

## Ballston Lake Questions and Answers, 2015 CSLAP

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

A1. Ballston Lake continues to show degrading water quality—although phosphorus levels dropped somewhat in 2015, algae levels were slightly higher than in recent years, and water clarity was lower. Water quality and recreational assessments suffer in response to these changes.

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

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

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

A3. Ballston Lake had lower water clarity, and higher algae and nutrient levels, than other nearby lakes. Aquatic plant coverage is greater than in many of these lakes.

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

A4. Phosphorus readings have increased substantially in the last two decades, triggering less significant (or more variable) increases in algae levels and decreases in water clarity. Recreational assessments have degraded over this period. pH has dropped significantly over this period.

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

A5. The CSLAP data indicates a high (and increasing) susceptibility to excessive weed growth and shoreline algae blooms. Nutrient reduction will be needed to improve lake conditions. .

**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. Additional sources of nutrients would be alleviated by sewerage. 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.

<b>Lake Use</b>				
	PWL	Average Year	2015	Primary issue
<b>Potable Water</b>				Algae levels
<b>Swimming</b>				Excessive nutrients
<b>Recreation</b>				Algae levels
<b>Aquatic Life</b>				Invasive animals
<b>Aesthetics</b>				Poor perception
<b>Habitat</b>				Invasive plants
<b>Fish Consumption</b>				

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

## CSLAP 2015 Lake Water Quality Summary: Ballston Lake

### General Lake Information

<b>Location</b>	Town of Ballston
<b>County</b>	Saratoga
<b>Basin</b>	Upper Hudson River
<b>Size</b>	112.4 hectares (277.6 acres)
<b>Lake Origins</b>	Natural
<b>Watershed Area</b>	2,560 hectares (6,323 acres)
<b>Retention Time</b>	0.8 years
<b>Mean Depth</b>	6.8 meters
<b>Sounding Depth</b>	36 meters
<b>Public Access?</b>	hand launch
<b>Major Tributaries</b>	Ballston Creek
<b>Lake Tributary To...</b>	Ballston Creek to Round Lake to Anthony Kill to Hudson River
<b>WQ Classification</b>	A (potable water)
<b>Lake Outlet Latitude</b>	42.957
<b>Lake Outlet Longitude</b>	-73.849
<b>Sampling Years</b>	1991-2015
<b>2015 Samplers</b>	Peter Herman (both sites)
<b>Main Contact</b>	Peter Herman

### Lake Map



## **Background**

Ballston Lake is a 278 acre, class A lake found in the Town of Ballston in Saratoga County, in the Capital District area of New York State. The lake was first sampled as part of CSLAP in 1991.

It is one of seven CSLAP lakes among the more than 380 lakes and ponds found in Saratoga County, and one of 32 CSLAP lakes among the more than 1370 lakes and ponds in the Upper Hudson River drainage basin.

## **Lake Uses**

Ballston Lake 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 visitors for swimming, boating and angling. There is limited public access to the lake via a hand launch and fishing dock.

It is not known if Ballston Lake is stocked privately; the state does not stock the lake. General statewide fishing regulations are applicable in Ballston Lake. In addition, open season on pickerel is the first Saturday May through March 15<sup>th</sup>, with no minimum length and a daily take limit of five. Open season on trout (if they exist in the lake) is April 1<sup>st</sup> through October 15<sup>th</sup>, with no minimum length and a daily take limit of five with five brook trout less than eight inches.

Fish species on the lake include black crappie, bluegill, brown bullhead, carp, largemouth bass, longear sunfish, northern pike, pumpkinseed sunfish, redbfin pickerel, rock bass, smallmouth bass, and walleye.

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

## **Historical Water Quality Data**

CSLAP sampling was conducted on Ballston Lake from 1991 to 2015. The CSLAP reports for each of the past several years can be found on the NYSFOLA website at <http://nysfola.mylaketown.com>. The most recent CSLAP report for Ballston Lake can also be found on the NYSDEC web page at <http://www.dec.ny.gov/lands/77843.html>

Ballston Lake was sampled as part of several previous New York State water quality monitoring programs, primarily by the NYSDEC Divisions of Water and Fish and Wildlife in the 1970s. Most of these monitoring programs focused on water quality evaluations related to fisheries management. The lake was also sampled as part of the Eastern Lakes Survey (ELS) conducted by the USEPA in 1984. These data cannot be easily compared to that collected in other monitoring programs, since the focus of the ELS involved fall monitoring (only).

Perhaps the most comprehensive monitoring program on Ballston Lake, at least prior to CSLAP, was the NYS Conservation Department (the predecessor to the NYSDEC) biological survey of the Mohawk River basin in 1934. The biological surveys collected information about the physical, chemical, and biological characteristics of Ballston Lake and its immediate watershed.

The Ballston Lake summary included the following information:

*"Ballston Lake is long, narrow and crooked enough to give on the impression of being on a river. A large part of its 275 acres is 30 feet deep or less. At the southern extremity is an extremely small area with a depth of 116 ft. Those portions of the lake waters which are suitable for fish are restricted to the shore regions and the upper 15 to 20 ft. in the deeper areas. Everywhere else the oxygen is scarce or entirely absent. The bottom waters in the deepest portion are as brown as any taken from a sphagnum bog. This condition reaches its maximum in the deep hole where the samples taken below the 80 ft. level were too dark in color and contained too much organic matter to permit analysis. Vegetation is abundant in the shallow portions of the lake."*

Most of the water quality parameters measured through CSLAP were not analyzed in the biological survey. However, it does appear that the data from the Biological Survey and most of these monitoring programs that water quality conditions in the 1970s and perhaps the 1980s was comparable to that measured through CSLAP from 1991 onward, and that many of the lake problems occurring in Ballston Lake today, including hypolimnetic oxygen depletion, also occurred in at least the 1930s.

The lake has been extensively studied by Union College, but these data have not been provided to the NYSDEC Division of Water for review in this report.

Neither Ballston Creek nor the 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**

Ballston Lake is served by the Ballston Lake Improvement Association. Some background information from the lake is as follows:

- Capital District Regional Planning Commission developed a watershed management plan for the lake.
- Union College has studied wetlands at south end of lake, performed sediment stratigraphy to evaluate lake history, and conducted other water quality studies of the lake and watershed.
- The lake association has conducted a boat survey, aquatic plant surveys, and actively clears outlet channel by hand.
- 70% of the lake residents use lake water for drinking
- The lake association works with towns of Clifton Park and Ballston to protect lake via zoning regulations
- The local community is actively engaged in conversations about sewerage the perimeter of the lake

More details about these activities are discussed at [http://www.cdrpc.org/Reports/Ballston\\_Lake\\_Watershed\\_Study.pdf](http://www.cdrpc.org/Reports/Ballston_Lake_Watershed_Study.pdf).

## **Summary of 2015 CSLAP Sampling Results**

### **Evaluation of 2015 Annual and Monthly 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 – Ballston Lake” section in Appendix C.

### **Evaluation of Eutrophication Indicators**

Total phosphorus readings have increased significantly in Ballston Lake over the last two decades. This has resulted in an increase in algae levels (as measured by chlorophyll *a*), although these readings do vary somewhat from year to year. The increase in algae levels has further resulted in a decrease in water clarity over the same timeframe, although this change has not been as statistically robust as the increase in nutrient and algae levels. In 2015, phosphorus readings were lower than in recent years, but still high enough to trigger excessive algae growth. Water clarity was lower than usual, despite algae levels that were close to the long-term average for the lake.

Shoreline blue green blooms were not reported in the open water or along the shoreline, perhaps coincident with lower nutrient levels, although open water algae levels approached “bloom” quantities in mid-summer. It is highly likely that water clarity readings will remain low and the likelihood of open water and shoreline algae blooms will remain high until phosphorus levels in the lake decrease.

Lake productivity is slightly higher in the shallow water (widewater) site than in the deep (narrow) site, based on higher nutrient and algae levels and lower water clarity. It is likely that the same long-term trends in lake productivity have occurred at both sites, although the shallow site has only been monitored in recent years.

Water clarity generally decreases slightly, but sporadically, in early summer, consistent with increasing algae levels in early summer, although nutrient (phosphorus) levels decrease from May through July. Phosphorus levels increase in late summer, perhaps due to migration of nutrients from (highly enriched) deeper waters to the surface, although no clear changes are apparent in water clarity or algae levels over this period. In 2015, phosphorus readings decreased in late summer, despite relatively stable water clarity and highly variable algae levels in the summer of 2015.

The lake can now be characterized as *eutrophic*, or highly productive, based on water clarity, chlorophyll *a*, and total phosphorus readings (all typical of *eutrophic* lakes), although water clarity readings used to be more typical of *mesotrophic*, or moderately productive lakes. The trophic state index (TSI) evaluation suggests that algae levels are at times somewhat higher than expected given the nutrient and water clarity readings, indicating patchy algae growth. Overall trophic conditions are summarized on the Lake Scorecard and Lake Condition Summary Table.

## **Evaluation of Potable Water Indicators**

Algae levels are high enough to render the lake susceptible to taste and odor compounds or elevated DBP (disinfection by product) compounds that could affect the potability of the water at both the deepwater and widewater sites, but it is not known if this occurs. This has not (yet) translated into open water algal toxin levels indicating a threat to potable water use.

Hypolimnetic phosphorus and ammonia readings are substantially higher than those measured at the lake surface, and suggest that deepwater intakes may be highly compromised for any potable water use, at least near the extreme deep hole of the lake. 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 readings have decreased significantly since the early 1990s- it is not known if this has resulted in any ecological impacts to the lake, or if this is connected to the steady increase in phosphorus over the same period. Conductivity readings were slightly higher than normal in 2014 and 2015, and these readings have risen over most of the last decade (perhaps indicating increasing watershed runoff). NOx readings were slightly lower than normal in 2014 and 2015, and these readings have decreased since the early 2000s. It is likely that the small changes in each of the other limnological indicators have been within the normal range of variability in the lake.

Chloride levels in the 2015 samples, collected for the first time through CSLAP and cited in Appendix A, ranged from 20 to 66 mg/l. These values fall within the “moderate” road salt runoff levels cited by the New Hampshire DES. These readings are well below the state potable water quality standard of 250 mg/l but within the range of values found in most NYS lakes. Additional data will help to determine if these represent normal readings for the lake.

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

## **Evaluation of Biological Condition**

The fluoroprobe screening conducted by SUNY ESF in the last several years indicates that the algal community is often dominated by blue green algae. Very high total and blue green algae levels were apparent in late summer of 2013 and mid-summer of 2014, with some readings exceeding the DEC “bloom” criteria. Shoreline blooms were also apparent in mid-summer of 2014. However, in 2015, total and blue green algae levels were just below the open water bloom criteria, and no shoreline blooms were sampled (although it is not known if these were present but not reported).

Macrophyte surveys have been conducted through CSLAP and by the lake association in Ballston Lake. At least 10 aquatic plant species have been found in the lake, including at least two exotic plant species (*Myriophyllum spicatum*, Eurasian watermilfoil, and *Trapa natans*, water chestnut) have been found in the lake. The modified floristic quality index (FQI) for the lake indicates that the quality of the aquatic plant community is “fair.”

The single 1992 zooplankton sample found a predominance of rotifers, which might have led to the lower than expected algal biomass. It is not known if rotifers normally dominate the zooplankton community.

The composition of the fish community includes a mix of coolwater (at least four species) and warmwater (at least nine warm species) fish species. It is likely that the lake supports a warmwater fishery.

The samples from the 2009 macroinvertebrate survey of the lake will be analyzed as part of a new SUNY ESF-DEC project.

### **Evaluation of Lake Perception**

Recreational and water quality assessments have degraded over the last decade, consistent with a long-term increase in lake productivity. These assessments were close to the long-term average for the lake in 2015, although this reflects a less favorable 'baseline'. Aquatic plant coverage, at least as measurable through CSLAP, has not varied significantly, although the relative abundance of invasive or native plants may change from year to year.

Lake perception usually does not vary in a consistent manner over the course of a typical summer; no clear seasonal changes were apparent in the last several year, including 2015. Overall lake perception is summarized on the Lake Scorecard and Lake Condition Summary Table.

### **Evaluation of Local Climate Change**

Water temperature readings in the summer index period were higher than normal in 2015, and these readings have increased slightly over the last 25 years. It is not known if this is an indication of local climate change or if these changes can be well evaluated through CSLAP.

### **Evaluation of Algal Toxins**

Algal toxin levels can vary significantly within blooms and from shoreline to lake, and the absence of toxins in a sample does not indicate safe swimming conditions. Fluoroprobe readings at times exceed the threshold for harmful algal blooms (HABs) in open water, and are extremely high in some shoreline bloom samples. It is not known if shoreline blooms are persistent or if shoreline algae levels are similar to those measured in the center of the lake. An analysis of algae samples show microcystin readings below the levels needed to support safe swimming in both open water and bloom samples, although lake residents, visitors and their pets are still advised to avoid contact with visible algal blooms.

## Lake Condition Summary (primary site)

Category	Indicator	Min	Overall Avg	Max	2015 Avg	Classification	2015 Change?	Long-term Change?
Eutrophication Indicators	Water Clarity	0.70	1.99	3.60	1.83	Eutrophic	Within Normal Range	No Change
	Chlorophyll <i>a</i>	0.36	19.34	312.20	20.91	Eutrophic	Within Normal Range	Increasing Slightly
	Total Phosphorus	0.013	0.031	0.073	0.026	Eutrophic	Within Normal Range	Increasing Significantly
Potable Water Indicators	Hypolimnetic Ammonia							Not known
	Hypolimnetic Arsenic							Not known
	Hypolimnetic Iron							Not known
	Hypolimnetic Manganese							Not known
Limnological Indicators	Hypolimnetic Phosphorus							Not known
	Nitrate + Nitrite	0.00	0.02	0.16	0.01	Low NOx	Lower Than Normal	No Change
	Ammonia	0.01	0.04	0.24	0.04	Low Ammonia	Within Normal Range	No Change
	Total Nitrogen	0.12	0.64	1.31	0.57	Intermediate Total Nitrogen	Within Normal Range	No Change
	pH	6.62	7.76	8.63	7.55	Alkaline	Within Normal Range	Decreasing Significantly
	Specific Conductance	174	325	427	416	Hardwater	Higher than Normal	No Change
	True Color	10	24	57	16	Intermediate Color	Lower Than Normal	No Change
	Calcium	15.2	28.2	41.4	19.4	Highly Susceptible to Zebra Mussels	Within Normal Range	No Change
Lake Perception	WQ Assessment	2	2.6	4	2.5	Definite Algal Greenness	Within Normal Range	No Change
	Aquatic Plant Coverage	3	3.0	4	3.0	Surface Plant Growth	Within Normal Range	No Change
	Recreational Assessment	1	2.5	4	2.5	Excellent	Within Normal Range	Highly Degrading
Biological Condition	Phytoplankton					Open water-high blue green algae biomass	Not known	Not known
	Macrophytes					Poor quality of the aquatic plant community	Not known	Not known
	Zooplankton					1992 sample mostly rotifers	Not known	Not known
	Macroinvertebrates					2009 data not yet analyzed	Not known	Not known
	Fish					Warmwater fishery	Not known	Not known
	Invasive Species					Zebra mussels, Eurasian watermilfoil, Water chestnut	Not known	Not known
Local Climate Change	Air Temperature	10	23.9	41	27.4		Higher Than Normal	No Change
	Water Temperature	14	23.2	29	24.4		Higher Than Normal	No Change

Category	Indicator	Min	Overall Avg	Max	2015 Avg	Classification	2015 Change?	Long-term Change?
Harmful Algal Blooms	Open Water Phycocyanin	1	94	385	41	Some readings indicate high risk of BGA	Not known	Not known
	Open Water FP Chl.a	4	15	57	10	Some readings indicate high algae levels	Not known	Not known
	Open Water FP BG Chl.a	0	11	53	6	Some 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	1.0	<DL	Open water Anatoxin-a at times detectable	Not known	Not known
	Shoreline Phycocyanin	6268	82674	159080		All readings indicate high risk of BGA	Not known	Not known
	Screening FP Chl.a	20.3	308.8	597.3		Most readings indicate high algae levels	Not known	Not known
	Screening FP BG Chl.a	20.3	308.8	597.3		All readings indicate high BGA levels	Not known	Not known
	Shoreline Microcystis	<DL	1.4	4.0		At times measurable shoreline bloom MC-LR	Not known	Not known
	Shoreline Anatoxin a	<DL	<DL	<DL		Shoreline bloom Anatoxin-a not detectable	Not known	Not known

## Evaluation of Lake Condition Impacts to Lake Uses

Ballston Lake is presently among the lakes cited on the 2007 NYSDEC Priority Waterbody Listings (PWL) for the Upper Hudson River drainage basin, which indicated that *public bathing and recreation are stressed*, and *water supply is threatened by excessive algae and nutrients*. However, the lake was cited on the 2012 federal 303d list as *impaired* due to phosphorus. The PWL listing for Ballston Lake is listed in Appendix B.

### Potable Water (Drinking Water)

The CSLAP dataset at Ballston Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, may not be adequate to evaluate the use of the lake for potable water, but the limited CSLAP data indicate that surface intakes may be *stressed* by excessive algae and deepwater intakes may be *impaired* by deepwater anoxia (leading to highly elevated deepwater ammonia and phosphorus readings).

### Public Bathing

The CSLAP dataset at Ballston Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggests that public bathing, if conducted at a public swimming beach, may be *threatened* by excessive algae and nutrients, and by algal blooms, 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 Ballston Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggest that recreation is *impaired* by excessive algae and nutrients and by periodic shoreline blue green algae blooms.

### Aquatic Life

The CSLAP dataset on Ballston Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggest that aquatic life may be *threatened* by deepwater anoxia, by the presence of zebra mussels, and by road salt runoff, although additional data are needed to evaluate the food and habitat conditions for aquatic organisms in the lake.

