

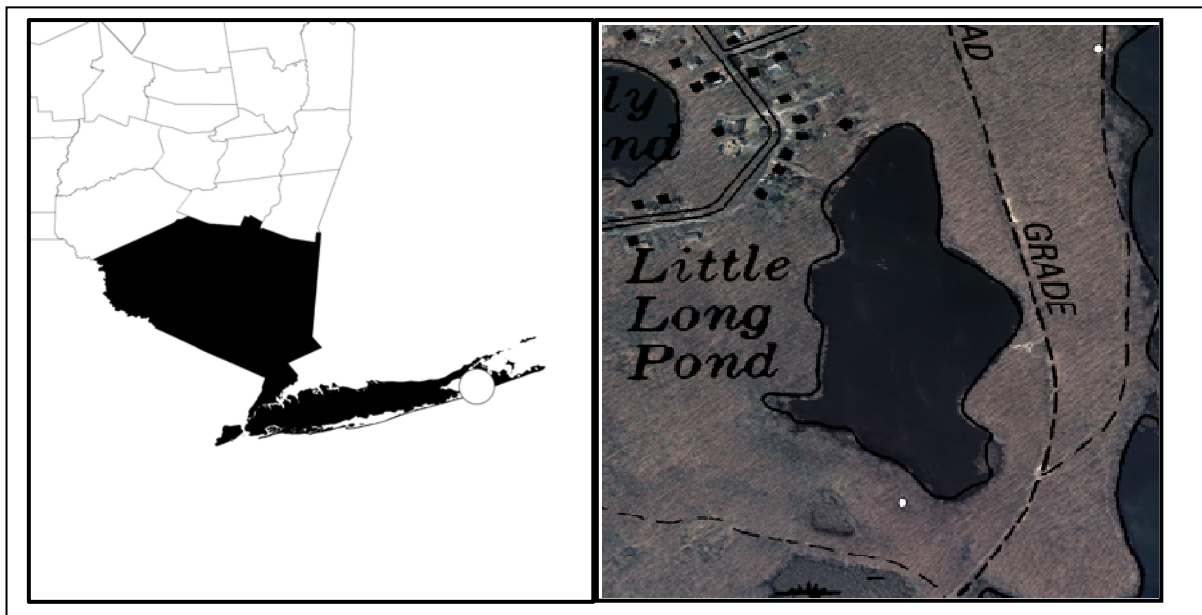
## CSLAP 2011 Lake Water Quality Summary: Little Long Pond

### General Lake Information

<b>Location</b>	Town of Southampton
<b>County</b>	Suffolk
<b>Basin</b>	Long Island Sound/Atlantic City
<b>Size</b>	5.2 hectares (12.8 acres)
<b>Lake Origins</b>	Natural
<b>Watershed Area</b>	97.5 hectares (240.8 acres)
<b>Retention Time</b>	0.5 years
<b>Mean Depth</b>	2.9 meters
<b>Sounding Depth</b>	6.1 meters
<b>Public Access?</b>	no
<b>Major Tributaries</b>	no named tribs
<b>Lake Tributary To...</b>	no named outlet
<b>WQ Classification</b>	C (non-contact recreation = boating, angling)
<b>Lake Outlet Latitude</b>	40.975
<b>Lake Outlet Longitude</b>	-72.296
<b>Sampling Years</b>	2007-2009, 2011
<b>2011 Samplers</b>	Dai Dayton, Jean Dodds, John Mahoney, Bob Wolfram
<b>Main Contact</b>	Dai Dayton

### Lake Map

(sampling location marked with a circle)



## **Background**

Little Long Pond is a 13 acre, class C lake found in the Town of Southampton in Suffolk County, in the Long Island region of New York State. It was first sampled as part of CSLAP in 2008.

It is one of 6 CSLAP lakes among the >100 lakes found in Suffolk County, and one of 8 CSLAP lakes among the >200 lakes and ponds in the Atlantic Ocean-Long Island Sound drainage basin.

## **Lake Uses**

Little Long Pond is a Class C lake; this means that the best intended use for the lake is for non-contact recreation—boating and aesthetics, although the lake may also support contact recreation—swimming and bathing. The lake is not used for swimming or other recreational uses, and there is no public access to the lake.

It is not known whether Little Long Pond has been stocked through any state fisheries stocking programs, or if any private stocking has occurred.

General statewide fishing regulations are applicable in Little Long Pond. In addition, there is a year-round open season on bluegill, crappie, pumpkinseed sunfish, trout and yellow perch. There is a size limit of 9", and a daily take limit of 15 for all of these fish except trout, which has a daily take limit of 3. Ice fishing of trout is permitted.

There are no lake-specific fish consumption advisories on Little Long Pond.

