

CSLAP 2010 Lake Water Quality Summary: Shenorock Lake

General Lake Information

Location	Town of Somers
County	Westchester
Basin	Lower Hudson River
Size	5.2 hectares (12.8 acres)
Lake Origins	augmented by Dam
Watershed Area	400 hectares (988 acres)
Retention Time	0.02 years
Mean Depth	1.1 meters
Sounding Depth	2.3 meters
Public Access?	no
Major Tributaries	no named tribs
Lake Tributary To...	unnamed outlet to Amawalk Reservoir
WQ Classification	B (contact recreation = swimming)
Lake Outlet Latitude	41.327
Lake Outlet Longitude	-73.739
Sampling Years	2004-2010
2010 Samplers	Dennis DiSanto
Main Contact	Dennis DiSanto

Lake Map



Background

Shenorock Lake is a 13 acre, class B lake found in the Town of Somers in Westchester County, just north of New York City. It was first sampled as part of CSLAP in 2004.

It is one of 15 CSLAP lakes among the more than 90 lakes found in Westchester County, and one of 41 CSLAP lakes among the more than 360 lakes and ponds in the Lower Hudson River drainage basin.

Lake Uses

Shenorock Lake is a Class B lake; this means that the best intended use for the lake is for contact recreation—swimming and bathing—and non-contact recreation—boating and aesthetics, although the lake is for aesthetics and by aquatic life. The lake is used as a backup water supply for the Amawalk/Shenorock water district and primarily for passive recreation by association members—the lake has no public access.

The state does not stock Shenorock Lake; it is not known if any private stocking occurs. General statewide fishing regulations are applicable in Shenorock Lake.

Historical Water Quality Data

CSLAP sampling was conducted on Shenorock Lake from 2004 to 2010. Some of the CSLAP reports for Shenorock Lake are found on the NYSFOLA website at www.nysfola.org, under NYS Lake Association Lake List.

Shenorock Lake was not sampled by the NYSDEC as part of any of the statewide lake or river monitoring programs. It is not known if local monitoring programs involved sampling on the lake.

Neither the ephemeral inlets to nor outlets from the lake have been monitored through the NYSDEC Rotating Intensive Basins (RIBS) or stream biomonitoring programs.

Lake Association and Management History

Shenorock Lake is represented by the United Owners Association of Shenorock, an association of 55 families. The lake once supported two association beaches, but the lake was closed for swimming in 1977 to become backup water supply for Amawalk/Shenorock water district. The Association submitted a proposal to the Somers Town Board to create Park District to allow swimming to return, with homeowners providing maintenance fees. Cleanup work would be needed to restore clubhouse and make lake suitable for swimming (including dredging).

It is not known if the district or preservation committee maintains a website.

Summary of 2010 CSLAP Sampling Results

Evaluation of Eutrophication Indicators

Water clarity readings in Shenorock Lake were higher than normal in 2010, consistent with a slight long-term increase in water transparency. However, total phosphorus and chlorophyll *a* readings were close to normal in 2010, and neither of these trophic indicators has exhibited any long-term trends. The lake continues to be characterized as *eutrophic*, based on water clarity, chlorophyll *a* and total phosphorus readings (all typical of *eutrophic* lakes). The trophic state indices (TSI) evaluation suggests that water clarity readings are higher than expected given the nutrient and algae levels in the lake. This may be due to patchy algae growth or periodic blooms. Phycocyanin readings were above the levels indicating susceptibility for harmful algal blooms (HABs) in 2009 and 2010. An analysis of algae samples in 2009 indicated microcystin levels below the levels needed to support safe swimming. 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, although the lake is not classified for this purpose. Shenorock Lake is not thermally stratified, at least on a consistent basis, so deepwater samples have not regularly been collected in the lake. The limited deepwater phosphorus data indicates that any deeper intakes would draw water similar to that measured at the lake surface. Potable water conditions, at least as measurable through CSLAP, are summarized in the Lake Scorecard and Lake Condition Summary Table.

Evaluation of Limnological Indicators

pH and conductivity readings were higher than normal, and total nitrogen readings were lower than normal in 2010. However, except for a slight decrease in NO_x readings since the mid 2000s, none of these limnological indicators has exhibited any clear long-term trends. It is likely that the small changes in most of these indicators from year to year represent normal variability. Overall limnological conditions are summarized in the Lake Scorecard and Lake Condition Summary Table.

Evaluation of Biological Condition

Phytoplankton, macrophyte, zooplankton and macroinvertebrate surveys have not been conducted through CSLAP. The composition of the fish community is not known, although it is likely that Shenorock Lake supports a warmwater fishery.