### **Aesthetics and Habitat**

The CSLAP dataset on Ballston Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggest that aesthetics may be *poor* due to poor recreational perception associated with excessive algae (blooms) and weeds, although these impacts may vary from year to year and may occur only in areas with blooms or weed beds. Habitat may be only *fair* due to invasive weeds.

### **Fish Consumption**

There are no fish consumption advisories posted for Ballston Lake.

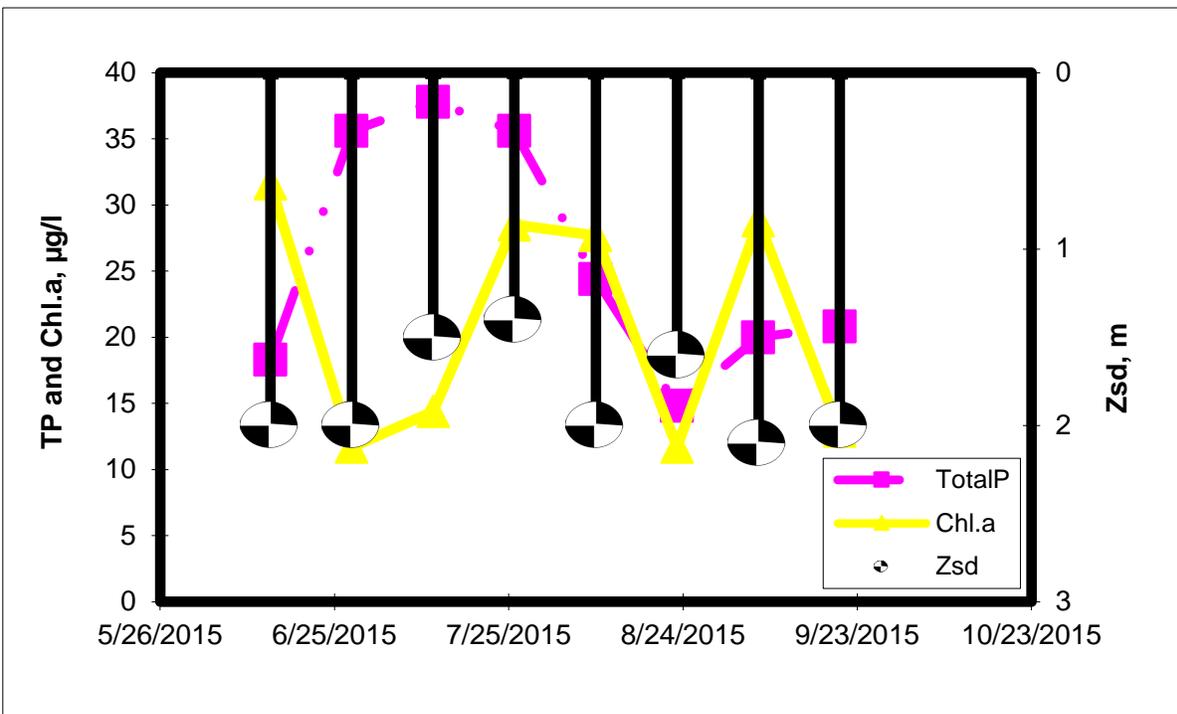
### **Additional Comments and Recommendations**

The lake community should continue to work toward an improved understanding and management of nutrient sources to the lake. Nutrient control measures are expected to result in reduction of overall algae levels and the frequency of shoreline blooms, and an increase in water clarity. Lake residents are advised to report and avoid exposure to any surface scums or discolored water often associated with blue green algae blooms.

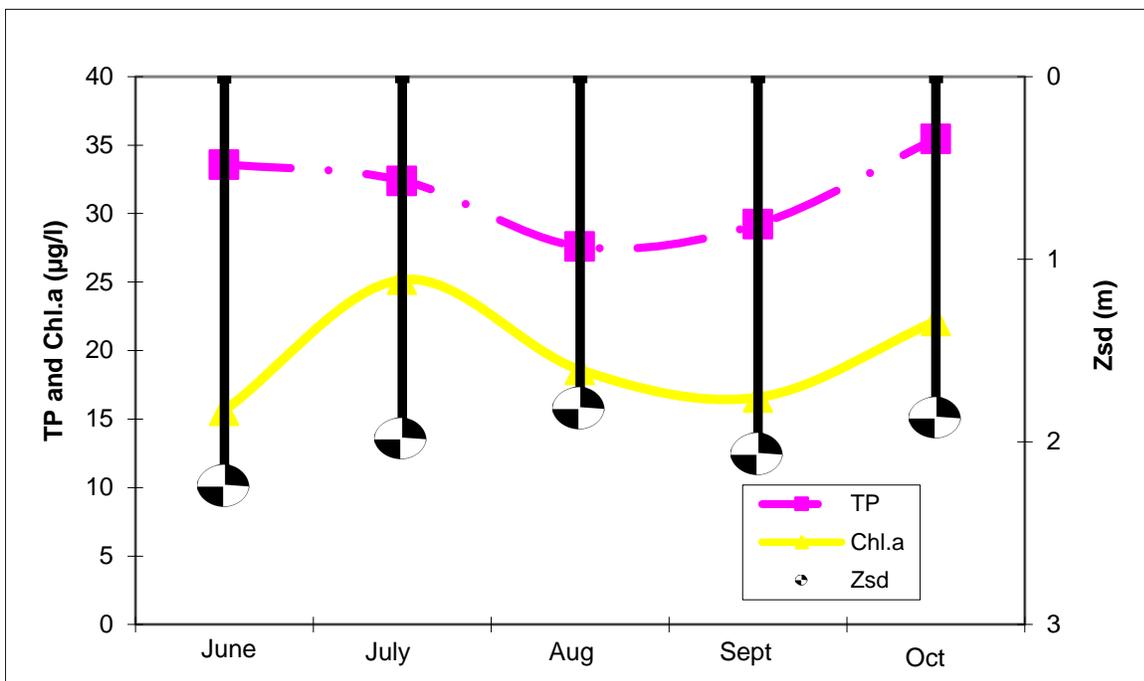
### **Aquatic Plant IDs-2015**

None submitted for identification in 2015.

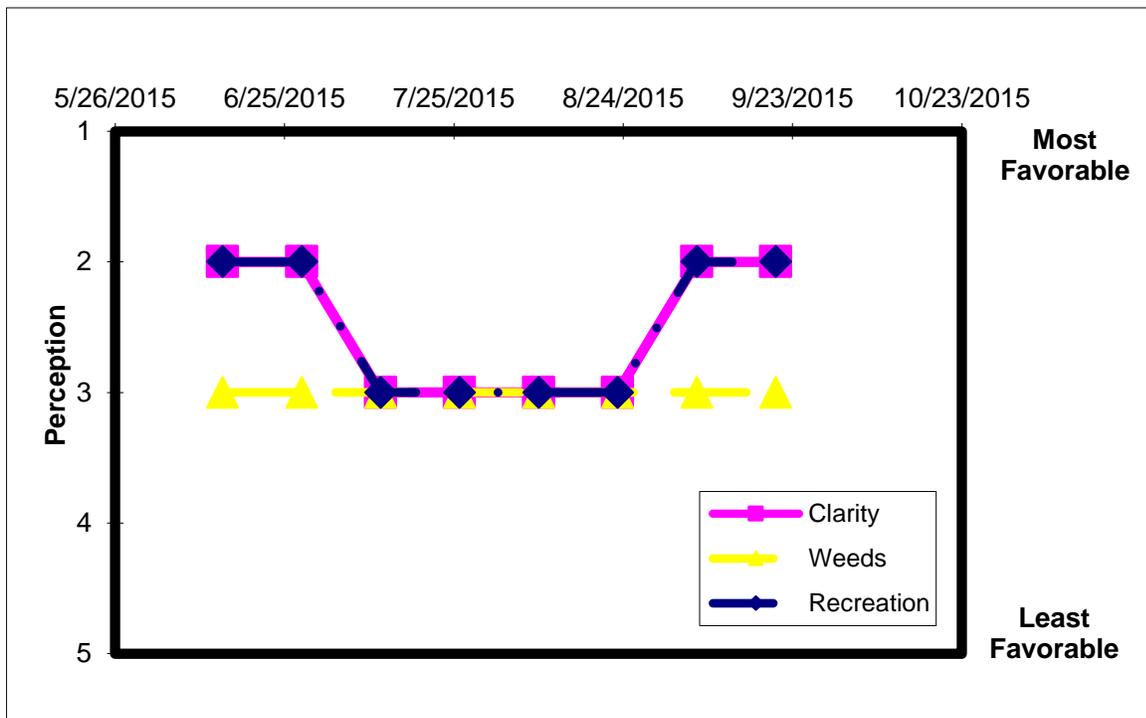
### Time Series: Trophic Indicators, 2015 (primary site)



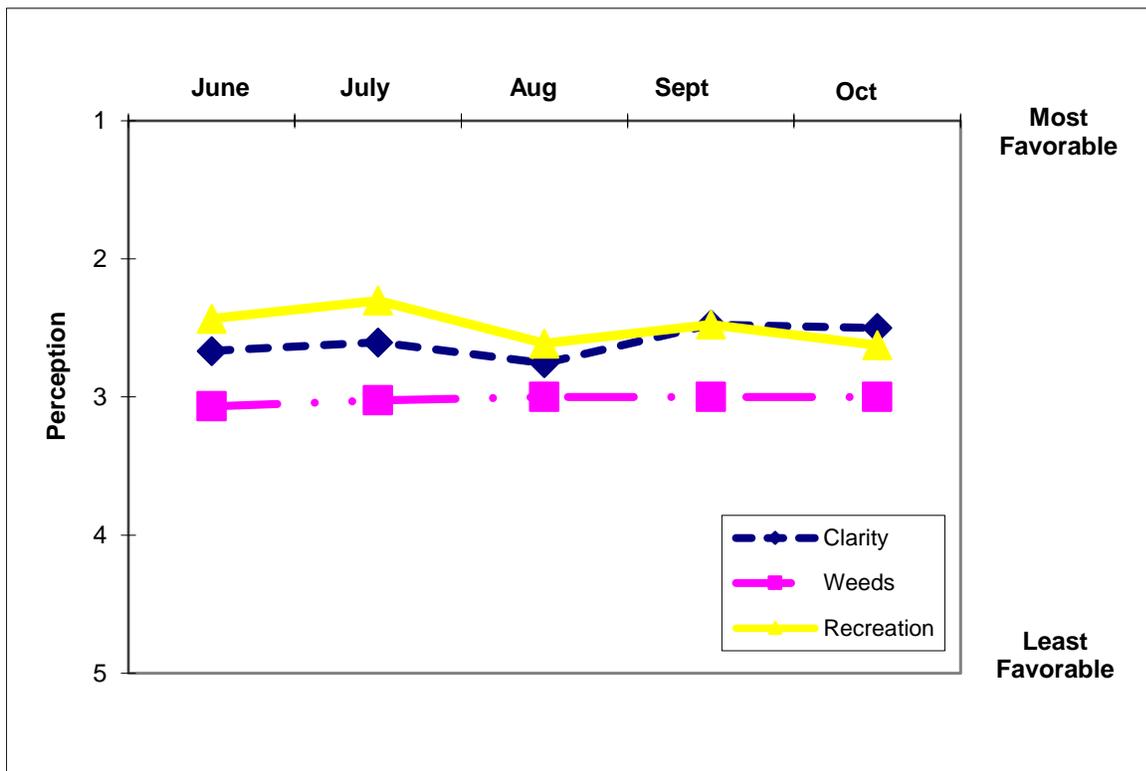
### Time Series: Trophic Indicators, Typical Year (1991-2015)- primary site



### Time Series: Lake Perception Indicators, 2015- primary site



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



## Appendix A- CSLAP Water Quality Sampling Results for Ballston Lake

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
77	Ballston L	6/12/1991	30.0	1.85	1.5	0.038	0.01				19	8.09	292		17.70	
77	Ballston L	6/30/1991	33.5	2.05	1.5	0.020	0.01				19	8.32	291		4.56	
77	Ballston L	7/15/1991	33.5	2.45	1.5	0.021	0.01				19	8.26	283		5.95	
77	Ballston L	7/28/1991	33.5	2.00	1.5	0.016	0.01					8.17	294		8.74	
77	Ballston L	8/11/1991	33.0	2.00	1.5	0.022	0.01					8.34	293		12.60	
77	Ballston L	8/25/1991	34.8	1.71	1.5	0.022	0.01					8.34	300		16.60	
77	Ballston L	9/8/1991	33.5	1.80	1.5	0.016	0.01					8.39	301		15.50	
77	Ballston L	9/22/1991	34.8	2.19	1.5	0.023	0.01					8.22	293		20.70	
77	Ballston L	6/7/1992	34.0	1.63	1.5	0.060	0.01				28	8.17	242		17.20	
77	Ballston L	6/21/1992	28.1	1.88	1.5	0.034					28	7.95	323		11.90	
77	Ballston L	7/5/1992	28.0	2.25	1.5	0.025	0.01				25	8.27	329		11.70	
77	Ballston L	7/19/1992	30.0	1.63	1.5	0.034					26	8.17	330		15.30	
77	Ballston L	8/2/1992	33.0	1.85	1.5	0.021	0.01				19	8.23	312		8.42	
77	Ballston L	8/16/1992	27.7	2.50	1.5	0.017					21	8.03	326		13.10	
77	Ballston L	8/30/1992	31.5	2.10	1.5	0.020	0.01				18	8.25	318		11.00	
77	Ballston L	9/13/1992	28.9	2.10	1.5	0.023					21	8.23	331		12.80	
77	Ballston L	6/6/1993	33.0	2.60	1.5	0.027	0.02				17	7.99	294		12.76	
77	Ballston L	6/20/1993	33.0	2.30	1.5	0.019					17	7.81	308		13.60	
77	Ballston L	7/4/1993	35.0	2.60	1.5	0.023	0.02				17	8.11	308		4.24	
77	Ballston L	7/18/1993	35.0	2.95	1.5	0.016					13	8.21	312		4.68	
77	Ballston L	8/1/1993	32.9	2.30	1.5	0.020	0.01				13	8.02	313		8.68	
77	Ballston L	8/14/1993	33.0	2.75	1.5	0.017					17	8.23	313		9.62	
77	Ballston L	8/29/1993	33.0	2.87	1.5	0.018	0.01				13	8.22	311		6.54	
77	Ballston L	9/12/1993	33.0	2.66	1.5	0.021					16	8.34	315		12.60	
77	Ballston L	6/12/1994	33.0	2.28	1.5	0.024	0.01				18	8.11	303		10.70	
77	Ballston L	6/26/1994	33.0	3.00	1.5	0.032					18	8.46	209		6.27	
77	Ballston L	7/10/1994	33.0	1.75	1.5	0.022	0.01				17	7.92	304		13.60	
77	Ballston L	7/24/1994	33.0	2.67	1.5	0.023					18	8.04	314		4.97	
77	Ballston L	8/7/1994	33.0	2.30	1.5	0.022	0.01				27	8.46	217		16.20	
77	Ballston L	8/21/1994	33.0	1.75	1.5	0.013					28	8.10	311		13.80	
77	Ballston L	9/4/1994	33.0	3.25	1.5	0.023	0.01				29	8.08	312		9.92	
77	Ballston L	9/18/1994	33.0	2.66	1.5	0.022					25	8.24	294		10.20	
77	Ballston L	6/25/1995	33.0	2.90	1.5	0.024	0.01				15	7.67	363		10.10	
77	Ballston L	7/9/1995	33.0	2.60	1.5	0.023	0.01				15	7.98	365		8.70	
77	Ballston L	7/24/1995	33.0	2.60	1.5	0.020	0.01					8.14	360		12.50	
77	Ballston L	8/6/1995	33.0	2.50	1.5	0.026	0.01				15	8.36	368		18.00	
77	Ballston L	8/20/1995	33.0	2.00	1.5	0.020					10	8.21	368		7.27	
77	Ballston L	9/3/1995	33.0	2.50	1.5	0.017					15	8.02	372		6.81	
77	Ballston L	9/17/1995	33.0	2.50	1.5	0.020					15	8.02	373		12.20	
77	Ballston L	10/7/1995	30.0	1.50	1.5	0.028					10	8.18	376		35.60	
77	Ballston L	6/16/1996	30.0	1.75	1.5	0.031					30	7.94	313		25.00	
77	Ballston L	6/30/1996	31.0	2.30	1.5	0.035					30	7.88	334		32.00	
77	Ballston L	7/14/1996	33.0	1.75	1.5	0.039					25	7.81	312		22.40	
77	Ballston L	7/28/1996	33.0	1.90	1.5	0.040					35	7.70	297		29.00	
77	Ballston L	8/11/1996	33.0	2.60	1.5	0.025					30	8.01	316		11.50	
77	Ballston L	8/25/1996	33.0	1.90	1.5	0.023					30	7.77	314		9.60	
77	Ballston L	9/9/1996	33.0	2.10	1.5	0.018					30	8.11	312		19.70	
77	Ballston L	9/21/1996	33.0	2.00	1.5	0.022					35	7.71	319		23.50	
77	Ballston L	7/27/1997	33.0	2.35	1.5	0.026					20	8.04	331		9.12	
77	Ballston L	8/10/1997	33.0	1.65	1.5	0.021					15	8.21	333		15.00	
77	Ballston L	8/24/1997	33.0	2.35	1.5	0.018					14	7.95	340		19.80	
77	Ballston L	9/7/1997	33.0	2.60	1.5	0.024					15	8.08	335		13.00	
77	Ballston L	7/19/1998	33.0	2.65	1.5	0.026					23	8.03	330		11.60	
77	Ballston L	8/9/1998	33.0	1.70	1.5	0.020					18	8.15	324		13.50	
77	Ballston L	8/23/1998	33.0	1.70	1.5	0.020					19	8.08	326		11.60	
77	Ballston L	9/6/1998	33.0	2.50	1.5	0.021					21	7.96	332		8.74	
77	Ballston L	7/26/1999	33.0	1.95	1.5	0.023	0.01				17	7.76	359		11.40	
77	Ballston L	8/9/1999	33.0	1.60	1.5	0.028	0.01				10	8.15	364		22.60	
77	Ballston L	8/29/1999	33.0	1.65	1.5	0.019	0.01				16	8.02	346		18.00	
77	Ballston L	9/12/1999	33.0	2.15	1.5	0.018	0.01				17	7.42	368		12.80	
77	Ballston L	7/23/2000	33.0	1.65	1.5	0.036	0.01				29	6.97	319		26.80	
77	Ballston L	8/6/2000	33.0	1.65	1.5		0.01				24	7.74	329		23.50	
77	Ballston L	8/19/2000	33.0	1.60	1.5		0.01				32	8.04	311		26.00	