## **Historical Water Quality Data**

CSLAP sampling was conducted on Little Long Pond from 2007-2009 and 2011. The CSLAP reports for each of the past several years can be found on the NYSFOLA website at <http://nysfola.mylaketown.com>. The 2009 CSLAP report for Little Long Pond can also be found on the NYSDEC web page at <http://www.dec.ny.gov/lands/77836.html>.

Little Long Pond has not been sampled through any previous NYSDEC monitoring program. It is not known if the lake has been sampled by any organizations associated with the Long Island Greenbelt.

There are no NYSDEC RIBS monitoring sites near Little Long Pond, and there are no named tributaries to the lake.

## **Lake Association and Management History**

Little Long Pond is part of the Long Pond Greenbelt complex, along with (among other CSLAP lakes) Black Pond and Lily Pond. The Long Pond Greenbelt is an approximately 11-kilometer (7-mile) north-south corridor of ponds, streams, and adjacent upland areas in the Outer Coastal Plain physiographic province. The preservation of land in the Long Pond Greenbelt has been a goal in the master plan for the town of Southampton since 1970. Long Pond Greenbelt is recognized by the New York State Department of State as a Significant Coastal Fish and Wildlife Habitat, and by the U.S. Fish and Wildlife Service as a priority wetland complex under the federal Emergency Wetlands Resources Act of 1986. The New York State Natural Heritage Program, in conjunction with The Nature Conservancy, recognizes several Priority Sites for Biodiversity within the Long Pond Greenbelt complex. Other excellent examples of coastal plain pond shore communities occur at Black Pond and Lily Pond.

Information about the Long Pond Greenbelt can be found at [http://library.fws.gov/pubs5/web\\_link/text/lpg\\_form.htm](http://library.fws.gov/pubs5/web_link/text/lpg_form.htm).

## **Summary of 2011 CSLAP Sampling Results**

### **Evaluation of 2011 Annual and Monthly Results Relative to 2006-2010**

The Lake Condition Summary Table below and Appendix B compare annual and monthly results from 2011 to those measured in previous CSLAP sampling seasons. The pertinent deviations from normal conditions are discussed below.

### **Evaluation of Eutrophication Indicators**

Each of the trophic indicators (Secchi disk transparency, chlorophyll *a*, and total phosphorus) were close to normal in 2011. None of these indicators has exhibited any clear long-term trends, although trends may be apparent with more data. Lake productivity was slightly lower in late summer, as manifested in higher water clarity, although seasonal trends in lake productivity have not generally been apparent in Little Long Pond. The lake can be characterized as *mesoeutrophic*, or moderately to highly productive, based on chlorophyll *a*, water clarity (both indicative of *mesotrophic*, or moderately productive lakes) and total phosphorus readings (typical of *eutrophic*, or highly productive, lakes). The TSI evaluation suggests that chlorophyll *a* readings are lower than expected given the total phosphorus and Secchi disk transparency readings. It is not known if algae is limited by water depth, heavy zooplankton grazing, or other factors not measured through CSLAP. Overall trophic conditions are summarized on the Lake Scorecard.

### **Evaluation of Potable Water Indicators**

Algae levels are not high enough to render the lake susceptible to taste and odor compounds or elevated DBP (disinfection by product) compounds that could affect the potability of the water, although the lake is not classified for use for drinking water. Potable water conditions, at least as measurable through CSLAP, are summarized in the Lake Scorecard and Lake Condition Summary Table

### **Evaluation of Limnological Indicators**

NO<sub>x</sub> and specific conductance were higher than normal in 2011; the higher conductivity was observed in every month sampled in 2011. Each of the other limnological indicators were close to normal. None of these indicators has exhibited any clear long-term trends. However, it is likely that the small changes in most of these indicators have been within the normal range of variability in the lake. Overall limnological conditions are summarized in the Lake Scorecard.

### **Evaluation of Biological Condition**

Phytoplankton, macrophyte, zooplankton and macroinvertebrate surveys have not been evaluated through CSLAP in Little Long Pond, and the composition of the fish community is not known.

### **Evaluation of Lake Perception**

Water quality assessments were more favorable than normal in 2011, particularly in mid summer, despite the lack of any significant differences in water clarity, chlorophyll *a*, and color readings. Aquatic plant coverage and recreational assessments were close to normal in 2011, and none of these measures of lake perception has exhibited any clear long-term trends. Lake

perception is generally more favorable in late summer, and this was apparent in 2011 (and consistent with higher water clarity in late summer of 2011). Overall lake perception is summarized on the Lake Scorecard.

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

Water temperature readings in the summer index period were lower than normal in 2011, particularly after Hurricane Lee and Tropical Storm Irene, despite air temperature readings that were close to normal. Neither air nor water temperature has exhibited any clear long-term trends. It is not known if this is an indication of the lack of local climate change or if these changes cannot be well evaluated through CSLAP.