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

Evaluation of Lake Perception

Aquatic plant coverage was more extensive in 2009 and 2010, resulting in less favorable recreational assessments in 2010. However, none of these measures of lake perception has exhibited any clear long-term trends. Overall lake perception is summarized on the Lake Scorecard and Lake Condition Summary Table.

Evaluation of Local Climate Change

Air and water temperature readings were higher than normal in 2010, and air temperature readings have increased slightly since the mid 2000s. It is not known if this is an indication of the local climate change or if these changes can be well evaluated through CSLAP.

Lake Condition Summary

Category	Indicator	Min	04-10 Avg	Max	2010 Avg	Classification	2010 Change?	Long-term Change?
Eutrophication Indicators	Water Clarity	0.26	0.88	1.80	1.29	Eutrophic	Higher Than Normal	Increasing Slightly
	Chlorophyll <i>a</i>	0.10	63.12	1017	17.59	Eutrophic	Within Normal Range	No Change
	Total Phosphorus	0.012	0.117	0.401	0.070	Eutrophic	Within Normal Range	No Change
Potable Water Indicators	Hypolimnetic NH4							
	Hypolimnetic As							
	Hypolimnetic Iron							
	Hypolimnetic Mn							
Limnological Indicators	Hypolimnetic TP							
	Nitrate + Nitrite	0.00	0.10	1.34	0.03	Low NOx	Within Normal Range	Decreasing Slightly
	Ammonia	0.00	0.10	0.88	0.04	Low Ammonia	Within Normal Range	No Change
	Total Nitrogen	0.38	0.90	1.78	0.60	Intermediate Total Nitrogen	Lower Than Normal	No Change
	pH	6.84	7.94	9.41	8.29	Alkaline	Higher than Normal	No Change
	Specific Conductance	147	445	692	616	Hardwater	Higher than Normal	No Change
	True Color	13	51	132	32	Colored	Within Normal Range	No Change
	Calcium	23.0	32.4	43.4	28.3	Highly Susceptible to Zebra Mussels	Within Normal Range	No Change
Lake Perception	WQ Assessment	1	3.2	5	3.3	Definite Algal Greenness	Within Normal Range	No Change
	Plant Coverage	1	2.2	5	4.3	Subsurface Plant Growth	More Extensive than Normal	No Change
	Rec. Assessment	1	4.0	5	5.0	Substantially Impaired	Less Favorable than Normal	No Change
Biological Condition	Phytoplankton					Not measured through CSLAP	Not known	Not known
	Macrophytes					Not measured through CSLAP	Not known	Not known
	Zooplankton					Not measured through CSLAP	Not known	Not known
	Macroinvertebrates					Not measured through CSLAP	Not known	Not known
	Fish					Warmwater fishery?	Not known	Not known
	Invasive Species					None observed	Not known	Not known
Local Climate Change	Air Temperature	18	27.7	42	32.9		Higher Than Normal	Increasing Slightly
	Water Temperature	16	22.8	28	23.9		Higher Than Normal	No Change

Evaluation of Lake Condition Impacts to Lake Uses

The 2008 NYSDEC Priority Waterbody Listings (PWL) for the Lower Hudson River drainage basin indicates that recreation is *impaired*, and aquatic life and aesthetics in Shenorock Lake are *stressed* by excessive algae and poor water clarity. The 2008 PWL listing for the lake is shown in Appendix B.

Potable Water (Drinking Water)

The CSLAP dataset at Shenorock Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, is inadequate to evaluate the use of the lake for potable water, and the lake is not classified for this use. These data suggest that any "unofficial" use of the lake for potable water may be compromised by excessive algae.

Contact Recreation (Swimming)

The CSLAP dataset at Shenorock Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggests that swimming and contact recreation may be *impaired* by excessive algae and nutrients, and poor water clarity, although bacterial data are needed to evaluate the safety of the lake for swimming.

Non-Contact Recreation (Boating and Fishing)

The CSLAP dataset on Shenorock Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggest that non-contact recreation may be *threatened* by excessive weeds.

Aquatic Life

The CSLAP dataset on Shenorock Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggest that aquatic life may be *threatened* by elevated pH, although additional data are needed to evaluate the food and habitat conditions for aquatic organisms in the lake.

Aesthetics

The CSLAP dataset on Shenorock Lake, including water chemistry data, physical measurements, and volunteer samplers' perception data, suggest that aesthetics may be *threatened* by excessive algae and weeds.

Fish Consumption

There is no fish consumption advisories posted for Shenorock Lake.