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
77	Ballston L	9/4/2000	33.0	1.20	1.5		0.01				31	7.40	327		18.00	
77	Ballston L	6/24/2001	33.0	2.33	1.5	0.025	0.01				17	7.77	350		21.80	
77	Ballston L	7/8/2001	33.0	1.30	1.5	0.028	0.01				22	7.73	343		35.60	
77	Ballston L	7/23/2001	33.0	1.28	1.5	0.030	0.01				17	8.37	349		35.20	
77	Ballston L	8/6/2001	33.0	1.75	1.5	0.024	0.01				15	8.09	356		12.80	
77	Ballston L	8/20/2001	33.0	1.80	1.5	0.021					16	7.92	349		16.40	
77	Ballston L	9/4/2001	33.0	1.50	1.5	0.021					15	8.13	348		24.20	
77	Ballston L	9/17/2001	33.0	1.40	1.5	0.022					15	8.03	347		21.00	
77	Ballston L	10/1/2001	33.0	1.50	1.5	0.023					15	7.62	349		24.40	
77	Ballston L	06/10/02	33.0	1.60	1.5	0.036	0.01	0.04	0.56	15.33	11	7.77	340		5.00	
77	Ballston L	06/24/02	33.0	1.90	1.5	0.040	0.00	0.03	0.72	18.15	23	8.43	349		32.33	
77	Ballston L	07/08/02	33.0	1.15	1.5	0.026	0.00	0.04	0.61	23.31	24	7.23	336		10.06	
77	Ballston L	07/23/02	33.0	1.40	1.5	0.025	0.00	0.03	0.58	23.69	18	8.63	333	15.2	16.46	
77	Ballston L	08/04/02	33.0	1.30	1.5	0.025			0.56	22.55	24	7.91	339			
77	Ballston L	08/26/02	33.0	1.40	1.5	0.029	0.01	0.03	0.58	19.89	16	8.06	346		11.40	
77	Ballston L	09/09/02	33.0	2.05	1.5	0.038	0.01	0.08	0.68	17.95	21	7.72	359		12.55	
77	Ballston L	09/30/02	33.0	2.85	1.5	0.048	0.05	0.24	0.80	16.51	33	7.64	378		4.24	
77	Ballston L	10/18/02	33.0	2.50	1.5											
77	Ballston L	6/10/2003	33.0	3.15	1.5	0.020	0.01	0.03	0.46	22.55	26	7.65	384	32.0	3.74	
77	Ballston L	6/24/2003	33.0	2.60	1.5	0.024	0.00	0.01	0.37	15.60	25	7.60	373		13.70	
77	Ballston L	7/8/2003	33.0	2.60	1.5	0.029	0.00	0.03	0.52	18.11	16	8.06	384		15.81	
77	Ballston L	7/22/2003	33.0	2.70	1.5	0.020	0.00	0.02	0.67	33.42	13	7.87	376		11.97	
77	Ballston L	8/5/2003	33.0	1.60	1.5	0.018	0.16	0.01	0.33	18.75	15	8.13	373	30.0	21.52	
77	Ballston L	8/19/2003	33.0	1.40	1.5	0.036		0.02	0.60	16.45	29	7.80	360		24.00	
77	Ballston L	9/1/2003	33.0	1.40	1.5	0.027		0.07	0.52	19.23	25	7.61	367		21.74	
77	Ballston L	9/16/2003	33.0	1.60	1.5	0.016	0.00	0.02	0.37	23.54	25	7.68	368		12.35	
77	Ballston L	6/21/2004	33.0	2.00	1.5	0.031	0.02	0.03	0.45	14.36	28	6.69	343	41.4	0.36	
77	Ballston L	7/5/2004	33.0	2.00	1.5	0.028	0.01	0.02	0.12	4.19	23	6.77	377		5.00	
77	Ballston L	7/19/2004	33.0	1.40	1.5	0.036	0.03	0.13	1.31	36.58	26	7.18	356		13.10	
77	Ballston L	8/2/2004	33.0	1.80	1.5	0.038	0.02	0.02	0.13	3.30	52	7.74	307		19.60	
77	Ballston L	8/17/2004	33.0	1.30	1.5	0.043	0.02	0.01	0.65	15.40	28	7.84	348	32.0	42.50	
77	Ballston L	8/29/2004	33.0	1.40	1.5	0.028	0.03	0.07	0.57	20.66	27	7.65	238		35.80	
77	Ballston L	9/14/2004	33.0	1.40	1.5	0.029	0.01	0.01	0.28	9.62	44	7.28	277		30.50	
77	Ballston L	9/27/2004	33.0	2.00	1.5	0.027	0.03	0.03	0.27	10.05	14	7.13	287		17.80	
77	Ballston L	6/13/2005	30.0	1.90	1.5	0.043	0.09	0.04	0.31	7.22	19	7.44	363	25.4	12.42	
77	Ballston L	6/27/2005	33.0	1.90	1.5	0.022	0.01	0.01	0.16	7.32	17	7.84	317		9.12	
77	Ballston L	7/11/2005	33.0	2.90	1.5	0.050	0.09	0.06	0.26	5.28	56	7.50	313		6.46	
77	Ballston L	7/25/2005	33.0	2.50	1.5	0.042	0.02	0.01	0.29	6.97	25	7.95	284		19.82	
77	Ballston L	8/8/2005	33.0	1.90	1.5	0.026	0.05	0.02			35	7.81	307	23.5	19.38	
77	Ballston L	8/22/2005	33.0	2.00	1.5	0.031	0.01	0.02	0.28	9.19	46	7.75	273		12.25	
77	Ballston L	9/5/2005	33.0	1.90	1.5	0.025	0.01	0.01	0.17	6.83	17	7.62	291		15.80	
77	Ballston L	9/19/2005	33.0	2.10	1.5	0.028	0.06	0.02	0.25	8.98	15	7.54	298		12.98	
77	Ballston L	6/12/2006	33.0	2.85	1.5	0.040	0.10	0.05	0.74	18.51	57		292	27.6	8.17	
77	Ballston L	6/26/2006	33.0	2.30	1.5	0.054	0.02	0.09	0.63	11.49	32	7.86	298		30.21	
77	Ballston L	7/10/2006	33.0	2.00	1.5	0.047	0.01	0.02	0.77	16.53	30	7.80	320		15.85	
77	Ballston L	7/24/2006	33.0	1.30	1.5	0.045	0.02	0.04	0.88	19.46	39	8.00	280		53.82	
77	Ballston L	8/7/2006	33.0	1.60	1.5	0.021	0.06	0.08	1.10	51.28	17	7.75	278		5.94	
77	Ballston L	8/21/2006	33.0	2.10	1.5	0.047	0.06	0.19	1.06	22.42	42	7.61		25.9	14.35	
77	Ballston L	9/18/2006	33.0	2.50	1.5	0.034	0.08	0.08	0.99	28.74	53	8.02	294		20.77	
77	Ballston L	9/25/2006	33.0	3.15	1.5	0.029			0.87	30.55	22	7.65	204		7.96	
77	Ballston L	6/26/2007	33.0	2.10	1.5	0.031	0.01	0.02	0.65	46.88	33	7.8	256	25.0	10.87	
77	Ballston L	7/10/2007	33.0	2.10	1.5	0.030	0.01	0.02	0.56	41.42	27	7.5	264		11.03	
77	Ballston L	7/24/2007	33.0	2.60	1.5	0.034	0.00	0.01	0.58	37.39	20	7.9	214		15.09	
77	Ballston L	8/6/2007	33.0	1.90	1.5	0.029	0.01	0.01	0.64	48.84	20	7.6	255		12.75	
77	Ballston L	8/20/2007	33.0	2.10	1.5	0.024	0.00	0.01	0.79	71.51	21	6.7	309	26.9	17.00	
77	Ballston L	9/4/2007	33.0	2.10	1.5	0.027	0.02	0.05	0.96	79.32	22	7.0	236		16.85	
77	Ballston L	9/17/2007	33.0	1.70	1.5	0.026	0.02	0.01	0.69	59.29	21	7.5	300		24.80	
77	Ballston L	10/1/2007	33.0	2.05	1.5	0.023	0.02	0.03	0.72	70.22	27	7.8	308		16.08	
77	Ballston L-1	6/23/2008	33.0	3.30	1.5	0.028	0.00	0.02	0.61	47.93	24	7.27	245	25.8	20.14	
77	Ballston L-1	7/7/2008	33.0	3.00	1.5	0.027	0.01	0.02	0.75	61.59	18	7.78	298		9.10	
77	Ballston L-1	7/22/2008	33.0	1.55	1.5	0.039	0.02	0.02	0.62	34.90	18	7.89	224		37.04	
77	Ballston L-1	8/4/2008	33.0	1.85	1.5	0.046	0.01	0.09	0.98	46.94	35	7.46	302		30.98	
77	Ballston L-1	8/18/2008	33.0	2.40	1.5	0.035	0.05	0.09	0.54	33.91	29	7.56	261	27.2	13.76	
77	Ballston L-1	9/1/2008	33.0	2.00	1.5	0.028	0.01	0.01	0.58	46.34	26	7.85	174		17.83	
77	Ballston L-1	9/15/2008	33.0	2.00	1.5	0.033	0.02	0.03	1.20	79.47	27	7.25	311		19.80	
77	Ballston L-1	9/28/2008	33.0	2.20	1.5	0.045	0.02	0.06	0.53	25.58	22	7.47	290		31.88	

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
77	Ballston L-1	06/29/2009	33.0	2.50	1.5	0.043	0.01	0.01	0.46	23.47	36	7.53	337	29.2	19.30	
77	Ballston L-1	07/13/2009	33.0	3.10	1.5	0.036	0.01	0.03	0.56	34.46	48	7.11	289		12.92	
77	Ballston L-1	07/27/2009	33.0	1.95	1.5	0.049	0.03	0.06	0.72	32.33	43		258		18.54	
77	Ballston L-1	08/10/2009	33.0	1.90	1.5	0.034	0.07	0.17	0.68	43.94	33	7.40	301		24.20	
77	Ballston L-1	08/24/2009	33.0	1.50	1.5	0.043	0.01	0.03	0.65	33.10	45	7.64	234	35.6	31.20	
77	Ballston L-1	09/07/2009	33.0	2.00	1.5	0.029	0.02	0.08	0.53	40.85	43	7.41	284		14.00	
77	Ballston L-1	09/21/2009	33.0	3.20	1.5	0.025	0.02	0.06	0.54	48.85	37	7.19	252		11.10	
77	Ballston L-1	10/05/2009	33.0	2.50	1.5	0.029	0.04	0.09	0.60	46.15	45	7.36	305		12.13	
77	Ballston L	6/6/2010	33.0	3.40	1.5	0.042	0.04	0.04	0.60	31.97	23	7.54	362		22.90	
77	Ballston L	6/21/2010	33.0	2.10	1.5	0.034	0.02	0.10			20	7.76	349	31.1	6.20	
77	Ballston L	7/5/2010	33.0	3.60	1.5	0.033	0.06	0.03	0.71	47.04	38	7.69	343	29.4	29.70	
77	Ballston L	7/18/2010	33.0	1.20	1.5	0.026	0.03	0.06	0.67	57.70	28	7.36	368		13.90	
77	Ballston L	8/1/2010	33.0	1.50	1.5	0.047	0.05	0.03	0.81	37.89	19	7.83	366		39.40	
77	Ballston L	8/5/2010	grab	bloom												
77	Ballston L	8/5/2010	grab	bloom												
77	Ballston L	8/15/2010	33.0	2.35	1.5	0.038	0.06	0.06	0.56	31.85	15	7.72	355		14.30	
77	Ballston L	8/29/2010	33.0	1.75	1.5	0.037	0.04	0.04	0.58	34.22	19	7.46	359		22.00	
77	Ballston L	9/13/2010	33.0	1.90	1.5	0.038	0.04	0.02	0.43	24.78	16	7.57	358		7.40	
77	Ballston L	6/20/2011	33.0	2.25	1.5	0.038	0.07	0.04	0.41	23.74	30	6.62	411	29.5	10.50	
77	Ballston L	7/4/2011	33.0	2.10	1.5	0.037	0.02	0.02	0.49	29.57	26	7.52	322		8.20	
77	Ballston L	7/19/2011	33.0	1.70	1.5	0.035	0.01	0.01	0.85	52.96	31	7.55	338	28.5		
77	Ballston L	8/2/2011	33.0	1.50	1.5	0.045	0.02	0.06	0.72	35.16	22	7.60	341		25.10	
77	Ballston L	8/14/2011	33.0	1.20	1.5	0.035	0.01	0.01	0.60	38.01	27	7.77	335			
77	Ballston L	9/5/2011	33.0	2.50	1.5	0.039	0.09	0.05	0.80	45.49	27	7.34	313		2.80	
77	Ballston L	9/19/2011	33.0	1.70	1.5	0.051	0.13	0.03	0.80	34.49	37	7.40	302			
77	Ballston L	10/3/2011	33.0	1.80	1.5	0.047	0.05	0.09	0.77	36.38	39	7.34	308			
77	Ballston L	6/26/2012	33.0	1.45	1.5	0.048	0.02	0.05	0.70	32.33	26	6.96	328	32.0	26.80	
77	Ballston L	7/10/2012				0.050	0.01	0.03	1.04	45.90	35	7.76	318		57.40	
77	Ballston L	7/22/2012	33.0	1.50	1.5	0.038	0.02	0.03	0.78	45.58	28	7.63	335		19.00	
77	Ballston L	8/5/2012	33.0	1.40	1.5	0.035	0.01	0.04	0.59	36.70	22	7.76	320		26.10	
77	Ballston L	8/19/2012	33.0	0.95	1.5	0.030	0.01	0.07	0.98	72.20	17	8.15	321	34.3	38.20	
77	Ballston L	9/3/2012	33.0	1.10	1.5	0.037	0.01	0.04	0.72	42.98	13	7.30	325		29.80	
77	Ballston L	9/16/2012	33.0	1.35	1.5	0.035	0.01	0.03	0.68	42.62	12	7.17	320		24.60	
77	Ballston L	10/2/2012	33.0	1.30	1.5	0.037	0.04	0.02	0.59	34.65	22	7.22	323		25.70	
77	Ballston L	7/7/2013	33.0	0.70	1.5	0.061			0.94	33.76	41	7.54	318		49.40	
77	Ballston L	7/21/2013	33.0	1.00	1.5	0.037	0.02	0.03	0.76	44.94	29	7.82	321		19.70	
77	Ballston L	8/4/2013	33.0	1.20	1.5	0.030			1.00	74.35	27	7.60	320		20.90	
77	Ballston L	8/18/2013		1.10	1.5	0.033	0.01	0.02	0.88	59.09	25	7.73	319		28.60	
77	Ballston L	9/2/2013	33.0	1.90	1.5	0.037			0.75	45.21	23	7.78	320		19.50	
77	Ballston L	9/16/2013	33.0	1.30	1.5	0.038			0.81	47.21	30	7.45	321		28.80	
77	Ballston L	9/30/2013	33.0	1.90	1.5	0.039	0.01	0.09			22	7.46	336		12.50	
77	Ballston L	10/13/2013	33.0	1.80	1.5	0.045	0.01	0.09	0.69	33.22	31	7.20	334		19.00	
77	Ballston L	5/25/2014	33.0	1.75	1.5	0.035	0.01	0.02	0.53	33.47	27	7.38	362	27.1	17.30	
77	Ballston L	6/8/2014	33.0	1.50	1.5	0.050			0.61	26.91	26	7.42	369		28.40	
77	Ballston L	6/22/2014	33.0	2.05	1.5	0.043	0.00	0.05	0.66	34.03	27	7.21	364		12.70	
77	Ballston L	7/2/2014														
77	Ballston L	7/6/2014	33.0	1.05	1.5	0.045			0.74	36.65	28	7.50	366		36.60	
77	Ballston L	7/14/2014														
77	Ballston L	7/20/2014	33.0	0.95	1.5	0.042	0.01	0.02	1.00	52.09	25	7.35	351	30.6	312.20	
77	Ballston L	8/4/2014	33.0	1.55	1.5	0.030			0.56	40.53	14	7.62	368		20.70	
77	Ballston L	8/17/2014	33.0	1.95	1.5	0.022	0.01	0.02	0.52	51.20	21	7.22	374		13.30	
77	Ballston L	9/1/2014	33.0	1.85	1.5	0.073			0.71	21.52	23	7.77	375		11.50	
77	Ballston L	6/14/2015	33.0	2.00	1.5	0.018	0.00	0.03	0.67	80.55	11	7.44	423	16.8	31.60	
77	Ballston L	6/28/2015	33.0	2.00	1.5	0.036			0.53	32.94	16	7.49	427		11.70	
77	Ballston L	7/12/2015	33.0	1.50	1.5	0.038	0.01	0.05	0.76	44.35	24	7.41	406		14.40	68.2
77	Ballston L	7/26/2015	33.0	1.40	1.5	0.036			0.61	37.70	19	7.70	409		28.50	
77	Ballston L	8/9/2015	33.0	2.00	1.5	0.024	0.00	0.03	0.65	58.43	19	7.57	421	22.0	27.70	
77	Ballston L	8/23/2015	33.0	1.60	1.5	0.015			0.54	80.42	15	7.66	401		11.70	
77	Ballston L	9/6/2015	33.0	2.10	1.5	0.020	0.00	0.04	0.42	45.98	14	7.55	415		28.80	65.8
77	Ballston L	9/20/2015	33.0	2.00	1.5	0.021			0.41	43.15	13	7.55	426		12.90	
77	Ballston L	7/4/1993	35.0		15.0	0.074										
77	Ballston L	7/18/1993	35.0		10.0	0.027										
77	Ballston L	8/14/1993	33.0		11.0	0.040										
77	Ballston L	9/12/1993	33.0		11.0	0.064										
77	Ballston L	6/26/1994	33.0		20.0	0.068										
77	Ballston L	7/24/1994	33.0		20.0	0.170										