### **Evaluation of Algal Toxins**

Algal toxin levels can vary significantly within blooms and from shoreline to lake, and the absence of toxins in a sample does not indicate safe swimming conditions. Phycocyanin readings were below the levels indicating susceptibility for harmful algal blooms (HABs) in the open water, but not measured in blooms. A limited analysis of algae samples indicated microcystin levels well below the levels needed to support safe swimming in open water.

# Lake Condition Summary

Category	Indicator	Min	06-11 Avg	Max	2011 Avg	Classification	2011 Change?	Long-term Change?
Eutrophication Indicators	Water Clarity	0.75	2.32	3.47	2.47	Mesotrophic	Within Normal Range	No Change
	Chlorophyll <i>a</i>	0.10	2.30	10.14	1.93	Mesotrophic	Within Normal Range	No Change
	Total Phosphorus	0.003	0.022	0.045	0.028	Eutrophic	Within Normal Range	No Change
Potable Water Indicators	Hypolimnetic NH4					Not measured through CSLAP		
	Hypolimnetic As					Not measured through CSLAP		
	Hypolimnetic Iron					Not measured through CSLAP		
	Hypolimnetic Mn					Not measured through CSLAP		
Limnological Indicators	Hypolimnetic TP					Not measured through CSLAP		
	Nitrate + Nitrite	0.03	0.13	0.24	0.15	Intermediate NOx	Higher than Normal	No Change
	Ammonia	0.03	0.11	0.27	0.12	Intermediate Ammonia	Within Normal Range	No Change
	Total Nitrogen	0.45	0.83	1.40	0.83	Intermediate Total Nitrogen	Within Normal Range	No Change
	pH	6.96	7.64	8.35	7.74	Alkaline	Within Normal Range	No Change
	Specific Conductance	72	124	159	143	Softwater	Higher than Normal	No Change
	True Color	1	26	59	22	Intermediate Color	Within Normal Range	No Change
	Calcium	6.5	7.2	7.8	7.4	Not Susceptible to Zebra Mussels	Within Normal Range	No Change
Lake Perception	WQ Assessment	1	1.8	3	1.1	Not Quite Crystal Clear	More Favorable Than Normal	No Change
	Plant Coverage	1	2.9	4	2.8	Surface Plant Growth	Within Normal Range	No Change
	Rec. Assessment	1	1.5	3	1.3	Excellent	Within Normal Range	No Change
Biological Condition	Phytoplankton					Not measured through CSLAP	Not known	Not known
	Macrophytes					Fair quality of the aquatic plant community	Not known	Not known
	Zooplankton					Not measured through CSLAP	Not known	Not known
	Macroinvertebrates					Not measured through CSLAP	Not known	Not known
	Fish					Warmwater fishery	Not known	Not known
	Invasive Species					Not measured through CSLAP	Not known	Not known
Local Climate Change	Air Temperature	17	23.7	30	23.7		Within Normal Range	No Change
	Water Temperature	21	26.3	31	25.4		Lower Than Normal	No Change
Harmful Algal Blooms	Open Water Phycocyanin	5	18	46	18	The typical phycocyanin reading indicates some risk of BGA	Not known	Not known
	Open Water Microcystis	0.5	0.5	0.5	0.5	All readings indicate low lakewide toxins	Not known	Not known
	Shoreline Phycocyanin					Some shoreline BGA blooms likely	Not known	Not known
	Shoreline Microcystis	0.0	0.0	0.0	0.0	Shoreline bloom toxins above drinking water and swimming criteria	Not known	Not known
	Other Toxins					Anatoxin-a and cylindrospermopsin levels not reported	Not known	Not known

## **Evaluation of Lake Condition Impacts to Lake Uses**

Little Long Pond is not presently listed on the Atlantic Ocean / Long Island Sound PWL, last updated in 2002.

### **Potable Water (Drinking Water)**

The CSLAP dataset at Little Long Pond, including water chemistry data, physical measurements, and volunteer samplers' perception data, is inadequate to evaluate the use of the lake for potable water, and the lake is not used for this purpose. The algae levels in the lake suggest that the "unofficial" potable water use may be threatened by occasionally elevated nutrient levels.

### **Contact Recreation (Swimming)**

The CSLAP dataset at Little Long Pond, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggests that swimming and contact recreation would be fully supported, although occasionally low water clarity may *threaten* this use. Additional information about bacterial levels is needed to evaluate the safety of the water for swimming (and it is not known if any swimming occurs in the lake).

### **Non-Contact Recreation (Boating and Fishing)**

The CSLAP dataset on Little Long Pond, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggest that non-contact recreation should be fully supported.

### **Aquatic Life**

The CSLAP dataset on Little Long Pond, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggest that aquatic life should be fully supported, although additional data are needed to evaluate the food and habitat conditions for aquatic organisms in the lake.

### **Aesthetics**

The CSLAP dataset on Little Long Pond, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggest that aesthetics should be fully supported.