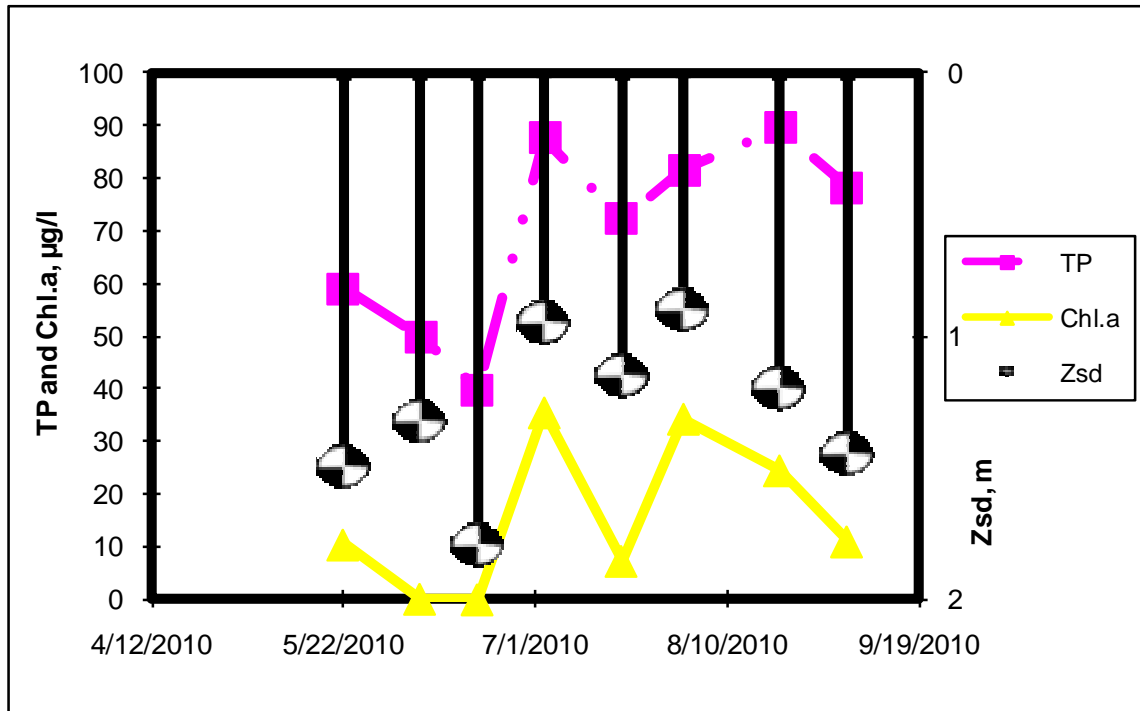
Additional Comments and Recommendations

An aquatic plant inventory would help to evaluate whether any exotic plant species can be found in the lake, and the relative impact of native and exotic plants on the distribution of aquatic plants in the lake.

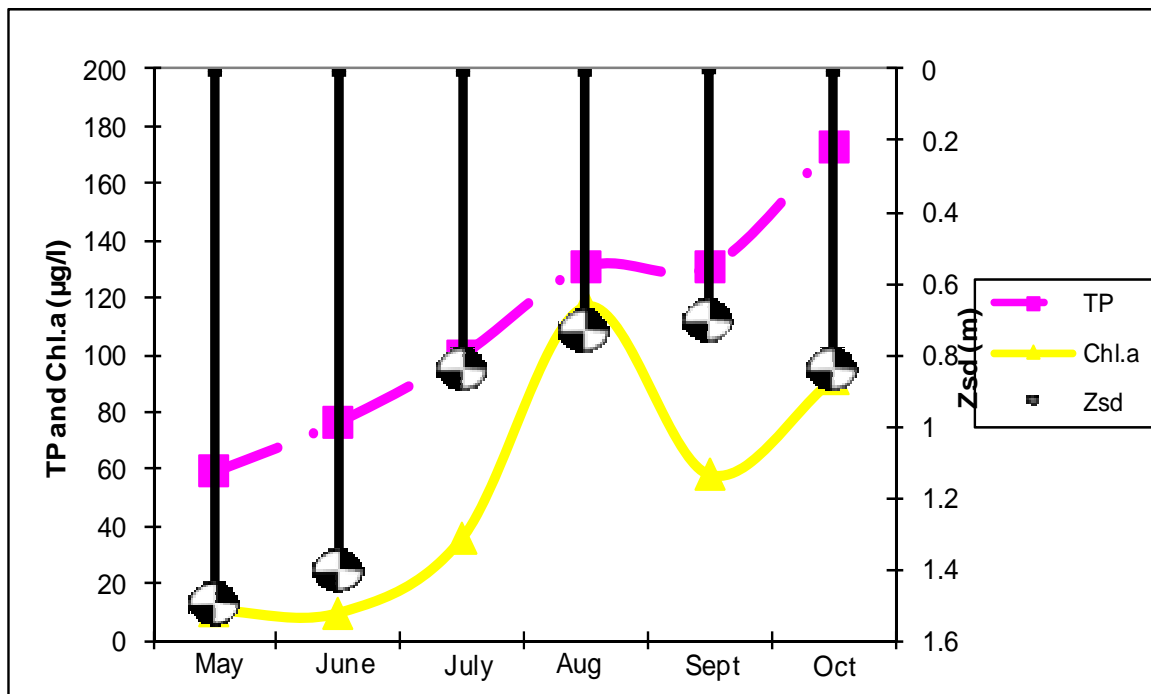
Aquatic Plant IDs-2010

None submitted for identification.