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
77	Ballston L	8/21/1994	33.0		20.0	0.027										
77	Ballston L	9/18/1994	33.0		20.0	0.180										
77	Ballston L	6/16/1996	33.0		20.0	0.160										
77	Ballston L	7/14/1996	33.0		20.0	0.150										
77	Ballston L	9/9/1996	33.0		20.0	0.350										
77	Ballston L	9/21/1996	33.0		20.0	0.290										
77	Ballston L	06/10/02	33.0	1.60	22.0	9.954										
77	Ballston L	06/24/02	33.0	1.90	22.0	12.819			11.84	0.92						
77	Ballston L	07/08/02	33.0	1.15		17.865										
77	Ballston L	07/23/02	33.0	1.40	22.0	0.891										
77	Ballston L	08/04/02	33.0	1.30	22.0	16.516										
77	Ballston L	08/26/02	33.0	1.40	20.0	9.641										
77	Ballston L	09/09/02	33.0	2.05	22.0	11.994										
77	Ballston L	09/30/02	33.0	2.85	20.0	0.017	0.01	0.02	0.55	31.35	11	6.88	45		5.04	
77	Ballston L	6/10/2003				8.600	0.00	207.00	132.50	15.41						
77	Ballston L	6/24/2003				9.100	0.00	263.00								
77	Ballston L	7/8/2003				9.600	0.00	0.27	171.26	17.84						
77	Ballston L	7/22/2003				8.900										
77	Ballston L	8/5/2003				6.700		0.28	118.18	17.64						
77	Ballston L	8/19/2003				4.100		23.00	135.53	33.06						
77	Ballston L	9/1/2003				11.000	0.10	27.00								
77	Ballston L	9/16/2003				9.700										
77	Ballston L	6/13/2005	33.0		22.0	1.477										
77	Ballston L	6/27/2005	33.0		22.0	3.007										
77	Ballston L	7/11/2005	33.0		20.0	1.982										
77	Ballston L	7/25/2005	33.0		20.0	1.558										
77	Ballston L	8/8/2008	33.0		20.0	4.253										
77	Ballston L	8/22/2005	33.0			4.731										
77	Ballston L	9/5/2005	33.0			1.239										
77	Ballston L	9/19/2005	33.0		20.0	2.877										
77.1	Ballston L-2	8/11/1991	4.6	1.70	1.5	0.027	0.01					8.31	286		23.50	
77.1	Ballston L-2	8/11/1991	4.6	1.70	1.5	0.027	0.01					8.31	286		23.50	
77.2	Ballston L-2	6/26/2007	5.0	2.10	1.5	0.030	0.01	0.02	0.67	50.3	32	7.71	247	24.0	5.22	
77.2	Ballston L-2	7/10/2007	5.0	2.10	1.5	0.031	0.01	0.02	0.46	32.8	23	7.66	161		8.26	
77.2	Ballston L-2	7/24/2007	5.0	1.90	1.5	0.039	0.01	0.01	0.57	32.1	25	7.34	247		18.06	
77.2	Ballston L-2	8/6/2007	5.0	1.60	1.5	0.031	0.04	0.01	0.89	64.3	21	7.37	271		20.26	
77.2	Ballston L-2	8/20/2007	4.0	2.00	1.5	0.047	0.00	0.03	0.87	40.7	21	7.72	268	26.9	42.80	
77.2	Ballston L-2	9/4/2007	5.0	1.60	1.5	0.038	0.01	0.04	0.94	55.6	24	6.88	251		23.66	
77.2	Ballston L-2	9/17/2007	5.0	1.20	1.5	0.038	0.04	0.01	0.84	49.5	19	7.47	288		31.32	
77.2	Ballston L-2	10/1/2007	5.0	1.80	1.5	0.033	0.01	0.01	0.50	33.8	18	7.38	265		20.78	
77.2	Ballston L-2	6/23/2008	5.0	2.30	1.5	0.027	0.01	0.02	0.61	49.07		7.66	246	25.9	15.97	
77.2	Ballston L-2	7/7/2008	5.0	1.40	1.5	0.040	0.01	0.02	0.68	37.36	20	7.90	298		31.36	
77.2	Ballston L-2	7/22/2008	5.0	1.30	1.5	0.037	0.01	0.04	0.70	42.24	19	7.88	214		33.28	
77.2	Ballston L-2	8/4/2008	5.0	1.50	1.5	0.049	0.01	0.18			34	7.67	288		42.70	
77.2	Ballston L-2	8/18/2008	5.0	1.30	1.5	0.043	0.00	0.04	0.55	28.30	28	7.38	260	24.3	30.80	
77.2	Ballston L-2	9/1/2008	5.0	1.10	1.5	0.045	0.02	0.04	0.59	28.62	58	7.24	242		34.10	
77.2	Ballston L-2	9/15/2008	5.0	1.20	1.5	0.038	0.00	0.03	0.64	36.58	30	7.46	288		36.32	
77.1	Ballston L-2	6/20/2011		1.95	1.5	0.031						28	6.86	392		13.10
77.1	Ballston L-2	7/4/2011	5.0	1.20	1.5	0.040						24	7.29	316		9.80
77.1	Ballston L-2	7/19/2011	5.0	1.50	1.5	0.045							8.23	315		
77.1	Ballston L-2	8/2/2011	5.0	1.10	1.5	0.036									35.30	
77.1	Ballston L-2	8/14/2011	5.0		1.5	0.038					31					
77.1	Ballston L-2	9/5/2011	5.0	1.60	1.5	0.068										
77.1	Ballston L-2	9/19/2011	5.0	1.20	1.5	0.062						7.22	228			
77.1	Ballston L-2	10/3/2011	5.0	1.50	1.5	0.057										
77.1	Ballston L-2	6/26/2012	5.0	1.25	1.5	0.057									39.40	
77.1	Ballston L-2	7/10/2012	5.0	0.60	1.5	0.053									55.60	
77.1	Ballston L-2	7/22/2012	5.0	1.30	1.5	0.061									31.60	
77.1	Ballston L-2	8/5/2012	5.0	1.00	1.5	0.046									42.60	
77.1	Ballston L-2	8/19/2012	5.0	0.90	1.5	0.073									47.10	
77.1	Ballston L-2	9/3/2012	5.0	0.90	1.5	0.057									34.60	
77.1	Ballston L-2	9/16/2012	5.0	1.05	1.5	0.044									28.80	
77.1	Ballston L-2	10/2/2012	5.0	1.00	1.5	0.045									36.90	
77.1	Ballston L-2	7/7/2013	5.0	0.90	1.5	0.063					34				70.80	
77.1	Ballston L-2	7/21/2013	5.0	1.00	1.5	0.040					28				19.00	
77.1	Ballston L-2	8/3/2013	3.0		1.5	0.047					27				52.10	

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a
77.1	Ballston L-2	8/18/2013		0.90	1.5	0.047					26				48.00
77.1	Ballston L-2	9/2/2013	5.0	1.50	1.5	0.049					25				39.30
77.1	Ballston L-2	9/16/2013	5.0	1.00	1.5	0.049					25				38.90
77.1	Ballston L-2	9/30/2013	5.0		1.5	0.041					70				23.20
77.1	Ballston L-2	10/13/2013	5.0	1.50	1.5	0.044					22				44.80
77.1	Ballston L-2	5/25/2014	5.0	1.66	1.5	0.028					25				7.90
77.1	Ballston L-2	6/8/2014	5.0	2.00	1.5	0.033					18				7.30
77.1	Ballston L-2	6/22/2014	5.0	1.85	1.5	0.041					26				13.00
77.1	Ballston L-2	7/6/2014	5.0	1.05	1.5	0.050					25				41.80
77.1	Ballston L-2	7/20/2014	5.0	1.00	1.5	0.039					23				52.80
77.1	Ballston L-2	8/4/2014	5.0	1.15	1.5	0.037					14				25.50
77.1	Ballston L-2	8/16/2014	5.0	1.25	1.5	0.044					22				30.00
77.1	Ballston L-2	9/1/2014	5.0	1.55	1.5	0.043					22				19.00
77.1	Ballston L-2	6/14/2015	5.0	2.20	1.5	0.024	0.00	0.02	0.41	37.90	13	7.30	416	27.9	7.00
77.1	Ballston L-2	6/28/2015	5.0	1.90	1.5	0.040			0.45	24.35	16	7.57	417		24.40
77.1	Ballston L-2	7/12/2015	5.0	1.10	1.5	0.038	0.00	0.04	0.81	47.70	20	7.42	382		27.90 20.2
77.1	Ballston L-2	7/26/2015	5.0	1.00	1.5	0.049			0.87	39.40	21	7.70	398		22.70
77.1	Ballston L-2	8/9/2015	5.0	1.60	1.5	0.040	0.01	0.04	0.84	46.55	20	7.57	424	30.8	23.40
77.1	Ballston L-2	8/23/2015	5.0	1.20	1.5	0.020			0.66	71.31	13	7.70	407		56.30
77.1	Ballston L-2	9/6/2015	5.0	1.40	1.5	0.045	0.00	0.04	0.43	21.31	17	7.51	408		13.00 65.5
77.1	Ballston L-2	9/20/2015	5.0	1.20	1.5	0.043			0.51	25.70	11	7.46	417		10.60
77.2	Ballston L-2	6/26/2007	5.0		4.5	0.036									
77.2	Ballston L-2	7/10/2007	5.0		4.0	0.044									
77.2	Ballston L-2	7/24/2007	5.0		4.0	0.035									
77.2	Ballston L-2	8/6/2007	5.0		4.0	0.037									
77.2	Ballston L-2	8/20/2007	4.0		4.0	0.046									
77.2	Ballston L-2	9/4/2007	5.0		4.0	0.040									
77.2	Ballston L-2	9/17/2007	5.0		4.0	0.040									

LNum	PName	Date	Site	TAir	TH20	QA	QB	QC	QD	QFQG	AQ-PC	AQ-Chla	MC-LR	Ana-a	Cylin	FP-Chl	FP-BG	HAB form	Shore HAB
77	Ballston L	6/12/1991	epi	20	23														
77	Ballston L	6/30/1991	epi	17	25														
77	Ballston L	7/15/1991	epi	22	24														
77	Ballston L	7/28/1991	epi	23	25														
77	Ballston L	8/11/1991	epi	24	24														
77	Ballston L	8/25/1991	epi	27	24														
77	Ballston L	9/8/1991	epi	23	23														
77	Ballston L	9/22/1991	epi	14	20														
77	Ballston L	6/7/1992	epi	23	20	4	4	4	1234										
77	Ballston L	6/21/1992	epi	18	20	3	4	2	12										
77	Ballston L	7/5/1992	epi	18	22	2	3	2	5										
77	Ballston L	7/19/1992	epi	25	24	2	4	2											
77	Ballston L	8/2/1992	epi	23	22														
77	Ballston L	8/16/1992	epi	17	21														
77	Ballston L	8/30/1992	epi	25	22	2	3	1	0										
77	Ballston L	9/13/1992	epi	13	21	2	3	2	1										
77	Ballston L	6/6/1993	epi	15	18	2	3	2	235										
77	Ballston L	6/20/1993	epi	18	22	3	3	2	5										
77	Ballston L	7/4/1993	epi	32	25	2	3	1											
77	Ballston L	7/18/1993	epi	23	25	2	3	1											
77	Ballston L	8/1/1993	epi	27	25	3	3	2											
77	Ballston L	8/14/1993	epi	27	24	2	3	2	0										
77	Ballston L	8/29/1993	epi	26	25	2	3	2											
77	Ballston L	9/12/1993	epi	19	20	2	3	2	0										
77	Ballston L	6/12/1994	epi	23	19	3	3	2	5										
77	Ballston L	6/26/1994	epi	23	23	2	3	2	5										
77	Ballston L	7/10/1994	epi	26	25	3	3	2											
77	Ballston L	7/24/1994	epi	27	26	3	3	2	0										
77	Ballston L	8/7/1994	epi	28	25	2	3	2											
77	Ballston L	8/21/1994	epi	23	22														
77	Ballston L	9/4/1994	epi	17	20	3	3	2											
77	Ballston L	9/18/1994	epi	18	20	2	3	2											
77	Ballston L	6/25/1995	epi	25	25	3	3	2											

LNum	PName	Date	Site	TAir	TH20	QA	QB	QC	QD	QF	QG	AQ-PC	AQ-Chla	MC-LR	Ana-a	Cylin	FP-Chl	FP-BG	HAB form	Shore HAB
77	Ballston L	7/9/1995	epi	19	23	3	3	2												
77	Ballston L	7/24/1995	epi	29	25	2	3	2												
77	Ballston L	8/6/1995	epi	25	25	2	3	2												
77	Ballston L	8/20/1995	epi	24	24	2	3	2												
77	Ballston L	9/3/1995	epi	18	23	2	3	2												
77	Ballston L	9/17/1995	epi	18	20	2	3	2												
77	Ballston L	10/7/1995	epi	15	16	3	3	2	35											
77	Ballston L	6/16/1996	epi	27	24	3	3	2												
77	Ballston L	6/30/1996	epi	22	22	3	3	2	5											
77	Ballston L	7/14/1996	epi	25	29	3	3	3	45											
77	Ballston L	7/28/1996	epi	22	24	2	3	2												
77	Ballston L	8/11/1996	epi	21	25	2	3	2												
77	Ballston L	8/25/1996	epi	28	24	2	3	2												
77	Ballston L	9/9/1996	epi	20	24	2	3	2												
77	Ballston L	9/21/1996	epi	20	19															
77	Ballston L	7/27/1997	epi	26	24	2	3	2	2											
77	Ballston L	8/10/1997	epi	41	25	3	3	3												
77	Ballston L	8/24/1997	epi	24	21	2	3	2												
77	Ballston L	9/7/1997	epi	29	22	2	3	2												
77	Ballston L	7/19/1998	epi	26	26	3	3	2												
77	Ballston L	8/9/1998	epi	27	25	2	3	2												
77	Ballston L	8/23/1998	epi	20	21	2	3	2	5											
77	Ballston L	9/6/1998	epi	23	22	3	3	2	1											
77	Ballston L	7/26/1999	epi	27	26	3	3	2												
77	Ballston L	8/9/1999	epi	23	24	3	3	3												
77	Ballston L	8/29/1999	epi	27	23	3	3	2												
77	Ballston L	9/12/1999	epi	22	23	3	3	2												
77	Ballston L	7/23/2000	epi	25	21	3	3	2	5											
77	Ballston L	8/6/2000	epi	22	24	3	3	2	5											
77	Ballston L	8/19/2000	epi	20	21	3	3	2	5											
77	Ballston L	9/4/2000	epi	17	23	3	3	4	5											
77	Ballston L	6/24/2001	epi	19	22	3	3	2	5											
77	Ballston L	7/8/2001	epi	18	21	3	3	3	145											
77	Ballston L	7/23/2001	epi	35	25	3	3	3	24											
77	Ballston L	8/6/2001	epi	30	27	3	3	3	1											
77	Ballston L	8/20/2001	epi	26	25	3	3	3	13											
77	Ballston L	9/4/2001	epi	21	23	3	3	3	5											
77	Ballston L	9/17/2001	epi	23	20	3	3	3	3											
77	Ballston L	10/1/2001	epi	16	18	3	3	3	15											
77	Ballston L	06/10/02	epi	26	20	3	3	3	1345											
77	Ballston L	06/24/02	epi	24	22	3	3	2	78											
77	Ballston L	07/08/02	epi	23	25	3	3	2	8											
77	Ballston L	07/23/02	epi	30	25	3	3	2	8											
77	Ballston L	08/04/02	epi	32	28	3	3	2	8											
77	Ballston L	08/26/02	epi	20	24	3	3	2	48											
77	Ballston L	09/09/02	epi	25	23	2	3	2	8											
77	Ballston L	09/30/02	epi	15	20	2	3	2	8											
77	Ballston L	10/18/02	epi	10	14	2	3	2	8											
77	Ballston L	6/10/2003	epi	27	20	3	3	2	1											
77	Ballston L	6/24/2003	epi	25	22	2	3	2	25											
77	Ballston L	7/8/2003	epi	28	26	2	3	2	8											
77	Ballston L	7/22/2003	epi	23	23	2	3	2												
77	Ballston L	8/5/2003	epi	28	26	3	3	3	158											
77	Ballston L	8/19/2003	epi	25	26	3	3	3	348											
77	Ballston L	9/1/2003	epi	17	22															
77	Ballston L	9/16/2003	epi	22	24	3	3	2	4											
77	Ballston L	6/21/2004	epi	28	22	2	3	2	57											
77	Ballston L	7/5/2004	epi	30	26	3	3	2	18											
77	Ballston L	7/19/2004	epi	23	25	3	3	3	58											
77	Ballston L	8/2/2004	epi	26	24	3	3	3	145											
77	Ballston L	8/17/2004	epi	22	24	3	3	3	145											