### **Fish Consumption**

There are no fish consumption advisories posted for Little Long Pond.

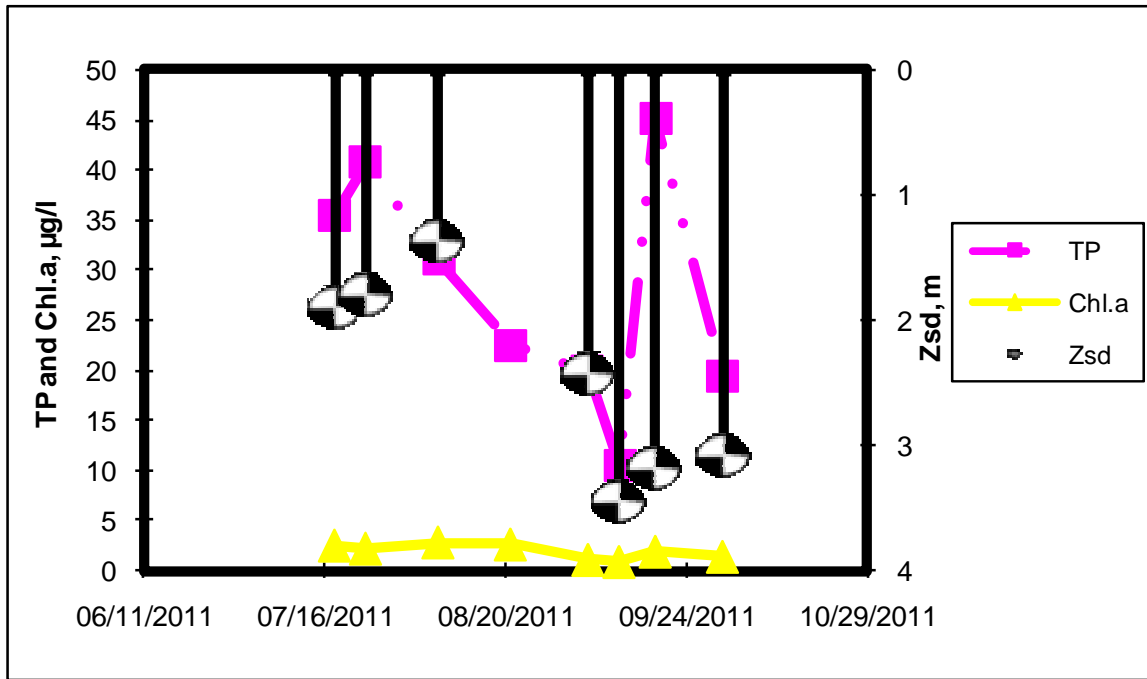
## **Additional Comments and Recommendations**

Aquatic plant monitoring in Little Long Pond may be useful in determining if the plant community is more strongly affected by native or invasive plants.

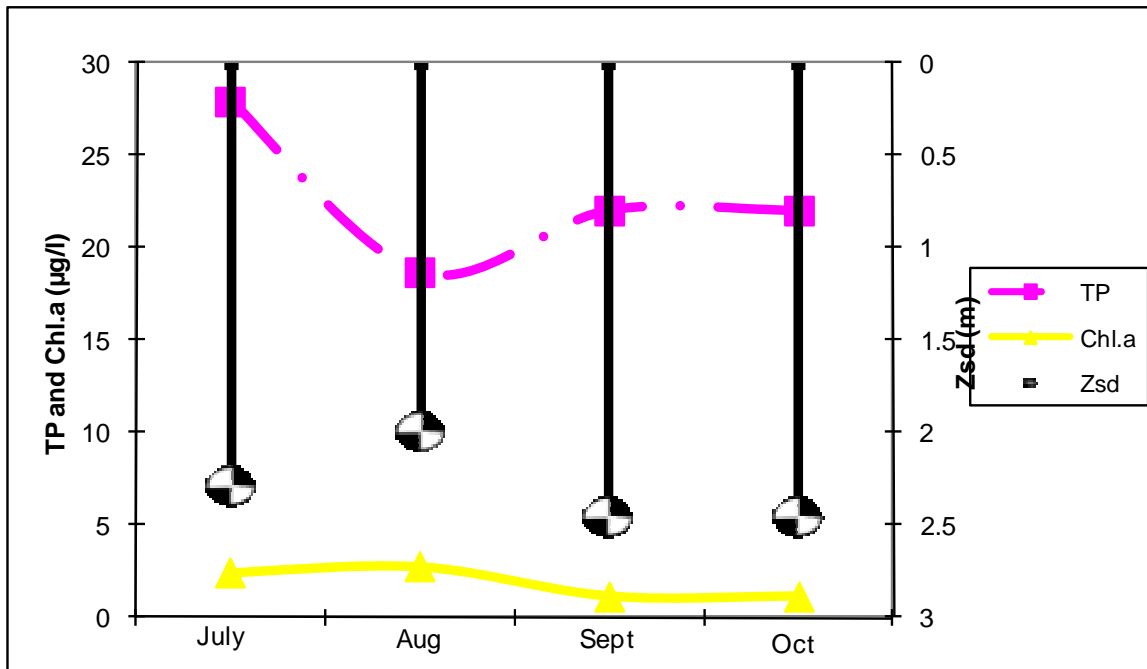
### **Aquatic Plant IDs-2011**

None submitted for identification.