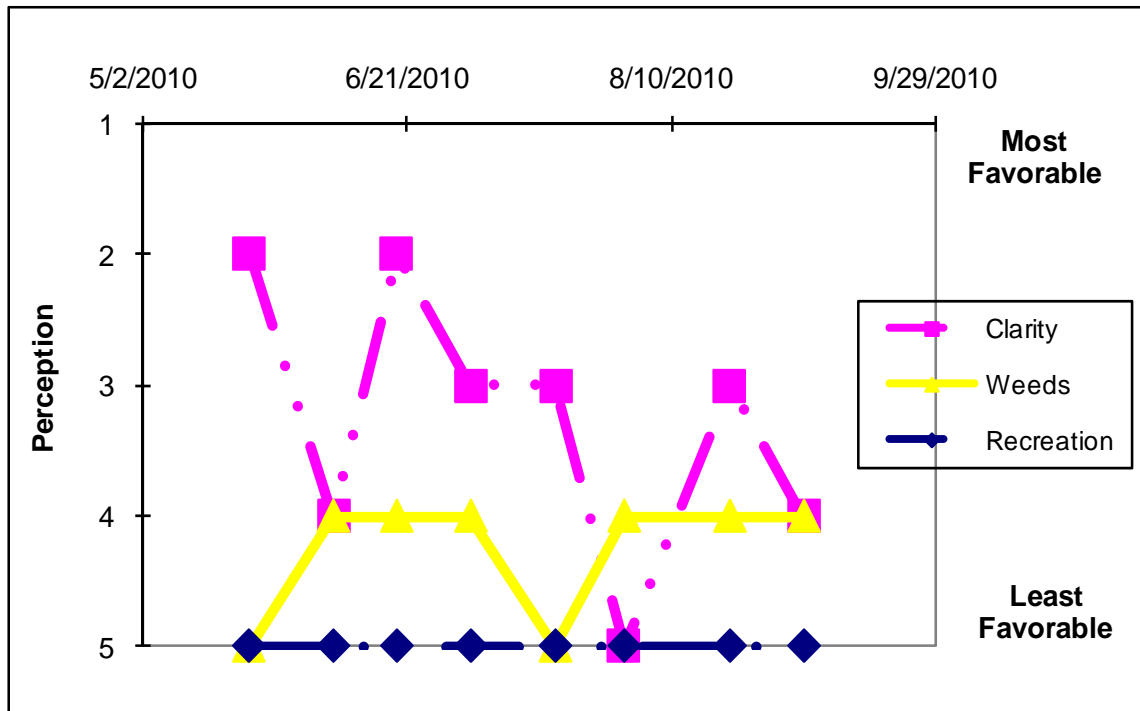
Time Series: Trophic Indicators, 2010



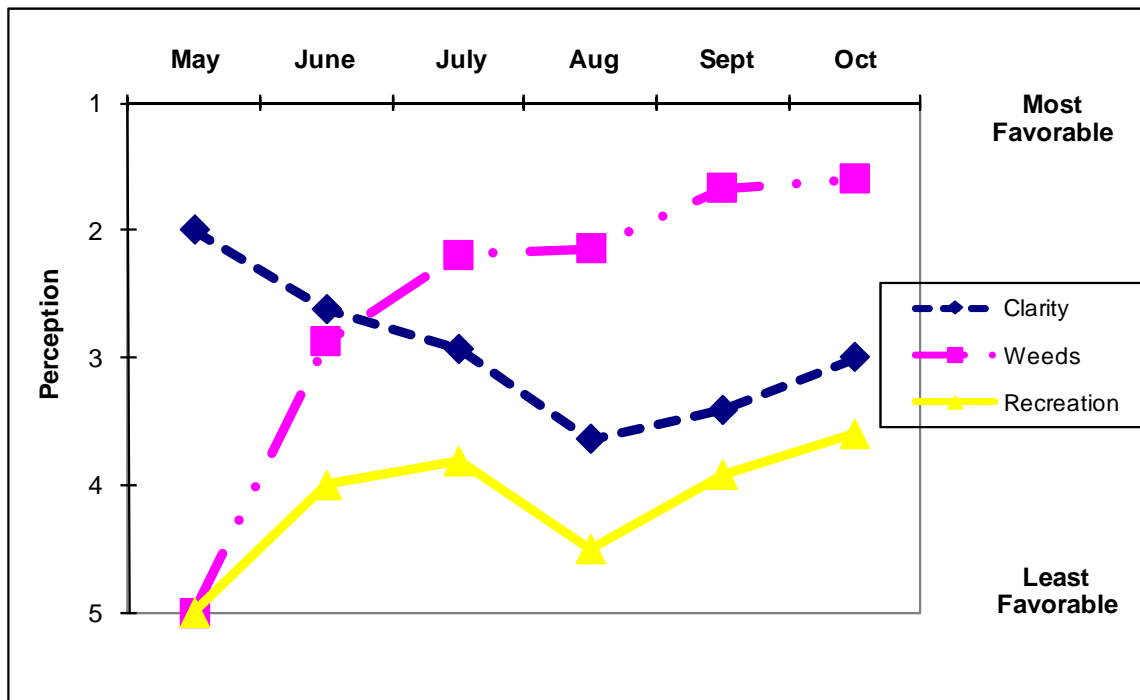
Time Series: Trophic Indicators, Typical Year (2004-2010)



Time Series: Lake Perception Indicators, 2010



Time Series: Lake Perception Indicators, Typical Year (2004-2010)



