



Northeast Aquatic Research, LLC

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74 Higgins Highway

Mansfield Center, CT 06250

June 12, 2020



TO: Residents of East Hampton, CT
ATTN: Town of East Hampton Conservation Lake Commission
FROM: George Knoecklein, Ph.D. Principal Limnologist
Hillary Kenyon Garovoy, Certified Lake Manager

RE: Results from June 9, 2020 Water Quality Monitoring Visit

Please see the water clarity and oxygen results from the June 9, 2020 monitoring visit.

Water clarity, taken with a Secchi disk and view scope, was relatively good for Pocotopaug at both stations. The lake appears to be in its seasonal 'clear-water' phase, just as thermal stratification begins. Clear-water phases are often linked to an increase in zooplankton following a spring phytoplankton bloom. The clear-water phase may also be a result of a shift in the type of dominant phytoplankton as the lake begins to thermally stratify. A clear-water phase does not always occur at Pocotopaug. The lake has not been this clear since early summer 2016. This phase does not predict the intensity of summer cyanobacteria blooms, as the summer clarity has always worsened by July, despite being generally the best in June.

Both sampling stations had no oxygen at the lake bottom. Oakwood station had anoxic conditions (<1mg/L oxygen) at 8, 9, 10, and 10.5 meters. Markham station had anoxic water at 7, 8, and 8.3 meters. Oxygen loss is visible up to 4 meters from the surface at both stations, indicated by less than 100% saturation.

Markham Station (41.59949, -72.49493)

Sampling Date: 06/09/2020

Water clarity: 3.5 meters (11.5 feet)

Water depth: 8.3 meters (27.2 feet)

Weather: Sunny, very calm

Depth (m)	Temp (°C)	Oxygen (mg/L)	Oxygen Saturation %	Conductivity (µS)
0	22.3	8.9	104	198
1	22.3	8.8	103	198
2	22.1	8.8	103	198
3	22.1	8.6	100	197
4	20.7	7.1	79	198
5	16.1	4.1	42	199
6	14.0	3.1	30	200
7	12.9	0.9	8	206
8	12.2	0.5	4	215
8.3	11.8	0.3	2	301

Oakwood Station (41.59758, -72.50849)

Sampling Date: 06/09/2020

Water clarity: 3.35 meters (11 feet)

Water depth: 10.3 meters (33.8 feet)

Weather: Sunny, slight breeze

Depth (m)	Temp (°C)	Oxygen (mg/L)	Oxygen Saturation %	Conductivity (µS)
0	21.9	8.8	102	195
1	21.9	8.8	102	195
2	21.8	8.8	102	195
3	21.6	8.5	98	195
4	21.1	7.7	87	195
5	18.5	4.6	50	196
6	15.0	2.1	21	202
7	13.6	2.0	20	198
8	12.7	0.8	6	204
9	11.9	0.4	4	216
10	11.4	0.3	3	225
10.5	11.3	0.3	3	247

The lake phytoplankton results are displayed below:

Markham Station: June 9, 2020		
Phytoplankton Type	Genus	cells/mL
Cyanobacteria	<i>Coelospharium</i>	423
Cyanobacteria	<i>Raphidiopsis</i>	394
GreenAlgae	<i>Ankistrodesmus</i>	44
GreenAlgae	<i>Chlamydomonas</i>	627
GreenAlgae	<i>Pediastrum</i>	44
Diatoms	<i>Tabellaria</i>	598
Chrysophytes	<i>Chromulina</i>	73
Chrysophytes	<i>Mallomomus</i>	44

Oakwood Station: June 9, 2020		
Phytoplankton Type	Genus	cells/mL
Cyanobacteria	<i>Coelospharium</i>	831
Cyanobacteria	<i>Merismopedia</i>	292
GreenAlgae	<i>Ankistrodesmus</i>	44
GreenAlgae	<i>Chlamydomonas</i>	466
GreenAlgae	<i>Eudorina</i>	73
Diatoms	<i>Fragilaria</i>	29
Diatoms	<i>Gomphonema</i>	15
Diatoms	<i>Melosira</i>	510
Diatoms	<i>Nitzschia</i>	15
Diatoms	<i>Tabellaria</i>	1,064
Chrysophytes	<i>Mallomomus</i>	58
Dinoflagellates	<i>Ceratium</i>	15