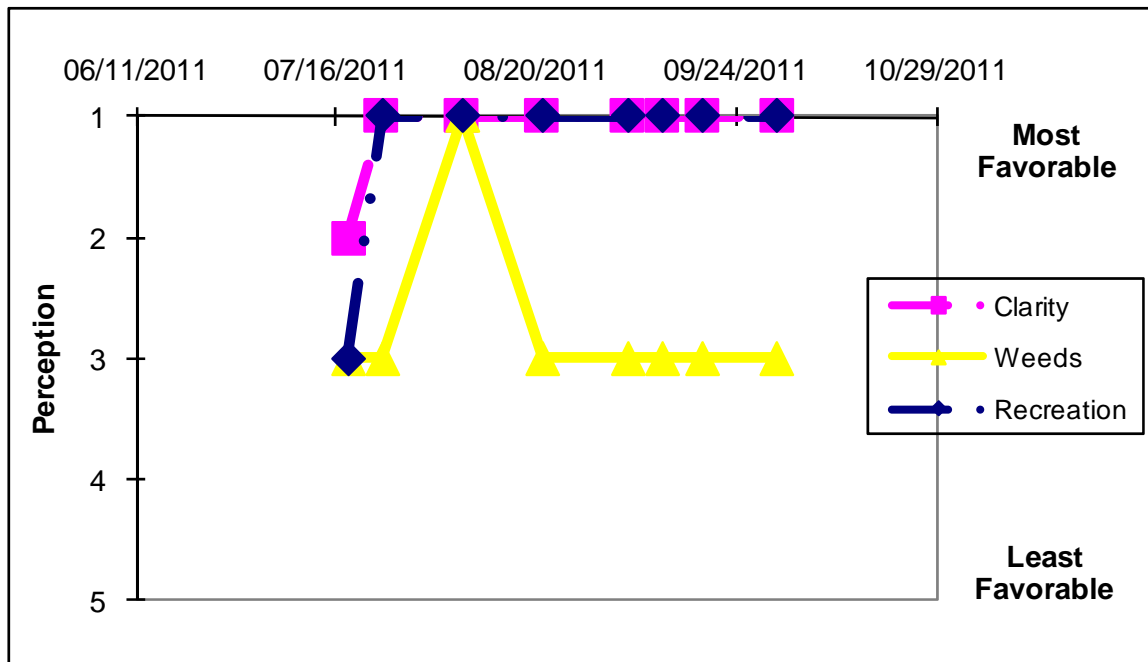
### Time Series: Trophic Indicators, 2011



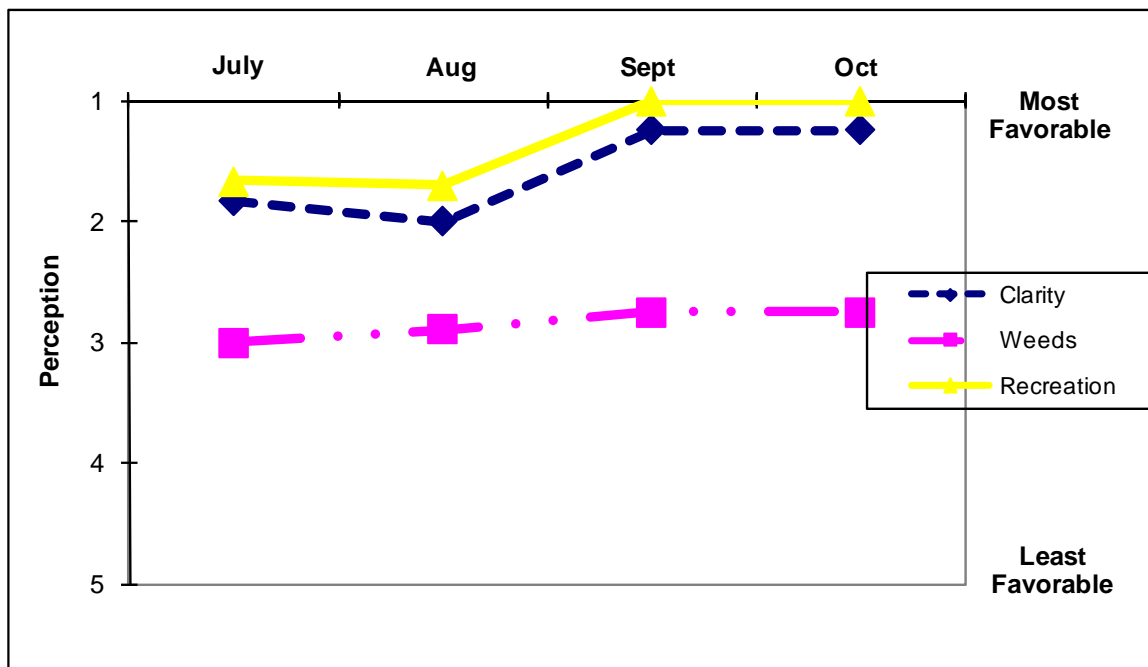
### Time Series: Trophic Indicators, Typical Year (2007-2011)