Appendix A- CSLAP Water Quality Sampling Results for Shenorock Lake

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a
193	Shenorock L	7/1/2004	1.9	1.25	1.0	0.039	0.02	0.01	0.43	23.8	34	7.34	569		19.40
193	Shenorock L	7/15/2004	2.2	0.50	1.5	0.012	1.34	0.05	1.27	243.5	132	6.92	610		22.40
193	Shenorock L	7/21/2004	2.3	0.85		0.119	0.04	0.03	0.40	7.3	30	7.96	481		16.80
193	Shenorock L	8/12/2004	3.1	0.40		0.111	0.01	0.01			33	8.28	400		137.40
193	Shenorock L	8/29/2004	2.3	0.75		0.249	0.04	0.06	1.61	14.2	91	9.41	285		1017.20
193	Shenorock L	9/10/2004	2.5	0.49	2.0	0.077	0.07	0.01	0.38	10.9					39.10
193	Shenorock L	9/25/2004	2.4	0.53		0.053	0.52	0.03	0.82	33.6	26	7.65	377		
193	Shenorock L	10/8/2004	2.4	1.75		0.038					20	7.20	186		
193	Shenorock L	7/6/2005	2.5	0.38		0.192	0.17	0.02	0.54	6.2	13	7.20	585	31.3	70.30
193	Shenorock L	7/20/2005	2.5	0.63		0.149	0.25	0.15	0.86	12.7	51	6.85	289		53.56
193	Shenorock L	8/3/2005	2.2	0.40	1.2	0.149	0.02	0.01	0.86	12.7	26	8.61	428		33.15
193	Shenorock L	8/19/2005	2.4	0.50		0.131	0.03	0.03	0.65	11.0	24	8.35	411		46.37
193	Shenorock L	9/1/2005	2.4	0.30		0.203	0.02	0.01	0.50	5.4	21	8.08	529	29.0	50.49
193	Shenorock L	9/18/2005	2.3	0.64		0.137	0.02	0.01	0.41	6.6	24	7.87	518		19.29
193	Shenorock L	10/2/2005	2.1	0.26		0.401	0.09	0.02	0.53	2.9	35	8.77	298		265.10
193	Shenorock L	10/16/2005	2.3	1.25	2.0	0.073	0.20	0.88	1.19	35.8	55	8.29	210		3.46
193	Shenorock L	6/4/2006	2.2	1.35		0.071	0.15	0.12	0.8	24.8	24		147	36.65	8.64
193	Shenorock L	6/12/2006	2.1	1.80	1.0	0.096	0.38	0.28	1.1	25.4	18	7.63	424		12.94
193	Shenorock L	7/1/2006	2.1	0.85		0.064					32	7.68	441		4.52
193	Shenorock L	7/16/2006	1.6	0.55	1.0	0.112	0.02	0.03	1	20.0	119	7.65	416		54.25
193	Shenorock L	7/28/2006	2.0	0.68	1.0	0.099	0.02	0.01	1.1	24.5	97	8.46	258	28.51	22.02
193	Shenorock L	8/12/2006	2.5	0.54	1.0	0.143	0.02	0.10	1.2	17.7	56	7.63	521		63.33
193	Shenorock L	8/28/2006	2.3	0.51	1.0	0.164	0.15	0.34	1.2	16.2	54	7.72	379		49.35
193	Shenorock L	9/9/2006	1.9	0.71	1.0	0.144	0.03	0.07	1.1	17.4	37	8.29	376		86.83
193	Shenorock L	7/11/2007	2.2	0.90	1.0	0.073	0.01	0.03	1.07	32.4	62	8.23	616	34.9	47.44
193	Shenorock L	7/25/2007	2.2	1.45	1.0	0.085	0.01	0.07	1.12	29.1	42	8.23	517		43.92
193	Shenorock L	8/8/2007	2.2	1.00	1.5	0.137	0.04	0.00	0.85	13.7	25	7.81	515		28.22
193	Shenorock L	8/25/2007	2.7	0.60	1.0	0.092	0.00	0.02	1.09	25.9	38	8.09	454		80.16
193	Shenorock L	9/5/2007	2.2	0.28	1.0	0.145	0.00	0.08	1.45	22.0	77	8.52	384	29.4	17.67
193	Shenorock L	9/23/2007	2.2	0.53	1.0	0.196	0.02	0.14	1.74	19.5	36	7.61	477		41.46
