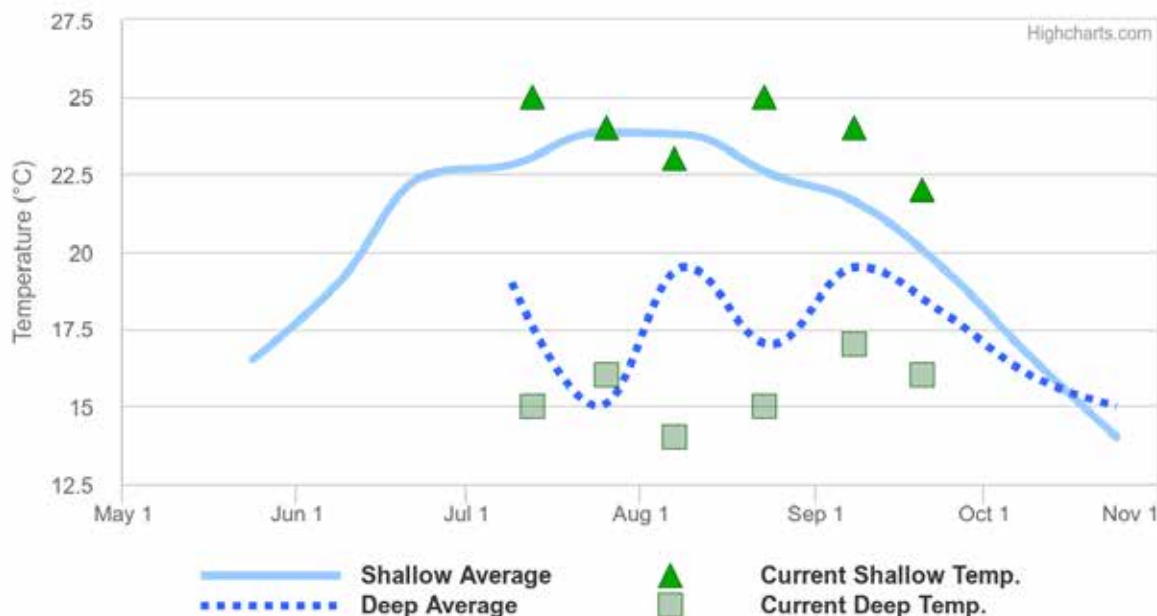
This list is not complete, but instead represents only those species that have been reported and verified within the county. If any additional aquatic invasive species (AIS) are known or suspected in these or other waterbodies in the county, this information should be reported through iMap invasives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

Aquatic Invasive Species – Essex County			
Waterbody	Kingdom	Common name	Scientific name
Augur Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Bartlett Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Butternut Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Chapel Pond	Animal	Allegheny crayfish	<i>Orconectes obscurus</i>
Eagle Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Franklin Falls Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Franklin Falls Pond	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Franklin Falls Pond	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Goodnow Flowage	Plant	Brittle naiad	<i>Najas minor</i>
Highlands Forge Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Lake Champlain	Animal	Spiny waterflea	<i>Bythotrephes longimanus</i>
Lake Champlain	Animal	Zebra mussel	<i>Dreissena polymorpha</i>
Lake Champlain	Plant	Variable watermilfoil	<i>Myriophyllum heterophyllum</i>
Lake Champlain	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Lake Champlain	Plant	Water chestnut	<i>Trapa natans</i>
Lake Eaton	Plant	European frogbit	<i>Hydrocharis morsus-ranae</i>
Lake Flower	Plant	Variable watermilfoil	<i>Myriophyllum heterophyllum</i>
Lake George	Animal	Zebra mussel	<i>Dreissena polymorpha</i>
Lake George	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Lake George	Animal	Virile crayfish	<i>Orconectes virilis</i>
Lake George	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Lake Placid	Plant	Variable watermilfoil	<i>Myriophyllum heterophyllum</i>
Lake Placid	Plant	Variable watermilfoil	<i>Myriophyllum heterophyllum</i>
Lincoln Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>

Waterbody	Kingdom	Common name	Scientific name
Long Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Long Pond	Animal	Allegheny crayfish	<i>Orconectes obscurus</i>
Minerva Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Mirror Lake	Plant	Broadleaf Water-milfoil	<i>Myriophyllum heterophyllum</i>
Mirror Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Nichols Pond	Animal	Allegheny crayfish	<i>Orconectes obscurus</i>
North Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Oseetah Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Paradox Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Paradox Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Paradox Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Penfield Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Putnam Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Rogers Pond	Plant	European frogbit	<i>Hydrocharis morsus-ranae</i>
Schroon Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Schroon Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Schroon Lake	Animal	Rudd	<i>Scardinius erythrophthalmus</i>
Webb Royce Swamp	Plant	European frogbit	<i>Hydrocharis morsus-ranae</i>
Woodruff Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>

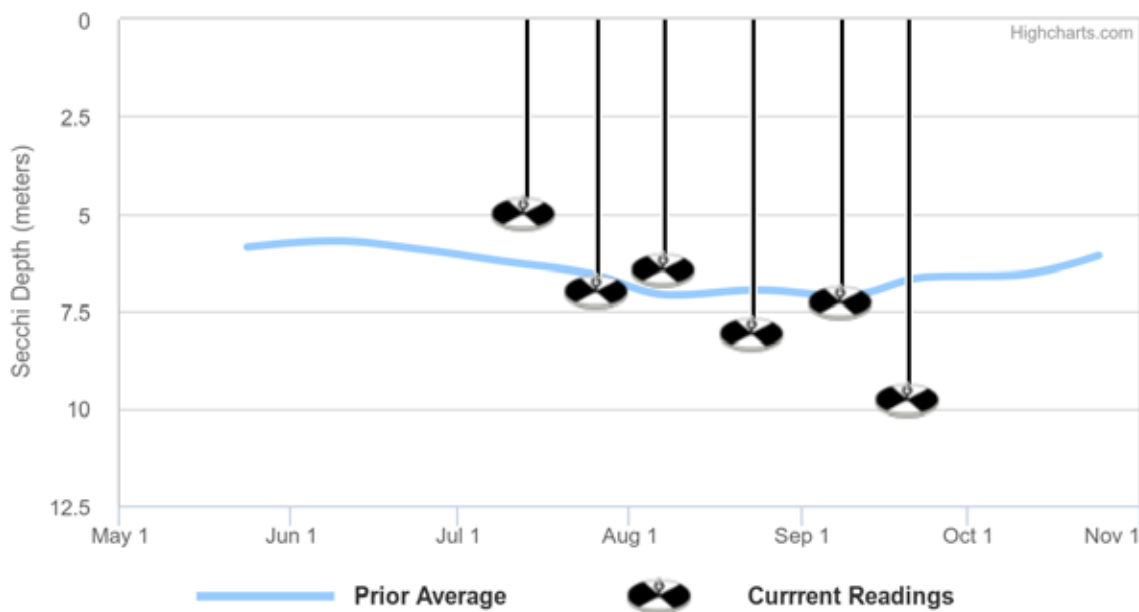
Appendix F: Current Year vs. Prior Averages for Eagle Lake

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 2000 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 2013 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 2000 to 2014

Appendix G: Watershed and Land Use Map for Eagle 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.