## Time Series: Lake Perception Indicators, 2011



## Time Series: Lake Perception Indicators, Typical Year (2007-2011)





## Appendix B- CSLAP Water Quality Sampling Results for Little Long Pond

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a
210	Little Long P	8/8/2006	5.5	2.20	1.5	0.017	0.1	0.1	0.99	59.14	28	7.80	144	7.6	0.52
210	Little Long P	8/25/2006	5.0	2.60	3.2	0.008	0.1	0.1	1.17	145.81	37	7.02	115		0.10
210	Little Long P	9/16/2006	3.0	0.75	2.0	0.012	0.1	0.1			32	8.32	72		0.61
210	Little Long P	7/25/2007	4.5	3.10	1.5	0.036	0.16	0.20	0.92	57.1	15	8.0	124	6.8	0.94
210	Little Long P	8/9/2007	5.6	1.60	1.5	0.037	0.14	0.08	0.91	54.3	24	7.1	122		1.67
210	Little Long P	8/22/2007	8.5	1.75	1.5	0.015	0.14	0.08	0.81	117.8	1	7.6	104		1.71
210	Little Long P	8/30/2007	5.9	2.35	2.0	0.003	0.14	0.06	0.78	692.8	28	7.7	96		2.66
210	Little Long P	7/10/2008	4.6	3.10	2.0	0.016	0.08	0.27	1.40	192.03	29	6.96	135	7.8	0.10
210	Little Long P	7/22/2008		1.37	1.3	0.016	0.10	0.17	0.83	115.00	24	7.45	126		5.47
210	Little Long P	8/12/2008		1.23	1.5	0.019	0.08	0.12	0.66	76.37	22	8.13	143		10.14
210	Little Long P	8/18/2008	6.1	3.40	1.3	0.014	0.03	0.04	0.45	70.02	18	7.49	131		7.84
210	Little Long P	07/13/2009	4.8	2.50	1.5	0.024	0.18	0.07	0.69	64.60	34	7.35	93	6.5	3.28
210	Little Long P	08/12/2009	6.0	2.85	1.3	0.015	0.09	0.06	0.54	81.67	37	7.56	72		0.10
210	Little Long P	08/31/2009	5.9	2.70	1.6	0.025	0.07	0.07	0.61	54.06	59	7.64	109		0.10
210	Little Long P	07/18/2011	5.8	1.90	1.8	0.036	0.15	0.03	0.75	46.17	22	7.91	159	7.2	2.50
210	Little Long P	07/24/2011	5.2	1.82	2.3	0.041	0.21	0.11	0.85	45.62	27	8.35	138		2.20
210	Little Long P	08/07/2011	5.9	1.39	2.4	0.031	0.11	0.06	0.74	52.30	24	7.09	134		2.80
210	Little Long P	08/21/2011				0.023	0.09	0.03	0.99	96.51	18	7.71	154		2.60
210	Little Long P	09/05/2011	5.3	2.44		0.020	0.10	0.12	0.80	88.22	23	7.51	133	7.6	1.10
210	Little Long P	09/11/2011	5.3	3.47	2.3	0.011	0.14	0.19	0.82	169.15	28	7.48	136		0.90
210	Little Long P	09/18/2011	5.2	3.20		0.045	0.16	0.20	0.73	35.38	10	7.76	155		1.90
210	Little Long P	10/01/2011		3.10		0.019	0.24	0.24	1.02	116.61	23	8.09	138		1.40