193	Shenorock L	10/3/2007	2.1	0.50	1.0	0.177	0.01	0.29	1.57	19.5	56		540		50.48
193	Shenorock L	10/20/2007	2.3	0.45	1.0	0.176	0.18	0.58	1.44	18.0	49	8.05	466		46.64
193	Shenorock L	6/15/2008	2.2	1.15	1.0	0.064	0.03	0.02	0.80	27.5	25	7.60	433	33.2	
193	Shenorock L	6/28/2008	2.1	1.10	1.0	0.113	0.00	0.02	0.83	16.1		7.58	577		2.70
193	Shenorock L	7/13/2008	2.0	0.68	1.0	0.170	0.03	0.06	0.94	12.1	33	8.24	472		69.96
193	Shenorock L	7/26/2008	2.1	0.38	1.0	0.179	0.02	0.29	0.77	9.5	59	7.59	319		60.52
193	Shenorock L	8/9/2008	1.8	0.50	1.0	0.119	0.01	0.02	0.80	14.9	54	8.65	338	29.2	66.28
193	Shenorock L	8/24/2008	2.0	0.39	1.0	0.189	0.00	0.16	1.14	13.3	116	8.87	288		30.84
193	Shenorock L	9/7/2008	2.3	0.60	1.0	0.175	0.19	0.09	0.50	6.3	37	7.53	294		5.64
193	Shenorock L	9/20/2008	1.5	1.30	1.0	0.095	0.25	0.06	1.11	25.7	42	7.95	344		1.33
193	Shenorock L	06/13/2009	2.0	1.55	1.0	0.102	0.27	0.28	1.07	23.25	74	7.06	419	36.7	8.74
193	Shenorock L	06/27/2009	2.0	1.20	1.0	0.076	0.02	0.03	0.63	18.20	92	7.77	517		23.66
193	Shenorock L	07/12/2009	2.0	1.05	1.0	0.085	0.02	0.09	0.72	18.44	44	7.86	532		40.92
193	Shenorock L	07/27/2009	1.9	1.30	1.0	0.060	0.07	0.03	0.64	23.73	66	7.95	381		2.65
193	Shenorock L	08/08/2009	2.0	1.25	1.0	0.055	0.04	0.06	0.61	24.45	100	7.29	398	43.4	2.90
193	Shenorock L	08/20/2009	2.0	1.40	1.0	0.119	0.03	0.09	0.84	15.48	75	7.70	388		25.30
193	Shenorock L	09/02/2009	1.8	0.43	1.0	0.182	0.01	0.10	1.78	21.55	126	7.90	410		363.00
193	Shenorock L	09/20/2009	1.5	1.25	1.0	0.083	0.02	0.01	0.65	17.12	94	6.84	325		3.00
193	Shenorock L	5/22/2010	2.0	1.50	1.0	0.059	0.03	0.02			38	7.62	673	33.5	10.40
193	Shenorock L	6/7/2010	1.9	1.33	1.0	0.050	0.01	0.03			18	9.06	662		0.10
193	Shenorock L	6/19/2010	1.9	1.80	1.0	0.040	0.03	0.02	0.45	24.98	20	8.18	692		
193	Shenorock L	7/3/2010	2.0	0.95	1.0	0.088	0.07	0.04	0.62	15.64	32	7.77	642		35.50
193	Shenorock L	7/19/2010	2.0	1.15	1.0	0.072	0.02	0.09	0.62	18.98	30	9.04	635	23.0	7.30
193	Shenorock L	8/1/2010	2.1	0.90	1.0	0.082	0.03	0.04	0.45	12.04	57	8.73	409		34.30
193	Shenorock L	8/21/2010	1.9	1.20	1.0	0.090	0.02	0.03	0.74	18.05	31	7.97	529		24.50
193	Shenorock L	9/4/2010	1.9	1.45	1.5	0.078	0.03	0.08	0.69	19.47	32	7.91	685		11.00
193	Shenorock L	7/6/2005				0.204									
193	Shenorock L	7/20/2005				0.141									
193	Shenorock L	8/3/2005				0.145									
193	Shenorock L	8/19/2005				0.142									
193	Shenorock L	9/1/2005				0.209									
193	Shenorock L	9/18/2005				0.142									
193	Shenorock L	10/2/2005				0.384									