LNum	PName	Date	Site	TAir	TH20	QA	QB	QC	QD	QF	QG	AQ-PC	AQ-Chla	MC-LR	Ana-a	Cylin	FP-Chl	FP-BG	HAB form	Shore HAB
77	Ballston L	8/29/2004	epi	29	24	3	3	3	13											
77	Ballston L	9/14/2004	epi	21	22	3	3	3	134											
77	Ballston L	9/27/2004	epi	20	20	3	3	3	13											
77	Ballston L	6/13/2005	epi	33	26	3	3	2	8											
77	Ballston L	6/27/2005	epi	21	27	2	3	3	8											
77	Ballston L	7/11/2005	epi	26	24	2	3	2	8											
77	Ballston L	7/25/2005	epi	23	27	2	3	2	8											
77	Ballston L	8/8/2005	epi	28	27	3	3	2	8											
77	Ballston L	8/22/2005	epi	26	28	3	3	3	18											
77	Ballston L	9/5/2005	epi	21	24	3	3	3	8											
77	Ballston L	9/19/2005	epi	20	23	3	3	3	5											
77	Ballston L	6/12/2006	epi	24	18	3	3	3	5											
77	Ballston L	6/26/2006	epi	22	26	3	3	3	2											
77	Ballston L	7/10/2006	epi	22	25	3	3	2	2											
77	Ballston L	7/24/2006	epi	21	26	3	3	3	34											
77	Ballston L	8/7/2006	epi	27	27	4	3	4	34											
77	Ballston L	8/21/2006	epi	23	24	3	3	3	13											
77	Ballston L	9/18/2006	epi	19	20	3	3	3	35											
77	Ballston L	9/25/2006	epi	18	18	2	3	3	5											
77	Ballston L	6/26/2007	epi	32	24	2	3	3	25											
77	Ballston L	7/10/2007	epi	30	26	3	3	3	235											
77	Ballston L	7/24/2007	epi	22	24	2	3	2	5											
77	Ballston L	8/6/2007	epi	24	27	3	3	3	7											
77	Ballston L	8/20/2007	epi	22	24	2	3	3	5											
77	Ballston L	9/4/2007	epi	16	24	3	3	3	7											
77	Ballston L	9/17/2007	epi	22	20	3	3	3	45											
77	Ballston L	10/1/2007	epi	19	20	3	3	3	0											
77	Ballston L-1	6/23/2008	epi	24	22	2	3	2	5											
77	Ballston L-1	7/7/2008	epi	28	26	2	3	2	0											
77	Ballston L-1	7/22/2008	epi	20	26	3	3	3	0											
77	Ballston L-1	8/4/2008	epi	26	24	3	3	3	5											
77	Ballston L-1	8/18/2008	epi	25	23	3	3	2	5											
77	Ballston L-1	9/1/2008	epi	22	23	2	3	2	0											
77	Ballston L-1	9/15/2008	epi	27	21	2	3	2	0											
77	Ballston L-1	9/28/2008	epi	19	20	2	3	3	5											
77	Ballston L-1	06/29/2009	epi	20	24	2	3	3	25											
77	Ballston L-1	07/13/2009	epi	22	22	2	3	2	5											
77	Ballston L-1	07/27/2009	epi	24	23	3	3	3	45											
77	Ballston L-1	08/10/2009	epi	23	23	3	3	3	345					0.09						
77	Ballston L-1	08/24/2009	epi	27	26	3	3	3	45											
77	Ballston L-1	09/07/2009	epi	18	24	3	3	3	0		147.6			0.05						
77	Ballston L-1	09/21/2009	epi	25	20	2	3	2	5		65.93									
77	Ballston L-1	10/05/2009	epi	17	14	2	3	2			122.4			0.03						
77	Ballston L	6/6/2010	epi	20	25	4	3	3	8	0	0									
77	Ballston L	6/21/2010	epi	28	24	3	3	3	5	0	0									
77	Ballston L	7/5/2010	epi	38	25	2	3	2	8	4	4									
77	Ballston L	7/18/2010	epi	29	26	3	3	3	8	4	4									
77	Ballston L	8/1/2010	epi	28	26	3	3	3	48	0	0	379.00		0.07						
77	Ballston L	8/5/2010	bloom									159080		4.00						
77	Ballston L	8/5/2010	bloom									6268		0.39						
77	Ballston L	8/15/2010	epi	24	25	3	3	3	8	0	0									
77	Ballston L	8/29/2010	epi	32	22	3	3	4	348	4	4									
77	Ballston L	9/13/2010	epi	20	20	2	3	3	8	0	0	330.00		0.03						
77	Ballston L	6/20/2011	epi	25	23	2	3	3	0	0	0	29.70	6.00							
77	Ballston L	7/4/2011	epi	26	23	2	3	2	0	0	0	18.80	5.90							
77	Ballston L	7/19/2011	epi	30	26	3	3	3	7	0	0	161.40	7.30	0.89	<0.5	<0.1				
77	Ballston L	8/2/2011	epi	29	26	3	3	3	0	8	0	146.00	7.20							
77	Ballston L	8/14/2011	epi	24	24	3	3	2	18	0	0	263.60	7.50							
77	Ballston L	9/5/2011	epi	21	21	2	3	2	0	0	0	24.50	6.40							
77	Ballston L	9/19/2011	epi	21	20	2	3	2	0	0	0	42.60	22.30							
77	Ballston L	10/3/2011	epi	17	18	2	3	3	5	0	0	19.60	7.90							

LNum	PName	Date	Site	TAir	TH20	QA	QB	QC	QD	QF	QG	AQ-PC	AQ-Chla	MC-LR	Ana-a	Cylin	FP-Chl	FP-BG	HAB form	Shore HAB
77	Ballston L	6/26/2012	epi	16	24	3	3	3	35	0	0	72.80	1.20	<0.30	<0.413		7.39	4.98	BI	
77	Ballston L	7/10/2012	epi									384.60	1.90	<0.30	<0.392		50.97	48.98		
77	Ballston L	7/22/2012	epi	28	26	2	3	2	7	0	0	93.30	1.30	<0.30	0.30		11.39	8.93	I	
77	Ballston L	8/5/2012	epi	30	26	3	3	3	8	0	0	4.60	1.90	<0.30	<0.330		16.15	11.18	I	
77	Ballston L	8/19/2012	epi	29	24	3	3	3	4	0	0	167.90	2.10	0.36	<0.223		11.61	8.86	FI	
77	Ballston L	9/3/2012	epi	22	24	3	3	3	8	0	0	106.90	1.70	0.40	0.66		20.92	18.29	I	
77	Ballston L	9/16/2012	epi	24	22	3	3	2	0	0	0	40.90	1.70	0.48	0.97		10.26	6.69	F	
77	Ballston L	10/2/2012	epi	16	17	3	3	3	1	4		56.00	1.70						F	
77	Ballston L	7/7/2013	epi	33	28	3	3	2	1	0	0	242.40	6.60	<0.30	<0.510		40.40	35.90		
77	Ballston L	7/21/2013	epi	25	27	3	3	3	1	0	0	216.90	5.10	<0.30	<0.910		28.90	25.80		
77	Ballston L	8/4/2013	epi	24	23	3	3	3	0	0	0	111.10	5.00	<0.30	<0.390		17.80	12.60		
77	Ballston L	8/18/2013	epi	24	23	3	3	3	0	0	0	155.10	5.70	<0.30	<0.510		22.10	17.90		
77	Ballston L	9/2/2013	epi	26	25	2	3	2	0	0	0	41.80	5.50	<0.30	<1.100		9.30	4.70		
77	Ballston L	9/16/2013	epi	18	20	3	3	3	5	0	0	148.70	6.30	<0.30	<0.100		19.20	12.30		
77	Ballston L	9/30/2013	epi	21	19	3	3	3	5	0	0	18.50	4.30	<0.30	<0.100		5.40	0.50		
77	Ballston L	10/13/2013	epi	20	18	2	3	3	5	0	0	11.90	5.00	<0.30	<0.090		4.40	0.00		
77	Ballston L	5/25/2014	epi	33	20							0.70	2.70	<1.83	<0.40	<0.001	4.9	0.0		
77	Ballston L	6/8/2014	epi	24	23	2	3	2	0	0	0	1.90	6.30	<1.83	<0.17	<0.001	6.0	0.0		
77	Ballston L	6/22/2014	Epi	30	25	3	3	3	8			11.70	0.70	<0.58	<0.44	<0.002	4.7	1.3	I	
77	Ballston L	7/2/2014	bloom											<1.25	<0.06	<0.003	20.3	20.3		
77	Ballston L	7/6/2014	Epi	28	24	3	3	3	8	0	4	135.30	1.10	<0.62	<0.03	<0.002	26.0	21.8	I	I
77	Ballston L	7/14/2014	Bloom											<0.81	<0.96	<0.003	597.30	597.3		ac
77	Ballston L	7/20/2014	epi	34	24	3	3	3	0	0	0	213.80	1.30	<0.39	<0.21	<0.003	57.00	52.9	I	
77	Ballston L	8/4/2014	epi	23	24	3	3	3	8	0	0	37.50	1.60	<0.33	<0.01	<0.002	13.40	5.1	I	I
77	Ballston L	8/17/2014	epi	22	23	2	3	3	0	0	0	19.40	1.20	<0.39	<0.03	<0.001	7.90	0.4	I	I
77	Ballston L	9/1/2014	epi	26	24	2	3	3	0	0	0	21.90	0.70	<0.25	<0.14	<0.002	6.6	3.4	I	I
77	Ballston L	6/14/2015	epi	29	24	2	3	2	5	0	0	23.00	1.10	<0.55	<0.027	<0.318	4.2	2.1	I	I
77	Ballston L	6/28/2015	epi	18	22	2	3	2	0	0	0	19.60	0.90	<1.01	<0.007	<0.000	5.1	2.3	I	I
77	Ballston L	7/12/2015	epi	32	24	3	3	3	0	0	0	73.80	1.70	<1.01	<0.003	<0.011	16.8	13.7	I	I
77	Ballston L	7/26/2015	epi	32	25	3	3	3	4	0	0	104.00	1.60	<0.30	0.01	<0.014	18.6	12.3	I	I
77	Ballston L	8/9/2015	epi	30	26	3	3	3	7	0	0	47.60	1.20	<0.44	<0.002	<0.014	9.2	5.4	I	I
77	Ballston L	8/23/2015	epi	26	26	3	3	3	0	0	0	4.70	0.50	<0.33	<0.006	<0.024	8.3	3.4	I	I
77	Ballston L	9/6/2015	epi	30	26	2	3	2	0	0	0	27.40	1.00				7.1	3.5	I	I
77	Ballston L	9/20/2015	epi	22	22	2	3	2	0	0	0	31.80	0.80	<0.30	<0.007	<0.035	7.4	4.0	I	I
77	Ballston L	7/4/1993	hypo	32	10															
77	Ballston L	7/18/1993	hypo	23	10															
77	Ballston L	8/14/1993	hypo	27	10															
77	Ballston L	9/12/1993	hypo	19	9															
77	Ballston L	6/26/1994	hypo	23	7															
77	Ballston L	7/24/1994	hypo		10															
77	Ballston L	8/21/1994	hypo		13															
77	Ballston L	9/18/1994	hypo		6															
77	Ballston L	6/16/1996	hypo		10															
77	Ballston L	7/14/1996	hypo		9															
77	Ballston L	9/9/1996	hypo		6															
77	Ballston L	9/21/1996	hypo		7															
77	Ballston L	06/10/02	hypo	26	9	3	3	3	1345											
77	Ballston L	06/24/02	hypo	24	9	3	3	2	78											
77	Ballston L	07/08/02	hypo	23	9	3	3	2	8											
77	Ballston L	07/23/02	hypo	30	9	3	3	2	8											
77	Ballston L	08/04/02	hypo	32	10	3	3	2	8											
77	Ballston L	08/26/02	hypo	20	9	3	3	2	48											
77	Ballston L	09/09/02	hypo	25	9	2	3	2	8											
77	Ballston L	09/30/02	hypo	15	9	2	3	2	8											
77	Ballston L	6/13/2005	hypo		12															
77	Ballston L	6/27/2005	hypo		11															
77	Ballston L	7/11/2005	hypo		9															
77	Ballston L	7/25/2005	hypo		8															
77	Ballston L	8/8/2008	hypo		10															
77	Ballston L	8/22/2005	hypo		9															
77	Ballston L	9/5/2005	hypo		9															

LNum	PName	Date	Site	TAir	TH20	QA	QB	QC	QD	QF	QGG	AQ-PC	AQ-Chla	MC-LR	Ana-a	Cylin	FP-Chl	FP-BG	HAB form	Shore HAB
77	Ballston L	9/19/2005	hypo		10															
77.1	Ballston L-2	8/11/1991	epi	23	25															
77.2	Ballston L-2	6/26/2007	epi	23	25															
77.2	Ballston L-2	7/10/2007	epi	35	25															
77.2	Ballston L-2	7/24/2007	epi	30	26															
77.2	Ballston L-2	8/6/2007	epi	23	24															
77.2	Ballston L-2	8/20/2007	epi	24	28															
77.2	Ballston L-2	9/4/2007	epi	21	24															
77.2	Ballston L-2	9/17/2007	epi	16	9															
77.2	Ballston L-2	10/1/2007	epi	22	20															
77.1	Ballston L-2	6/23/2008	epi	24	23	2	3	2	5											
77.1	Ballston L-2	7/7/2008	epi	28	26	2	3	2	0											
77.1	Ballston L-2	7/22/2008	epi	20	26	3	3	3	0											
77.1	Ballston L-2	8/4/2008	epi	26	24	3	3	3	5											
77.1	Ballston L-2	8/18/2008	epi	25	22	3	3	3	5											
77.1	Ballston L-2	9/1/2008	epi	22	22	2	3	2	0											
77.1	Ballston L-2	9/15/2008	epi	26	22	2	3	2	0											
77.1	Ballston L-2	7/19/2011	epi									14.10	5.50							
77.1	Ballston L-2	8/14/2011	epi											0.15						
77.1	Ballston L-2	9/5/2011	epi									377.10	11.80							
77.1	Ballston L-2	10/3/2011	epi									50.30	22.30							
77.1	Ballston L-2	6/26/2012	epi	19	24	3	3	3	35	0	0									BI
77.1	Ballston L-2	7/10/2012	epi	22	26	4	3	3	8	4	4									I
77.1	Ballston L-2	7/22/2012	epi	28	26	2	3	2	7	0	0									I
77.1	Ballston L-2	8/5/2012	epi	30	27	3	3	3	8	0	0									I
77.1	Ballston L-2	8/19/2012	epi	29	24	3	3	3	8	0	0									FI
77.1	Ballston L-2	9/3/2012	epi	22	24	3	3	3	8	0	0									CE
77.1	Ballston L-2	9/16/2012	epi	24	22	3	3	2	0	0	0									F
77.1	Ballston L-2	10/2/2012	epi	18	16	3	3	3	1	4										CDF
77.1	Ballston L-2	7/7/2013	epi	33	28	3	3	2	1	0	0	305.40	8.30	<0.30	<0.510	49.30	41.20	41.20		
77.1	Ballston L-2	7/21/2013	epi	25	27	3	3	3	1	0	0	189.90	6.20	<0.30	<0.910	25.50	20.50	20.50		
77.1	Ballston L-2	8/3/2013	epi	24	24	3	3	3	0	0	0	267.80	10.30	<0.30	<0.390	37.40	29.50	29.50		
77.1	Ballston L-2	8/18/2013	epi	24	23	3	3	3	0	0	0	221.80	9.20	<0.30	<0.390	45.90	37.50	37.50		
77.1	Ballston L-2	9/2/2013	epi	26	25	2	3	2	0	0	0	45.10	7.90	<0.30	<1.100	14.80	5.10	5.10		
77.1	Ballston L-2	9/16/2013	epi	18	20	3	3	3	5	0	0	121.20	9.70	<0.30	<0.100	21.70	10.90	10.90		
77.1	Ballston L-2	9/30/2013	epi	21	19	3	3	3	5	0	0	59.30	9.00	<0.30	<0.100	11.70	2.90	2.90		
77.1	Ballston L-2	10/13/2013	epi	20	18	2	3	3	5	0	0	78.00	12.70	<0.30	<0.090	15.30	0.00	0.00		
77.1	Ballston L-2	5/25/2014	epi	32	22							0.50	2.90				3.0	0.0		
77.1	Ballston L-2	6/8/2014	epi	24	23	2	3	2	0	0	0	0.50	1.50	<1.83	<0.17	<0.001	2.6	0.0		
77.1	Ballston L-2	6/22/2014	epi	30	24	3	3	3	8	0	0	10.80	0.70	<0.58	<0.44	<0.002	5.2	2.0	I	I
77.1	Ballston L-2	7/6/2014	epi	28	25	3	3	3	8	0	4	134.60	1.40	<0.62	<0.03	<0.002	31.4	24.3	I	I
77.1	Ballston L-2	7/20/2014	epi	24	25	3	3	3	0	0	0	124.20	1.30	<0.39	<0.21	<0.003	29.50	23.6	I	I
77.1	Ballston L-2	8/4/2014	epi	22	25	3	3	3	8	0	0	33.10	1.80	<0.33	<0.01	<0.002	9.20	2.9	I	I
77.1	Ballston L-2	8/16/2014	epi	22	23	3	3	3	0	0	0	30.20	1.20	<0.39	<0.03	<0.001	10.40	2.1	I	I
77.1	Ballston L-2	9/1/2014	epi	26	25	2	3	2	0	0	0	20.50	0.90	<0.25	<0.14	<0.002	8.5	3.6	I	I
77.1	Ballston L-2	6/14/2015	epi	29	24	2	3	2	5	0	0	18.50	0.70	<0.55	<0.027	<0.318	3.3	2.0	I	I
77.1	Ballston L-2	6/28/2015	epi	18	22	2	3	2	0	0	0	32.40	1.10	<1.01	<0.007	<0.000	8.9	4.9	I	I
77.1	Ballston L-2	7/12/2015	epi	24	25	3	3	3	0	0	0	76.80	1.10	<0.30	<0.005	<0.028	13.1	7.9	I	I
77.1	Ballston L-2	7/26/2015	epi	32	25	3	3	3	0	0	0	100.70	2.90	<0.30	0.03	<0.014	24.4	11.1	I	I
77.1	Ballston L-2	8/9/2015	epi	30	26	3	3	3	0	0	0	45.00	2.20	<1.13	0.00	<0.013	13.0	5.7	I	I
77.1	Ballston L-2	8/23/2015	epi	26	26	3	3	3	7	0	0	4.30	1.20	<0.21	<0.003	<0.010	14.0	5.6	I	I
77.1	Ballston L-2	9/6/2015	epi	30	26	2	3	2	0	0	0	53.60	3.20	<0.26	<0.023	<0.086	14.6	6.1	I	I
77.1	Ballston L-2	9/20/2015	epi	22	23	2	3	2	0	0	0	50.90	1.90	<0.30	0.01	<0.035	14.1	5.4	I	I
77.2	Ballston L-2	6/26/2007	hypo	19	20															
77.2	Ballston L-2	7/10/2007	hypo		24															
77.2	Ballston L-2	7/24/2007	hypo		24															
77.2	Ballston L-2	8/6/2007	hypo		24															
77.2	Ballston L-2	8/20/2007	hypo		28															
77.2	Ballston L-2	9/4/2007	hypo		23															
77.2	Ballston L-2	9/17/2007	hypo		22															
77.2	Ballston L-2	10/1/2007	hypo		20															