LNum	PName	Date	Type	TAir	TH20	QA	QB	QC	QD	QF	QG	AQ-PC	AQ-Chl	Microcystis-LR	Anatoxin-a	Cylin
210	Little Long P	8/8/2006	epi		29	2	3	2	0							
210	Little Long P	8/25/2006	epi	24	26	2	3	3	2							
210	Little Long P	9/16/2006	epi	24	22	2	2	1	0							
210	Little Long P	7/25/2007	epi	26	27	2	3	1	0							
210	Little Long P	8/9/2007	epi	23	28	3	3	1	0							
210	Little Long P	8/22/2007	epi	18	28	2	3	1	0							
210	Little Long P	8/30/2007	epi	24	25											
210	Little Long P	7/10/2008	epi	26	28	2	3	2	8							
210	Little Long P	7/22/2008	epi	26	31	2	3	1	0							
210	Little Long P	8/12/2008	epi	23	27	2	4	2	0							
210	Little Long P	8/18/2008	epi	24	27	3	3	2	0							
210	Little Long P	07/13/2009	epi	22	25	2	3	2	0							
210	Little Long P	08/12/2009	epi	28	27	2	3	2	8							
210	Little Long P	08/31/2009	epi	21	24	2	3	2	0							
210	Little Long P	07/18/2011	epi	24		2	3	3	5	0	0	12.80	4.10			
210	Little Long P	07/24/2011	epi	28	29	1	3	1	0	0	0	18.30	5.94			
210	Little Long P	08/07/2011	epi	30	29	1	1	1	5	0	0	46.30	12.80	0.54	<0.5	<0.1
210	Little Long P	08/21/2011	epi			1	3	1	0	0	0	29.70	10.70			
210	Little Long P	09/05/2011	epi	29	27	1	3	1	0	0	0	4.80	4.00			
210	Little Long P	09/11/2011	epi	20	23	1	3	1	0	0	0					
210	Little Long P	09/18/2011	epi	17	21	1	3	1	0	0	0	7.20	4.30			
210	Little Long P	10/01/2011	epi	20	23	1	3	1	0	0	0	5.90	3.50			

## Legend Information

<i>Indicator</i>	<i>Description</i>	<i>Detection Limit</i>	<i>Standard (S) / Criteria (C)</i>
<b>General Information</b>			
<b>Lnum</b>	lake number (unique to CSLAP)		
<b>Lname</b>	name of lake (as it appears in the Gazetteer of NYS Lakes)		
<b>Date</b>	sampling date		
<b>Field Parameters</b>			
<b>Zbot</b>	lake depth at sampling point, meters (m)		
<b>Zsd</b>	Secchi disk transparency or clarity	0.1m	1.2m ( C)
<b>Zsamp</b>	water sample depth (m) (epi = surface, hypo = bottom)	0.1m	none
<b>Tair</b>	air temperature ( C)	-10C	none
<b>TH20</b>	water temperature ( C)	-10C	none
<b>Laboratory Parameters</b>			
<b>Tot.P</b>	total phosphorus (mg/l)	0.003 mg/l	0.020 mg/l ( C)
<b>NOx</b>	nitrate + nitrite (mg/l)	0.01 mg/l	10 mg/l NO3 (S), 2 mg/l NO2 (S)
<b>NH4</b>	total ammonia (mg/l)	0.01 mg/l	2 mg/l NH4 (S)
<b>TN</b>	total nitrogen (mg/l)	0.01 mg/l	none
<b>TN/TP</b>	nitrogen to phosphorus (molar) ratio, = (TKN + NOx)*2.2/TP		none
<b>TCOLOR</b>	true (filtered) color (ptu, platinum color units)	1 ptu	none
<b>pH</b>	powers of hydrogen (S.U., standard pH units)	0.1 S.U.	6.5, 8.5 S.U. (S)
<b>Cond25</b>	specific conductance, corrected to 25C (umho/cm)	1 umho/cm	none
<b>Ca</b>	calcium (mg/l)	1 mg/l	none
<b>Chl.a</b>	chlorophyll a (ug/l)	0.01 ug/l	none
<b>Fe</b>	iron (mg/l)	0.1 mg/l	1.0 mg/l (S)
<b>Mn</b>	manganese (mg/l)	0.01 mg/l	0.3 mg/l (S)
<b>As</b>	arsenic (ug/l)	1 ug/l	10 ug/l (S)
<b>AQ-PC</b>	Phycocyanin (aquafior) (unitless)	1 unit	none
<b>AQ-Chl</b>	Chlorophyll a (aquafior) (ug/l)	1 ug/l	none
<b>MC-LR</b>	Microcystis-LR (ug/l)	0.01 ug/l	1 ug/l potable (C) 20 ug/l swimming (C)
<b>Ana</b>	Anatoxin-a (ug/l)	0.3 ug/l	none
<b>Cyl</b>	Cylindrospermopsin (ug/l)	0.1 ug/l	none
<b>Lake Assessment</b>			
<b>QA</b>	water quality assessment; 1 = crystal clear, 2 = not quite crystal clear, 3 = definite algae greenness, 4 = high algae levels, 5 = severely high algae levels		
<b>QB</b>	aquatic plant assessment; 1 = no plants visible, 2 = plants below surface, 3 = plants at surface, 4 = plants dense at surface, 5 = surface plant coverage		
<b>QC</b>	recreational assessment; 1 = could not be nicer, 2 = excellent, 3 = slightly impaired, 4 = substantially impaired, 5 = lake not usable		
<b>QD</b>	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		
<b>QF, QG</b>	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		