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a
193	Shenorock L	10/16/2005				0.073									

LNum	PName	Date	Zbot	Zsd	Zsamp	TAir	TH2O	QA	QB	QC	QD
193	Shenorock L	7/1/2004	1.9	1.25	1.0			3	1	3	3
193	Shenorock L	7/15/2004	2.2	0.50	1.5			2	2	1	0
193	Shenorock L	7/21/2004	2.3	0.85				1	2	1	8
193	Shenorock L	8/12/2004	3.1	0.40				4	2	4	14568
193	Shenorock L	8/29/2004	2.3	0.75				3	3	4	123
193	Shenorock L	9/10/2004	2.5	0.49	2.0			3	1	2	1
193	Shenorock L	9/25/2004	2.4	0.53				2	1	2	8
193	Shenorock L	10/8/2004	2.4	1.75				2	2	2	8
193	Shenorock L	7/6/2005	2.5	0.38				3	1	4	12
193	Shenorock L	7/20/2005	2.5	0.63				3	2	5	13
193	Shenorock L	8/3/2005	2.2	0.40	1.2			4	2	5	13
193	Shenorock L	8/19/2005	2.4	0.50				3	2	4	13
193	Shenorock L	9/1/2005	2.4	0.30				4	1	5	134
193	Shenorock L	9/18/2005	2.3	0.64				5	2	4	138
193	Shenorock L	10/2/2005	2.1	0.26				3	2	5	134
193	Shenorock L	10/16/2005	2.3	1.25	2.0			2	2	2	0
193	Shenorock L	6/4/2006	2.2	1.35		20	17	3	3	4	23
193	Shenorock L	6/12/2006	2.1	1.80	1.0	18	23	3	3	4	138
193	Shenorock L	7/1/2006	2.1	0.85		27	24	3	3	3	18
193	Shenorock L	7/16/2006	1.6	0.55	1.0	27	25	4	3	4	138
193	Shenorock L	7/28/2006	2.0	0.68	1.0	35	27	3	1	4	13
193	Shenorock L	8/12/2006	2.5	0.54	1.0	20	24	4	1	4	138
193	Shenorock L	8/28/2006	2.3	0.51	1.0	23	22	3	1	4	15
193	Shenorock L	9/9/2006	1.9	0.71	1.0	18	20	5	1	5	138
193	Shenorock L	7/11/2007	2.2	0.90	1.0	33	25	3	1	5	1
193	Shenorock L	7/25/2007	2.2	1.45	1.0	25	23	3	1	4	13
193	Shenorock L	8/8/2007	2.2	1.00	1.5	36	27	3	1	5	13
193	Shenorock L	8/25/2007	2.7	0.60	1.0	23	21	5	2	5	1345
193	Shenorock L	9/5/2007	2.2	0.28	1.0	23	24	4	1	5	1348
193	Shenorock L	9/23/2007	2.2	0.53	1.0	27	21	4	1	5	1348
193	Shenorock L	10/3/2007	2.1	0.50	1.0	24	20	4	1	5	138
193	Shenorock L	10/20/2007	2.3	0.45	1.0	19	16	4	1	4	138
193	Shenorock L	6/15/2008	2.2	1.15	1.0	33	25	2	2	5	2
193	Shenorock L	6/28/2008	2.1	1.10	1.0	23		3	2	4	138
193	Shenorock L	7/13/2008	2.0	0.68	1.0			3	2	5	13
193	Shenorock L	7/26/2008	2.1	0.38	1.0	28	25	4	2	4	138
193	Shenorock L	8/9/2008	1.8	0.50	1.0	35	25	3	1	4	1
193	Shenorock L	8/24/2008	2.0	0.39	1.0	25	22	4	1	5	13
193	Shenorock L	9/7/2008	2.3	0.60	1.0	33	24	3	1	5	13
193	Shenorock L	9/20/2008	1.5	1.30	1.0	25	20	2	1	2	8
193	Shenorock L	06/13/2009	2.0	1.55	1.0	29	20	2	2	2	2
193	Shenorock L	06/27/2009	2.0	1.20	1.0	30	22	2	3	3	0
193	Shenorock L	07/12/2009	2.0	1.05	1.0	27	20	3	3	4	2
193	Shenorock L	07/27/2009	1.9	1.30	1.0	25	24	3	2	4	23
193	Shenorock L	08/08/2009	2.0	1.25	1.0	27	22	3	3	4	23
193	Shenorock L	08/20/2009	2.0	1.40	1.0	35	27	4	3	5	23
193	Shenorock L	09/02/2009	1.8	0.43	1.0	21	21	3	3	5	12
193	Shenorock L	09/20/2009	1.5	1.25	1.0	27	19	2	3	2	0
193	Shenorock Lake	5/22/2010	2.0	1.50	1.0	27	20	2	5	5	23
193	Shenorock Lake	6/7/2010	1.9	1.33	1.0	27	24	4	4	5	23
193	Shenorock Lake	6/19/2010	1.9	1.80	1.0	34	24	2	4	5	23
193	Shenorock Lake	7/3/2010	2.0	0.95	1.0	37	26	3	4	5	1234
193	Shenorock Lake	7/19/2010	2.0	1.15	1.0	42	28	3	5	5	234
193	Shenorock Lake	8/1/2010	2.1	0.90	1.0	39	27	5	4	5	2345
193	Shenorock Lake	8/21/2010	1.9	1.20	1.0	30	23	3	4	5	23
193	Shenorock Lake	9/4/2010	1.9	1.45	1.5	27	20	4	4	5	2