## Legend Information

<i>Indicator</i>	<i>Description</i>	<i>Detection Limit</i>	<i>Standard (S) / Criteria (C)</i>
<b>General Information</b>			
Lnum	lake number (unique to CSLAP)		
Lname	name of lake (as it appears in the Gazetteer of NYS Lakes)		
Date	sampling date		
<b>Field Parameters</b>			
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
<b>Laboratory Parameters</b>			
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
<b>Lake Assessment</b>			
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 Ballston Lake

### Ballston Lake (1101-0036)

### MinorImpacts

#### Waterbody Location Information

Revised: 12/04/2006

Water Index No:	H-260-P1089-3-P1090	Drain Basin:	Upper Hudson River	
Hydro Unit Code:	02020003/240	Str Class:	A	Upper Hudson-Hoosic
Waterbody Type:	Lake	Reg/County:	5/Saratoga Co. (46)	
Waterbody Size:	277.7 Acres	Quad Map:	ROUND LAKE (J-25-2)	
Seg Description:	entire lake			

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

Use(s) Impacted	Severity	Problem Documentation
Water Supply	Threatened	Known
Public Bathing	Stressed	Known
Recreation	Stressed	Known

#### Type of Pollutant(s)

Known: ALGAL/WEED GROWTH, NUTRIENTS (phosphorus)  
Suspected: Silt/Sediment  
Possible: Water Level/Flow

#### Source(s) of Pollutant(s)

Known: ---  
Suspected: FAILING ON-SITE SYST, STREAMBANK EROSION  
Possible: Agriculture, Hydro Modification, Urban Runoff

#### Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))	
Verification Status:	4 (Source Identified, Strategy Needed)	
Lead Agency/Office:	ext/WQCC	Resolution Potential: Medium
TMDL/303d Status:	n/a ()	

#### Further Details

Water supply, public bathing and some recreational uses (swimming, fishing, boating) in Ballston Lake are known experience minor impacts to water quality due to nutrient (phosphorus) enrichment in this eutrophic lake. The primary source of these impacts are nonpoint runoff of nutrients and sediment from the lake watershed. While assessments in recent years have suggested greater impacts, it is not clear whether these conditions represent a short-term (perhaps weather related) phenomenon or is indicative of a more permanent long-term trend. The current assessment is that uses continue to be fully supported in the lake, in spite of minor impacts.

Ballston Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) since 1991 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 eutropic, or highly productive. Phosphorus levels in the lake regularly exceed the threshold for "stressed" recreational uses. However transparency measurements show lake clarity to exceed what is recommended for swimming beaches. Deep water nutrient levels are very high, but it does not appear that these nutrients mix with surface waters (or they are either dissipated or substantially reduced by the time the lake

turns over in the fall. Most other water quality measurements (color, conductivity, nitrate, ammonia, etc) do not appear to warrant significant concerns. However deep water ammonia levels are elevated and would be a threat to drinking waters use if a supply were to be drawn from deeper in the lake. (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 also show the lake to be generally supportive of recreational uses, with the lake being described as "excellent" to "slightly impacted" for most uses. Assessments have been somewhat less favorable in more recent years, primarily due to less than favorable weather conditions. Weed growth is not dense enough to have an impact of recreational uses or aesthetic quality of the lake. For many lake associations, this is the ideal situation: limited aquatic vegetation that does not hinder swimming or boating, but that is adequate to support a sports fishery. (DEC/DOW, BWAM/CSLAP, May 2006)

Copper sulfate, has been applied to the lake annually (in June) for at least the last 20 years in order to reduce algal blooms. While many feel this is an effective way to reduce algae, others are certain of the effectiveness of this practice or of the long-term effects on the aquatic community, including a previously excellent bass, walleye and pike fishery. There are also concerns regarding the threat of invasive species and residents routinely conduct hand-harvesting activities to address impacts from aquatic plant populations. (Saratoga County SWCD, 2006)

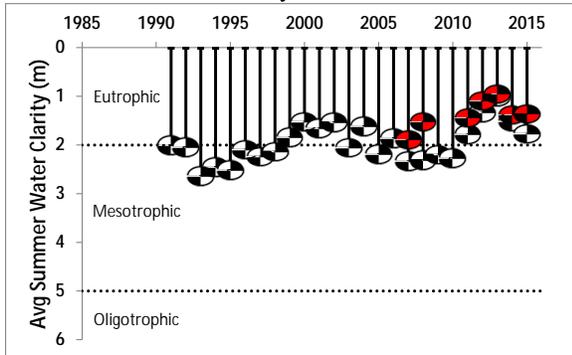
Another specific source of nutrients to the lake that is currently being addressed by NYSDEC through enforcement action is the wastewater discharge from a local restaurant (Carney's Restaurant). This facility continues to operate with a failed septic tank/sand filter system that discharges partially wastewater to a tributary of Ballston Lake. The restaurant has a long history (10-plus years) of non-compliance. (DEC/DOW, Reg 5, December 2006)

Previous assessments have indicated that the lake outlet is clogged by beaver dams, fallen trees, sediment and massive amounts of water willow and other weeds. As a result seasonally high water levels (6-8") cause flooding with shoreline erosion and inundation of private septic systems. BLIA members have been clearing the existing channel by hand, but once opened up it really needs to be dredged. Town of Ballston has agreed to match funds to rent Army Corps amphibious backhoe to dredge channel and dig ponds in wetland for improved storage of stormwater to more rapidly drain Lake after heavy rain and snowmelt. (Ballston Lake Improvement Association, 1996)

## Appendix C: Long Term Plots: Ballston Lake

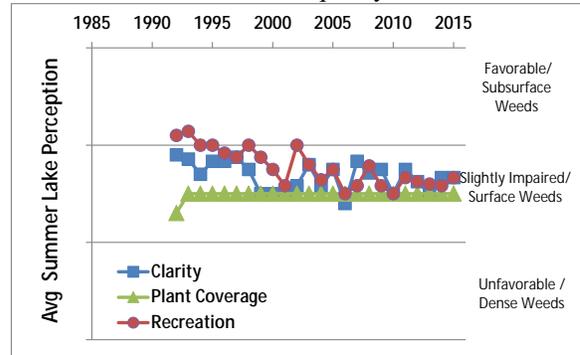
### Long Term Trends: Water Clarity

- ↓ since early 1990s; ↓ 2<sup>nd</sup> site last decade
- Most readings typical of *eutrophic* lakes at both sites recent years



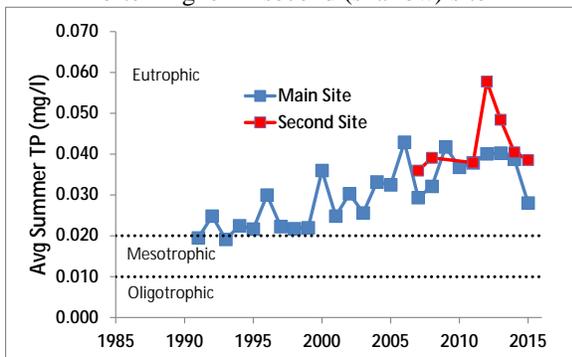
### Long Term Trends: Lake Perception

- Degrading rec/water quality assessments
- Recreational perception more closely connected to water quality than weeds



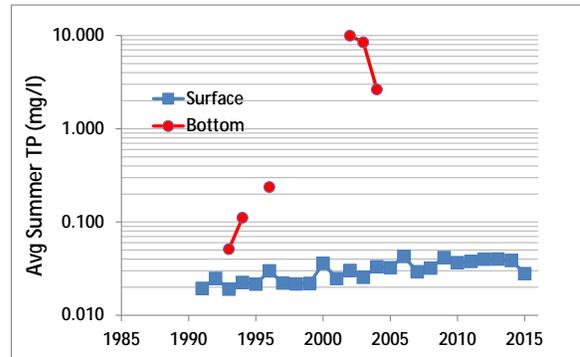
### Long Term Trends: Phosphorus

- Significant ↑ TP over last two decades
- Most readings typical of *eutrophic* lakes and often higher in second (shallow) site



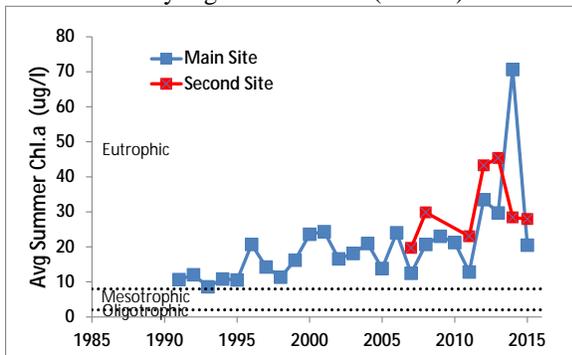
### Long Term Trends: Bottom Phosphorus

- Not measured in recent years
- Substantially higher in bottom; this may lead to some increase in surface TP levels



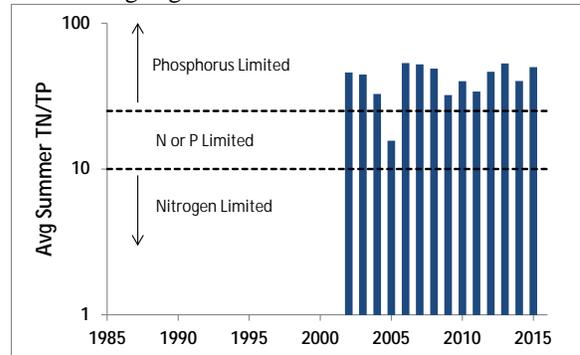
### Long Term Trends: Chlorophyll a

- Significant ↑ at both sites; slight ↓ 2015
- Most readings typical of *eutrophic* lakes and usually higher at shallow (second) site



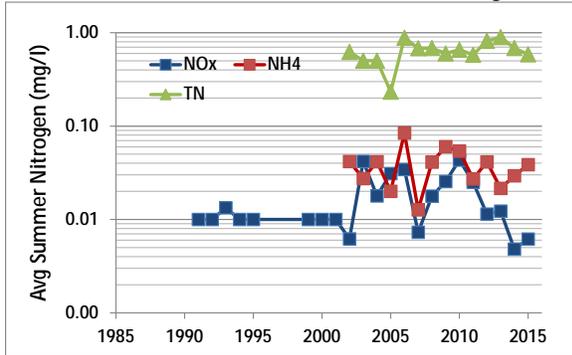
### Long Term Trends: N:P Ratio

- No long term trend
- Most readings indicate phosphorus limits algae growth



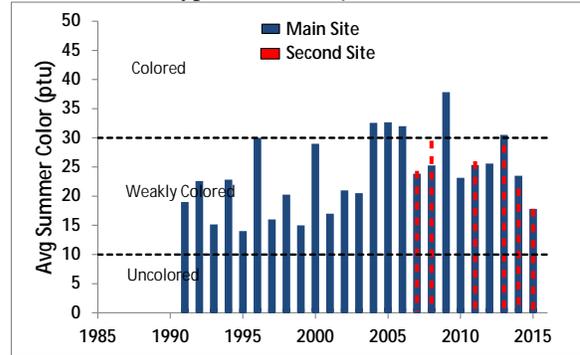
### Long Term Trends: Nitrogen

- No clear trends for any form of nitrogen; recent decrease NOx
- Low nitrate, ammonia and total nitrogen



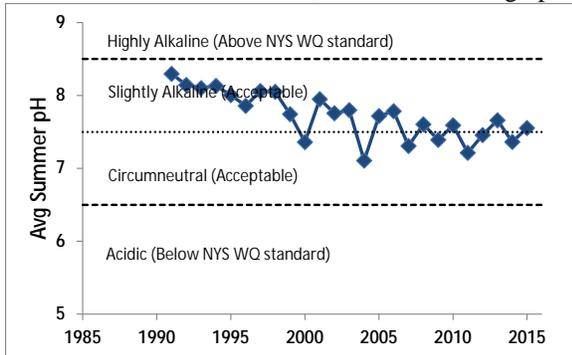
### Long Term Trends: Color

- ↑ slightly, similar both sites; ↑ likely due to lab change in 2002 than a real increase
- Color typical of *weakly colored* lakes



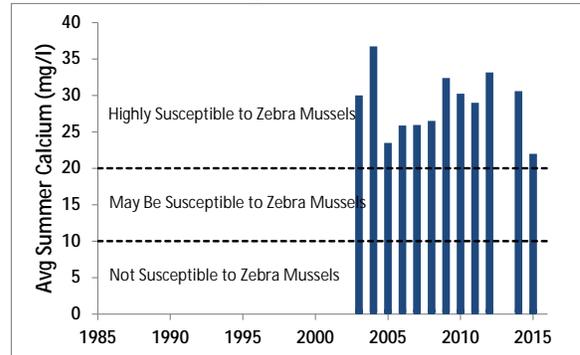
### Long Term Trends: pH

- Decreased significantly since early 1990s
- Most readings typical of *slightly alkaline* to *circumneutral* lakes, but occasional high pH



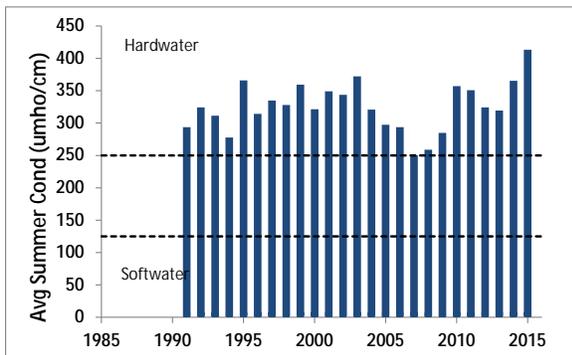
### Long Term Trends: Calcium

- No long term trend; lower in 2015
- Most readings indicate high susceptibility to zebra mussels, which are found in lake



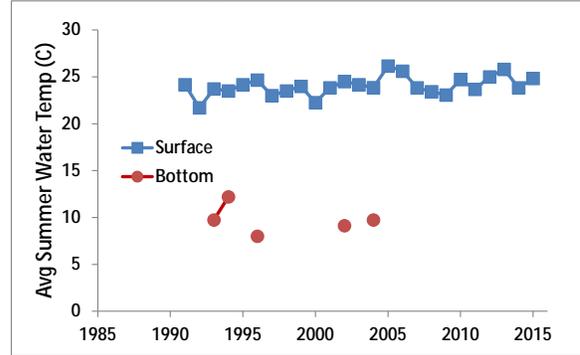
### Long Term Trends: Conductivity

- No long term trend; slight increase since '07
- Most readings typical of *hardwater* lakes



### Long Term Trends: Water Temperature

- No long term trend; perhaps slight increase
- Low deepwater temperature indicates strong thermal layer



## **Appendix D: Algae Testing Results from SUNY ESF Study**

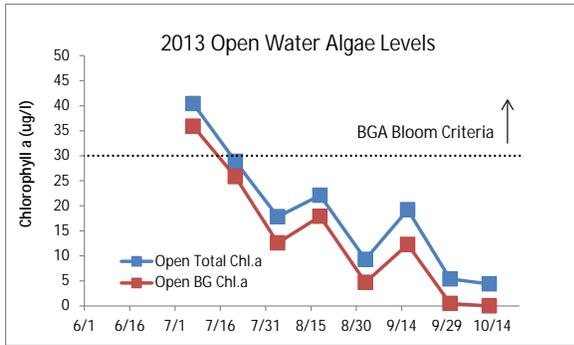
Most algae are harmless, naturally present, and an important part of the food web. However excessive algae growth can cause health, recreational, and aesthetic problems. Some algae can produce toxins that can be harmful to people and animals. High quantities of these algae are called harmful algal blooms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

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

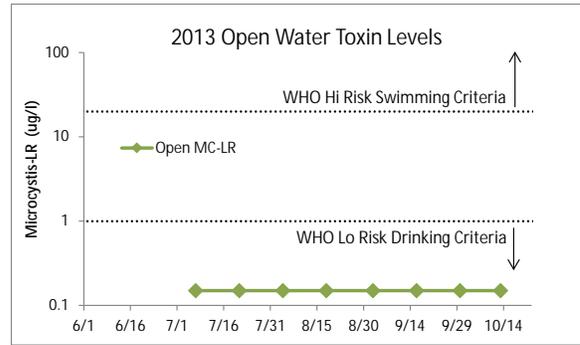
Some of these results are reported in other portions of these reports. This appendix the seasonal change in blue green algae, other algae types, and the primary algal toxin (microcystin-LR, a liver toxin). Analysis was completed on open water samples and, for some lakes, shoreline samples that were collected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