## Appendix B- Monthly Evaluation of Little Long Pond Data, 2006-2011

### June Data

	2006	2007	2008	2009	2010	2011
Zsd						
TP						
Chl.a						
NOx						
NH4						
TN						
pH						
SpCond						
Color						
Ca						
QA						
QB						
QC						
TH20						

High = average monthly reading > 90<sup>th</sup> percentile reading for lake, 2000-2010

Low = average monthly reading < 10<sup>th</sup> percentile reading for lake, 2000-2010

Normal = average monthly reading between 10<sup>th</sup> and 90<sup>th</sup> percentile reading for lake, 2000-2010

### July Data

	2006	2007	2008	2009	2010	2011
Zsd		HIGH	NORMAL	NORMAL		NORMAL
TP		HIGH	NORMAL	NORMAL		HIGH
Chl.a		NORMAL	NORMAL	NORMAL		NORMAL
NOx		HIGH	NORMAL	HIGH		HIGH
NH4		HIGH	HIGH	NORMAL		NORMAL
TN		NORMAL	HIGH	NORMAL		NORMAL
pH		NORMAL	NORMAL	NORMAL		HIGH
SpCond		NORMAL	NORMAL	NORMAL		HIGH
Color		LOW	NORMAL	NORMAL		NORMAL
Ca		NORMAL	HIGH	LOW		NORMAL
QA		NORMAL	NORMAL	NORMAL		LOW
QB		NORMAL	NORMAL	NORMAL		NORMAL
QC		NORMAL	NORMAL	NORMAL		NORMAL
TH20		NORMAL	HIGH	NORMAL		HIGH

High = average monthly reading > 90<sup>th</sup> percentile reading for lake, 2000-2010

Low = average monthly reading < 10<sup>th</sup> percentile reading for lake, 2000-2010

Normal = average monthly reading between 10<sup>th</sup> and 90<sup>th</sup> percentile reading for lake, 2000-2010

## August Data

	2006	2007	2008	2009	2010	2011
<i>Zsd</i>	NORMAL	NORMAL	NORMAL	NORMAL		NORMAL
<i>TP</i>	NORMAL	NORMAL	NORMAL	NORMAL		NORMAL
<i>Chl.a</i>	NORMAL	NORMAL	HIGH	NORMAL		NORMAL
<i>NOx</i>	NORMAL	NORMAL	LOW	NORMAL		NORMAL
<i>NH4</i>	NORMAL	NORMAL	NORMAL	NORMAL		LOW
<i>TN</i>		NORMAL	NORMAL	NORMAL		NORMAL
<i>pH</i>	NORMAL	NORMAL	NORMAL	NORMAL		NORMAL
<i>SpCond</i>	NORMAL	NORMAL	NORMAL	NORMAL		HIGH
<i>Color</i>	NORMAL	NORMAL	NORMAL	HIGH		NORMAL
<i>Ca</i>	NORMAL					
<i>QA</i>	NORMAL	NORMAL	NORMAL	NORMAL		LOW
<i>QB</i>	NORMAL	NORMAL	HIGH	NORMAL		LOW
<i>QC</i>	HIGH	NORMAL	NORMAL	NORMAL		NORMAL
<i>TH20</i>	NORMAL	NORMAL	NORMAL	NORMAL		HIGH

High = average monthly reading > 90<sup>th</sup> percentile reading for lake, 2000-2010

Low = average monthly reading < 10<sup>th</sup> percentile reading for lake, 2000-2010

Normal = average monthly reading between 10<sup>th</sup> and 90<sup>th</sup> percentile reading for lake, 2000-2010

## September Data

	2006	2007	2008	2009	2010	2011
<i>Zsd</i>	LOW					NORMAL
<i>TP</i>	NORMAL					NORMAL
<i>Chl.a</i>	NORMAL					NORMAL
<i>NOx</i>	NORMAL					NORMAL
<i>NH4</i>	NORMAL					NORMAL
<i>TN</i>						NORMAL
<i>pH</i>	HIGH					NORMAL
<i>SpCond</i>	LOW					HIGH
<i>Color</i>	NORMAL					NORMAL
<i>Ca</i>						NORMAL
<i>QA</i>	NORMAL					LOW
<i>QB</i>	LOW					NORMAL
<i>QC</i>	NORMAL					NORMAL
<i>TH20</i>	LOW					LOW

High = average monthly reading > 90<sup>th</sup> percentile reading for lake, 2000-2010

Low = average monthly reading < 10<sup>th</sup> percentile reading for lake, 2000-2010

Normal = average monthly reading between 10<sup>th</sup> and 90<sup>th</sup> percentile reading for lake, 2000-2010