Legend Information

<i>Indicator</i>	<i>Description</i>	<i>Detection Limit</i>	<i>Standard (S) / Criteria (C)</i>
General Information			
Lnum	lake number (unique to CSLAP)		
Lname	name of lake (as it appears in the Gazetteer of NYS Lakes)		
Date	sampling date		
Field Parameters			
Zbot	lake depth at sampling point, meters (m)		
Zsd	Secchi disk transparency or clarity	0.1m	1.2m (C)
Zsamp	water sample depth (m)	0.1m	none
Tair	air temperature (C)	-10C	none
TH20	water temperature (C)	-10C	none
Laboratory Parameters			
Tot.P	total phosphorus (mg/l)	0.003 mg/l	0.020 mg/l (C)
NOx	nitrate + nitrite (mg/l)	0.01 mg/l	10 mg/l NO3 (S), 2 mg/l NO2 (S)
NH4	total ammonia (mg/l)	0.01 mg/l	2 mg/l NH4 (S)
TN	total nitrogen (mg/l)	0.01 mg/l	none
TN/TP	nitrogen to phosphorus (molar) ratio, = (TKN + NOx)*2.2/TP		none
TCOLOR	true (filtered) color (ptu, platinum color units)	1 ptu	none
pH	powers of hydrogen (S.U., standard pH units)	0.1 S.U.	6.5, 8.5 S.U. (S)
Cond25	specific conductance, corrected to 25C (umho/cm)	1 umho/cm	none
Ca	calcium (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)
Lake Assessment			
QA	water quality assessment, 5 point scale; 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, 5 point scale; 1 = no plants visible, 2 = plants below surface, 3 = plants at surface, 4 = plants dense at surface, 5 = surface plant coverage		
QC	recreational assessment, 5 point scale; 1 = could not be nicer, 2 = excellent, 3 = slightly impaired, 4 = substantially impaired, 5 = lake not usable		
QD	reasons for recreational assessment, 8 choices; 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		

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This most recent assessment (2005) indicates recreational suitability of the lake to be highly unfavorable. The recreational suitability of the lake is described most frequently as "slightly" to "substantially" impacted for most recreational uses. The lake itself is most often described as having "definite algae greenness" to "severe algae levels," an assessment that is consistent with measured water quality characteristics. Assessments have noted that aquatic plants rarely grows to the lake surface. (DEC/DOW, BWAM/CSLAP, January 2008)

Lake Uses

This lake waterbody is designated class B, suitable for use as a public bathing beach, for general recreation and aquatic life support, but not as public water supply. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

New York City Watershed

Shenorock lake is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Section 303(d) Listing

Shenorock Lake not is currently included on the NYS 2008 Section 303(d) List of Impaired Waters. However this updated assessment suggests it is appropriate to include this waterbody on the 2010 List. It is recommended that a listing for phosphorus be added to Part 1 of the List, indicating a waterbody with an impairment requiring TMDL development. (DEC/DOW, BWAM/WQAS, May 2008)