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

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



**Figure D1a:**  
2013 Open Water Total and BGA Chl.a-Primary



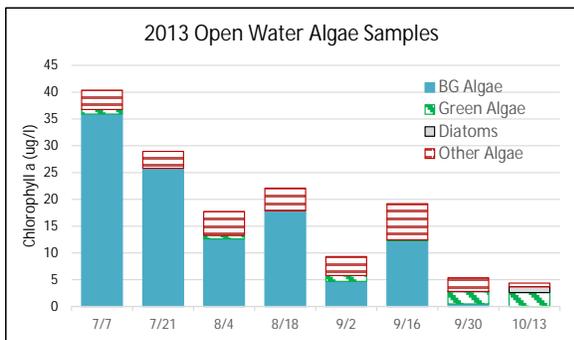
**Figure D2a:**  
2013 Open Water Microcystin-LR-Primary



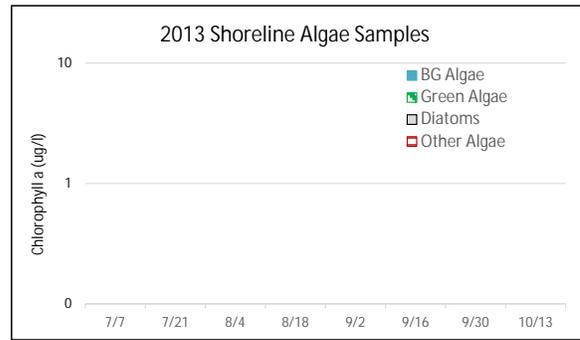
**Figure D3a:**  
2013 Shoreline Total and BGA Chl.a-Primary



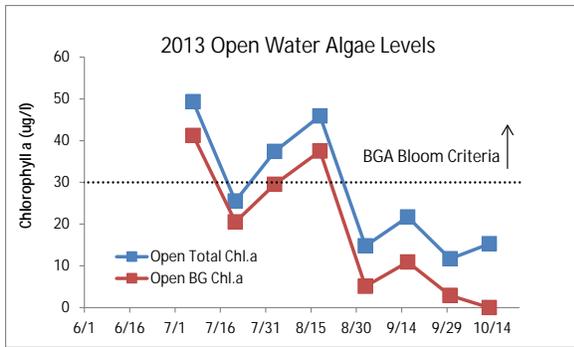
**Figure D4a:**  
2013 Shoreline Microcystin-LR- Primary



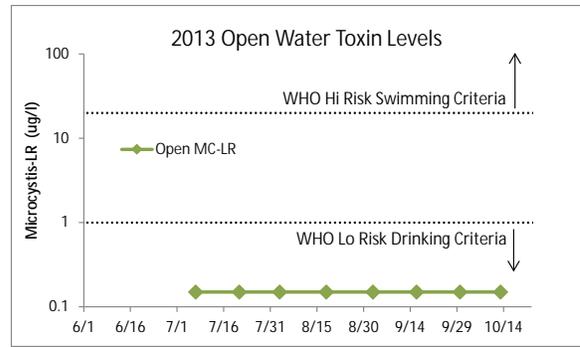
**Figure D5a:**  
2013 Open Water Algae Types- Primary



**Figure D6a:**  
2013 Shoreline Algae Types- Primary



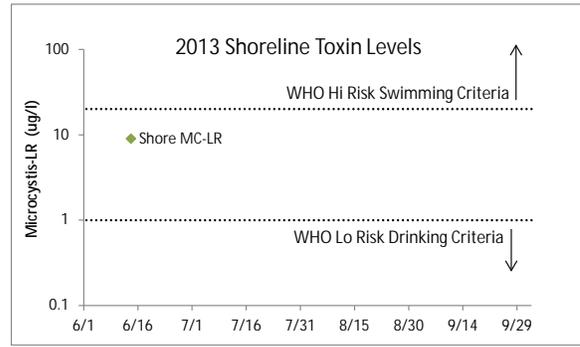
**Figure D1b:**  
2013 Open Water Total and BGA Chl.a-Shallow Site



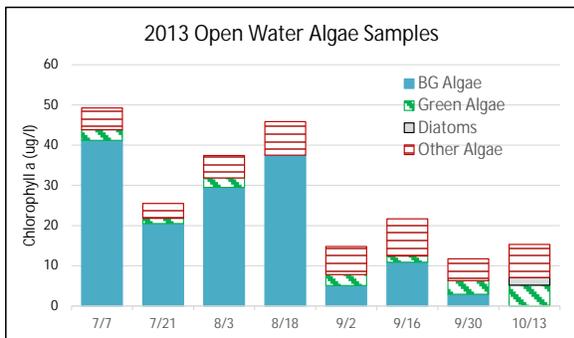
**Figure D2b:**  
2013 Open Water Microcystin-LR- Shallow Site



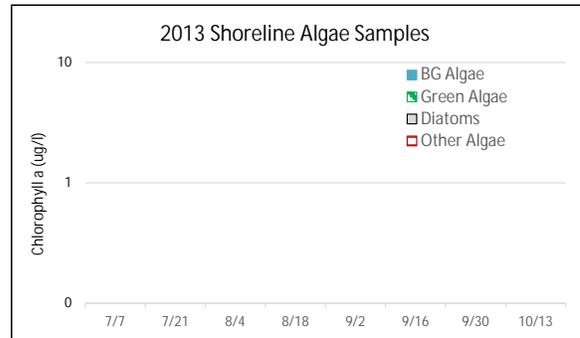
**Figure D3b:**  
2013 Shoreline Total and BGA Chl.a- Shallow Site



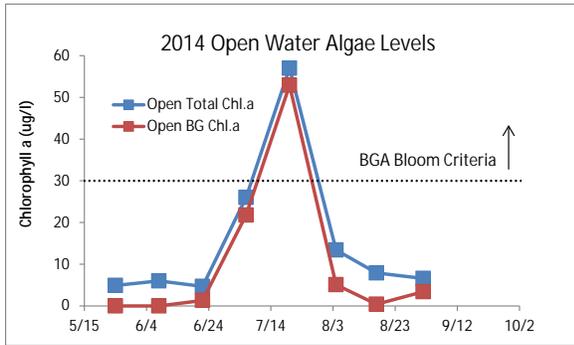
**Figure D4b:**  
2013 Shoreline Microcystin-LR- Shallow Site



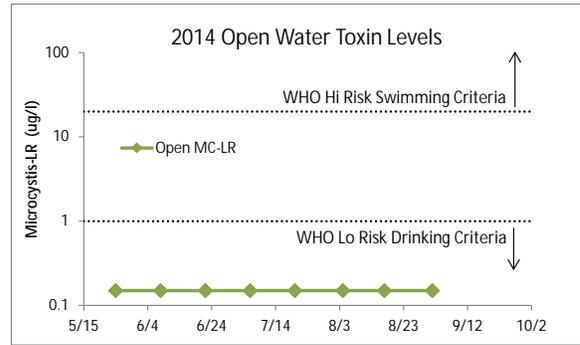
**Figure D5b:**  
2013 Open Water Algae Types- Shallow Site



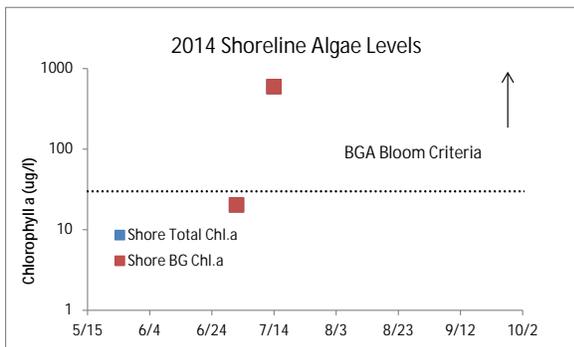
**Figure D6b:**  
2013 Shoreline Algae Types- Shallow Site



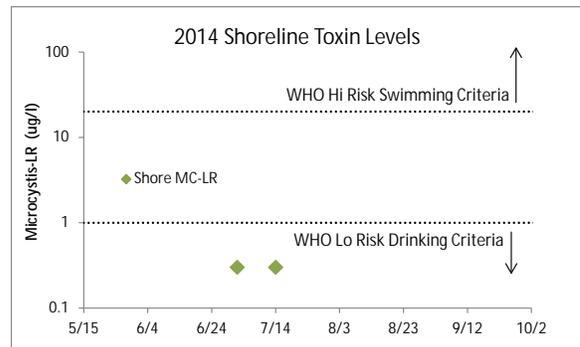
**Figure D7a:**  
2014 Open Water Total and BGA Chl.a-Primary



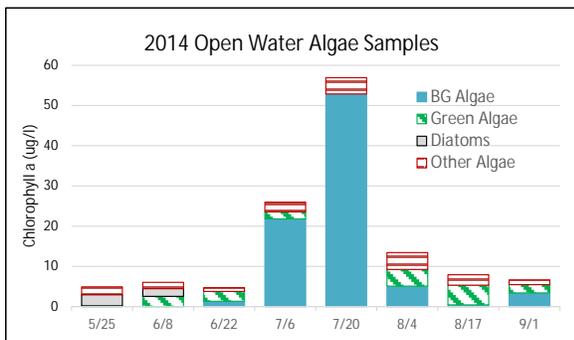
**Figure D8a:**  
2014 Open Water Microcystin-LR-Primary



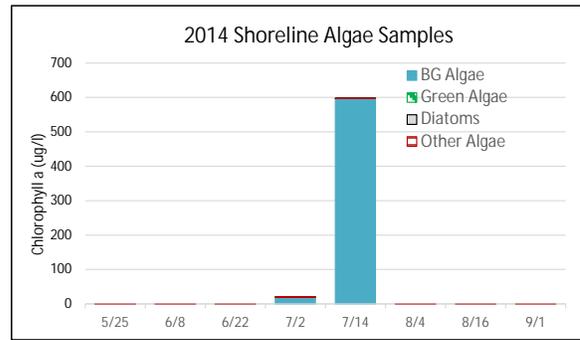
**Figure D9a:**  
2014 Shoreline Total and BGA Chl.a-Primary



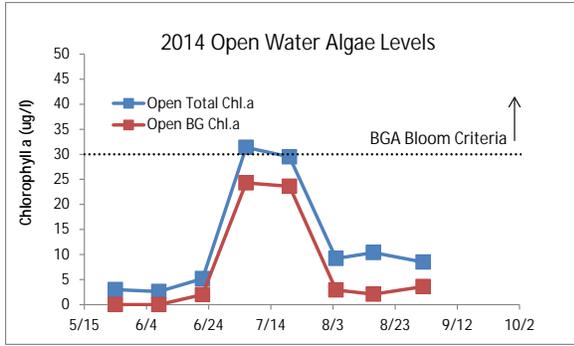
**Figure D10a:**  
2014 Shoreline Microcystin-LR- Primary



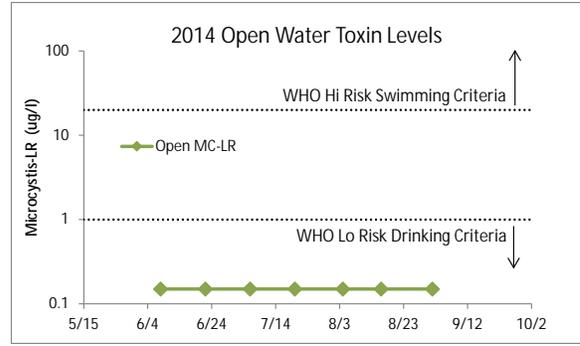
**Figure D11a:**  
2014 Open Water Algae Types- Primary



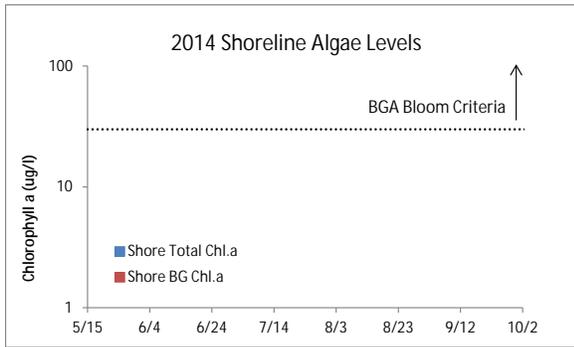
**Figure D12a:**  
2014 Shoreline Algae Types- Primary



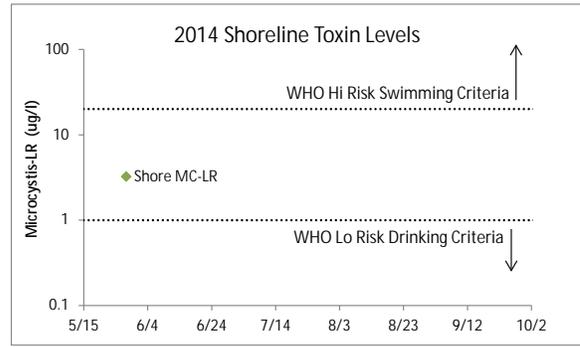
**Figure D7b:**  
2014 Open Water Total and BGA Chl.a-Shallow Site



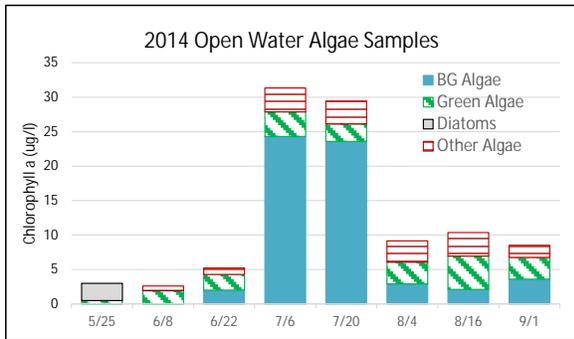
**Figure D8b:**  
2014 Open Water Microcystin-LR- Shallow Site



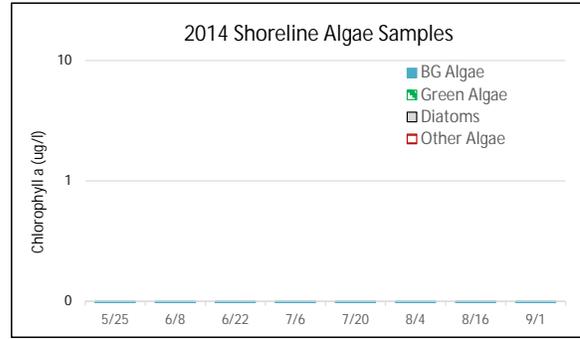
**Figure D9b:**  
2014 Shoreline Total and BGA Chl.a- Shallow Site



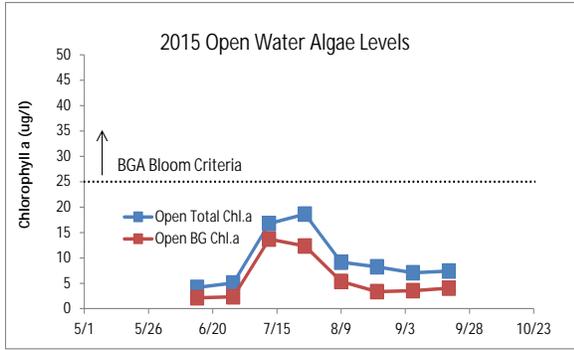
**Figure D10b:**  
2014 Shoreline Microcystin-LR- Shallow Site



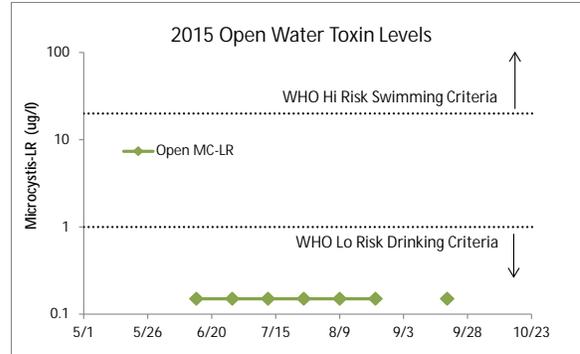
**Figure D11b:**  
2014 Open Water Algae Types- Shallow Site



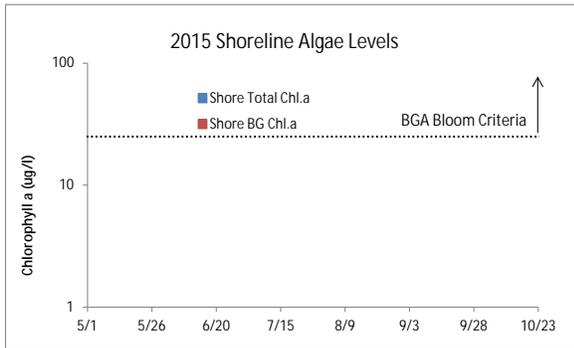
**Figure D12b:**  
2014 Shoreline Algae Types- Shallow Site



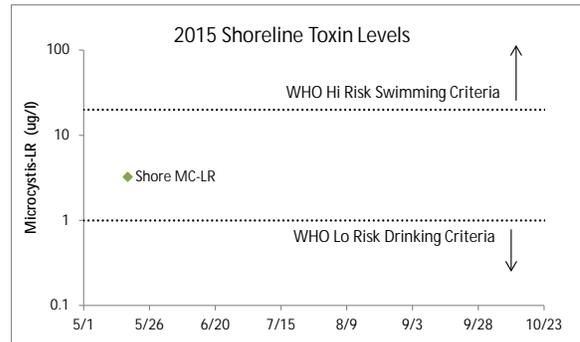
**Figure D13a:**  
2015 Open Water Total and BGA Chl.a-Primary



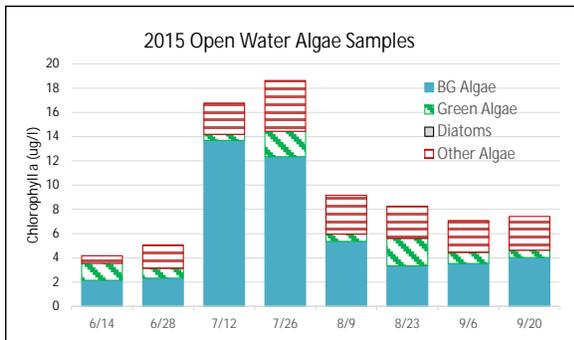
**Figure D14a:**  
2015 Open Water Microcystin-LR-Primary



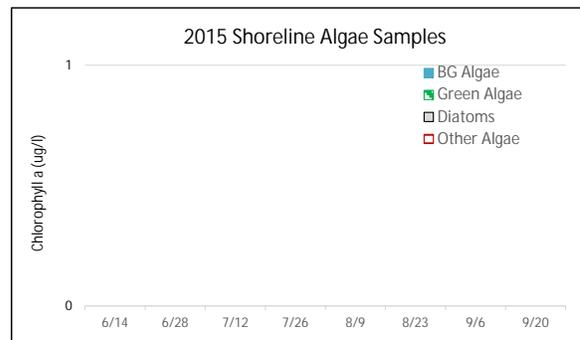
**Figure D15a:**  
2015 Shoreline Total and BGA Chl.a-Primary



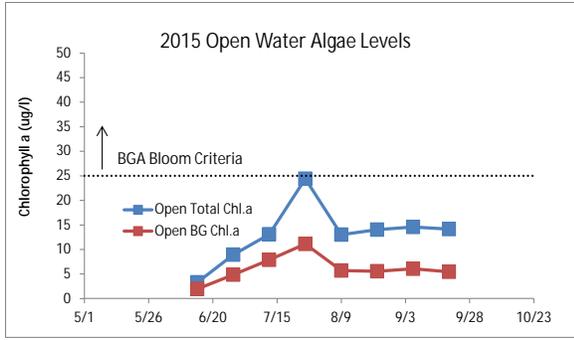
**Figure D16a:**  
2015 Shoreline Microcystin-LR- Primary



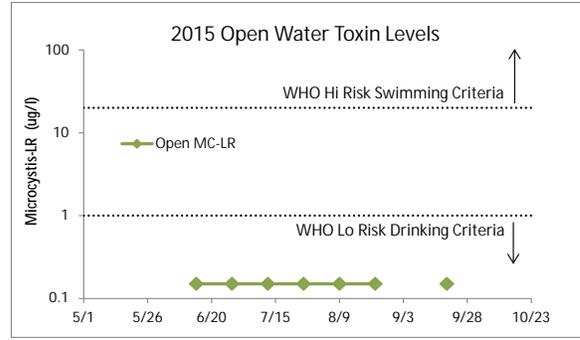
**Figure D17a:**  
2015 Open Water Algae Types- Primary



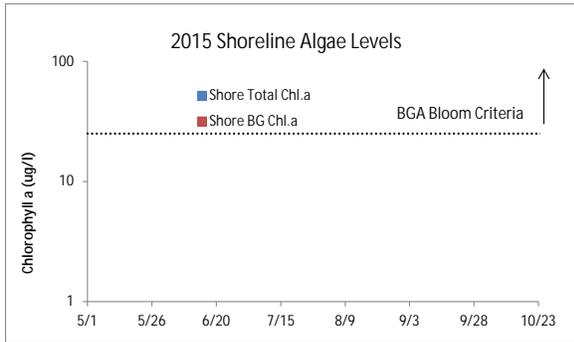
**Figure D18a:**  
2015 Shoreline Algae Types- Primary



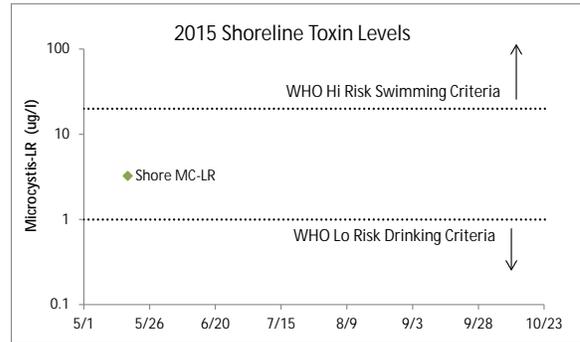
**Figure D13b:**  
2015 Open Water Total and BGA Chl.a-Shallow Site



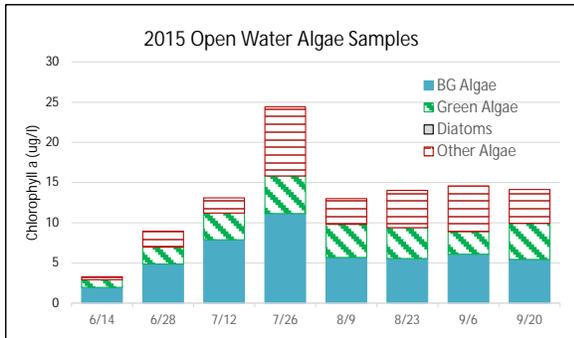
**Figure D14b:**  
2015 Open Water Microcystin-LR- Shallow Site



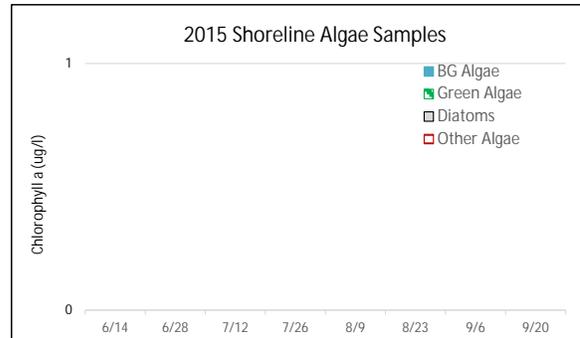
**Figure D15b:**  
2015 Shoreline Total and BGA Chl.a- Shallow Site



**Figure D16b:**  
2015 Shoreline Microcystin-LR- Shallow Site



**Figure D17b:**  
2015 Open Water Algae Types- Shallow Site



**Figure D18b:**  
2015 Shoreline Algae Types- Shallow Site

## Appendix E: AIS Species in Saratoga County

The table below shows the invasive aquatic plants and animals that have been documented in Saratoga 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](http://www.dec.ny.gov/docs/lands_forests_pdf/islist.pdf)).

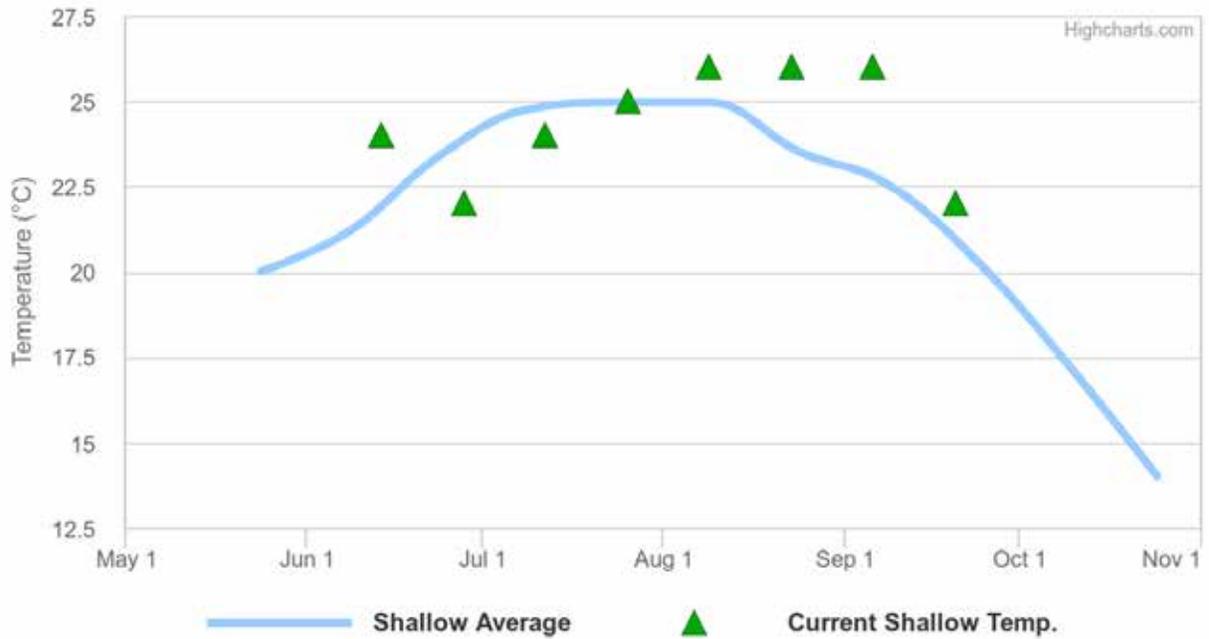
This list is not complete, but instead represents only those species that have been reported and verified within the county. If any additional aquatic invasive species (AIS) are known or suspected in these or other waterbodies in the county, this information should be reported through iMap invasives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

<b>Aquatic Invasive Species – Saratoga County</b>			
<b>Waterbody</b>	<b>Kingdom</b>	<b>Common name</b>	<b>Scientific name</b>
Anthony Kill	Plant	Water chestnut	<i>Trapa natans</i>
Ballston Lake	Animal	Zebra mussel	<i>Dreissena polymorpha</i>
Ballston Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Ballston Lake	Plant	Water chestnut	<i>Trapa natans</i>
Efner Lake	Plant	Fanwort	<i>Cabomba caroliniana</i>
Galway Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Galway Lake	Plant	Brittle naiad	<i>Najas minor</i>
Galway Lake	Plant	Water chestnut	<i>Trapa natans</i>
Great Sacandaga Lake	Animal	Spiny waterflea	<i>Bythotrephes longimanus</i>
Great Sacandaga Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Hudson River- Schuylerville	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Hudson River- Schuylerville	Plant	Water chestnut	<i>Trapa natans</i>
Hunt Lake	Plant	Fanwort	<i>Cabomba caroliniana</i>
Jenny Lake	Plant	Fanwort	<i>Cabomba caroliniana</i>
Little Round Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Little Round Lake	Plant	Brittle naiad	<i>Najas minor</i>
Little Round Lake	Plant	Water chestnut	<i>Trapa natans</i>
Mill Pond	Plant	Fanwort	<i>Cabomba caroliniana</i>
Moreau Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Round Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Round Lake	Plant	Brittle naiad	<i>Najas minor</i>
Round Lake	Plant	Water chestnut	<i>Trapa natans</i>
Saratoga Lake	Animal	Goldfish	<i>Carassius auratus</i>
Saratoga Lake	Animal	Common carp	<i>Cyprinus carpio</i>

<b>Waterbody</b>	<b>Kingdom</b>	<b>Common name</b>	<b>Scientific name</b>
Saratoga Lake	Animal	Zebra mussel	<i>Dreissena polymorpha</i>
Saratoga Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Saratoga Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Saratoga Lake	Plant	Water chestnut	<i>Trapa natans</i>
Stony Creek Reservoir	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Stony Creek Reservoir	Plant	Water chestnut	<i>Trapa natans</i>
Van Patten's Pond	Plant	Water chestnut	<i>Trapa natans</i>
Woodland Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>

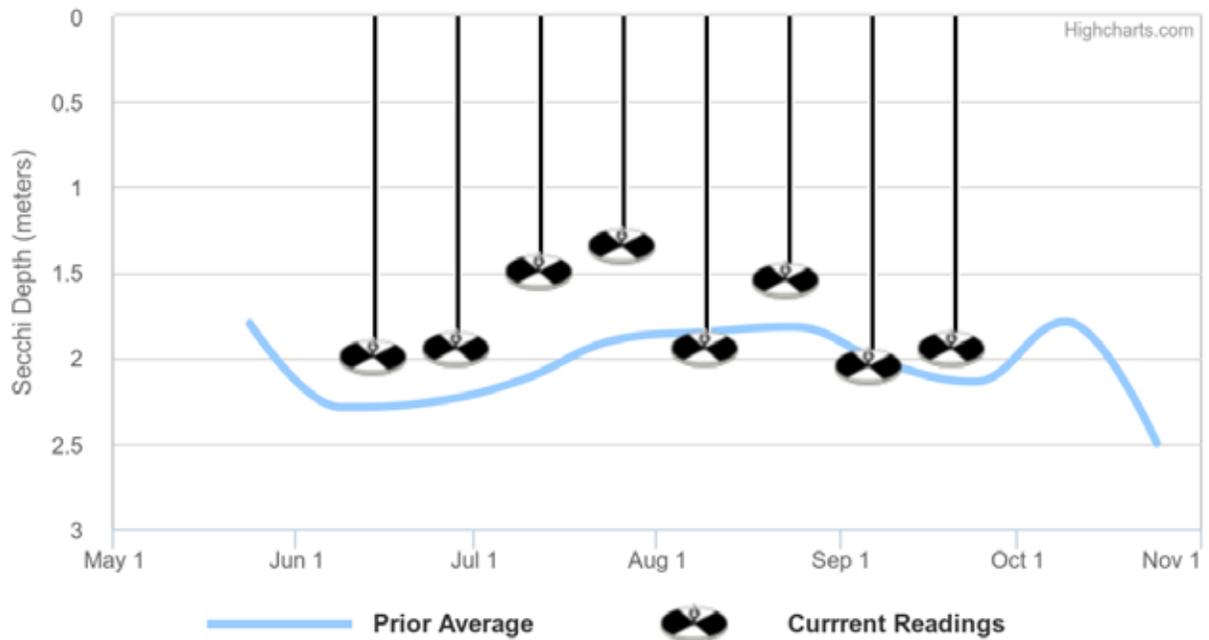
## Appendix F(a): Current Year vs. Prior Averages for Ballston Lake

### 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 1991 to 2014.

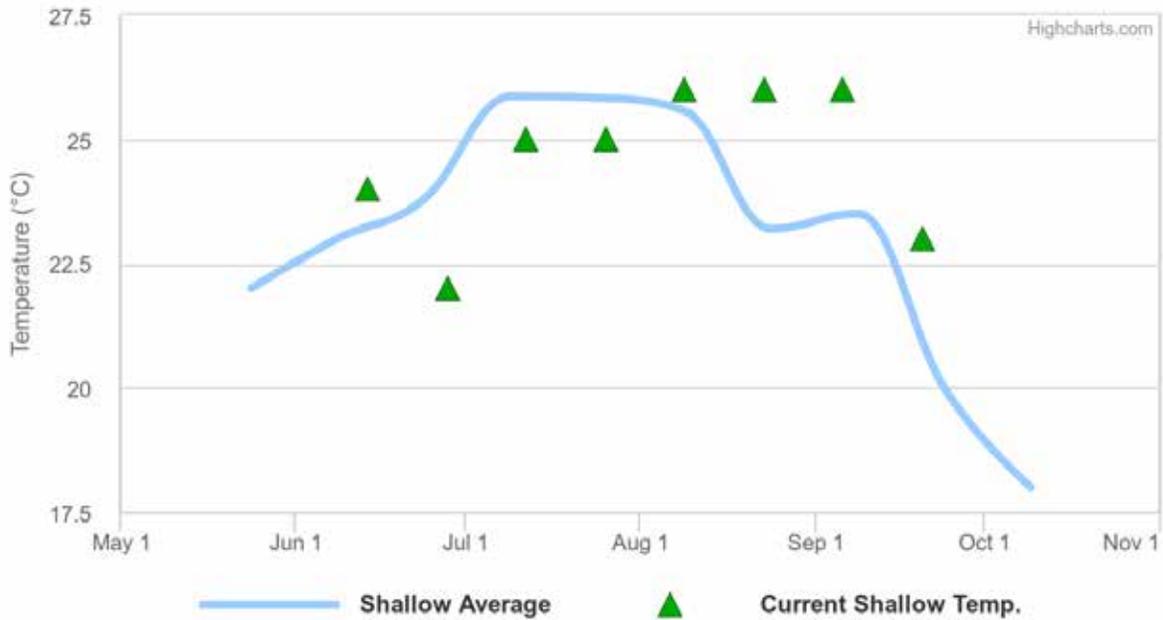
### Current Year Secchi Readings vs. Prior Average



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

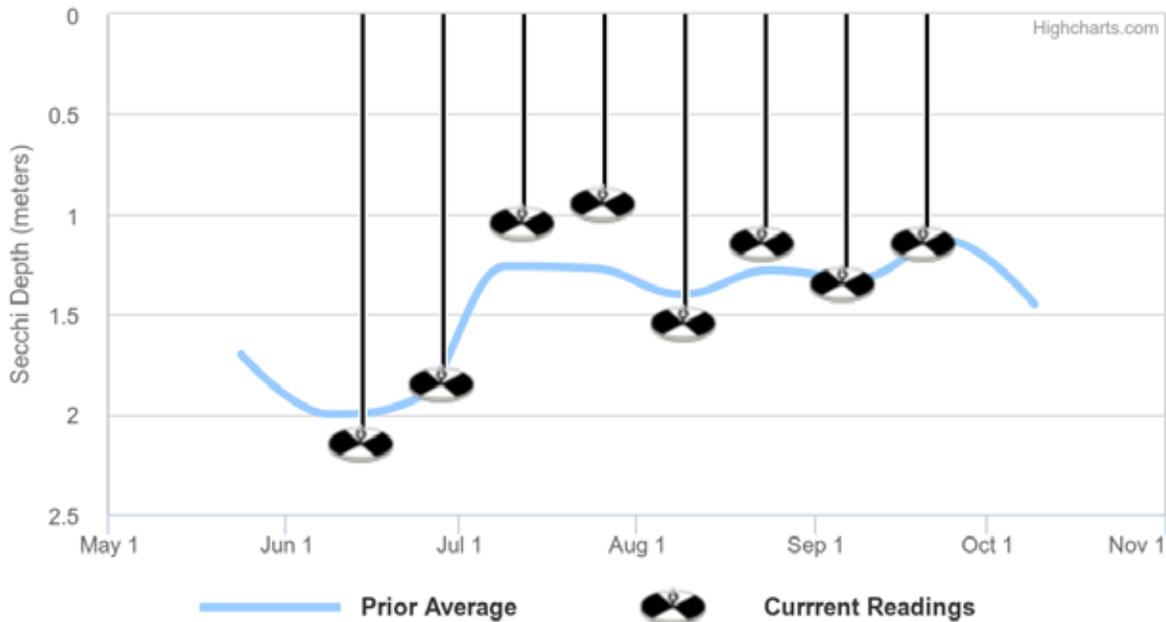
## Appendix F(b): Current Year vs. Prior Averages for Ballston Lake-Widewater

### 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 Ballston 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.

