



Northeast Aquatic Research, LLC

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May 24, 2022



TO: Residents of East Hampton, CT
ATTN: Jeremy Hall, Parks and Recreation Director
Town of East Hampton Conservation Lake Commission
FROM: Hillary Kenyon, Limnologist & Certified Lake Manager

RE: Results from May 2022 Water Quality Monitoring Visits

Please see the water clarity and oxygen profile results from the May 9, 2022 monitoring visit. Water clarity was very similar across all monitoring stations and very similar to clarity values recorded in May 2021. The water temperature was notably colder than the 2021 May values, but the recent unseasonably warm weekend weather will have added considerable heat to the lake system on May 22nd-23rd. Dissolved oxygen was uniformly distributed throughout the water column, and there was no anoxic or hypoxic water observed. Water samples were taken and sent to the laboratory for nutrient analyses. Laboratory nutrient results from the April monitoring date are included in a table at the end of this summary.

Markham Station (41.59949, -72.49493)

Sampling Date: 05/09/2022
Water clarity: 1.9 meters
Water depth: 8.25 meters
Weather: Partly cloudy, very strong wind

| Depth (m) | Temp (°C) | Oxygen (mg/L) | Oxygen Saturation % |
|-----------|-----------|---------------|---------------------|
| 0 | 13.2 | 9.4 | 90 |
| 1 | 13.0 | 9.4 | 90 |
| 2 | 12.9 | 9.4 | 90 |
| 3 | 12.8 | 9.4 | 90 |
| 4 | 12.8 | 9.4 | 89 |
| 5 | 12.8 | 9.4 | 89 |
| 6 | 12.8 | 9.3 | 88 |
| 7 | 12.7 | 9.2 | 88 |
| 8 | 12.7 | 9.2 | 87 |
| 8.25 | 12.7 | 9.2 | 87 |

Oakwood Station (41.59758, -72.50849)

Sampling Date: 05/09/2022
Water clarity: 1.85 meters
Water depth: 11.2 meters
Weather: Partly cloudy, very strong wind

| Depth (m) | Temp (°C) | Oxygen (mg/L) | Oxygen Saturation % |
|-----------|-----------|---------------|---------------------|
| 0 | 13.3 | 9.6 | 92 |
| 1 | 13.2 | 9.7 | 92 |
| 2 | 13.0 | 9.7 | 92 |
| 3 | 12.8 | 9.7 | 92 |
| 4 | 13.2 | 9.6 | 91 |
| 5 | 13.1 | 9.6 | 91 |
| 6 | 13.1 | 9.5 | 91 |
| 7 | 13.6 | 9.6 | 91 |
| 8 | 13.7 | 9.5 | 90 |
| 9 | 13.6 | 9.5 | 91 |
| 10 | 13.7 | 9.6 | 91 |
| 11 | 13.6 | 9.6 | 91 |
| 11.2 | 13.6 | 9.5 | 91 |

Island Station (41.59668722, -72.50117)

Sampling Date: 05/09/2022

Water clarity: 1.7 meters

Water depth: 6.0 meters

Weather: Partly cloudy, very strong wind

| Depth (m) | Temp (°C) | Oxygen (mg/L) | Oxygen Saturation % |
|-----------|-----------|---------------|---------------------|
| 0 | 12.8 | 9.7 | 93 |
| 1 | 12.6 | 9.8 | 92 |
| 2 | 12.5 | 9.7 | 92 |
| 3 | 12.5 | 9.7 | 92 |
| 4 | 12.6 | 9.7 | 92 |
| 5 | 12.6 | 9.6 | 91 |
| 6 | 12.6 | 9.7 | 91 |

South/Outlet Station (41.587383, -72.501875)

Sampling Date: 05/09/2022

Water clarity: 1.85 meters

Water depth: 4 meters

Weather: Partly cloudy, very strong wind

| Depth (m) | Temp (°C) | Oxygen (mg/L) | Oxygen Saturation % |
|-----------|-----------|---------------|---------------------|
| 0 | 12.8 | 9.9 | 95 |
| 1 | 12.6 | 9.9 | 94 |
| 2 | 12.7 | 9.9 | 94 |
| 3 | 12.6 | 9.8 | 93 |
| 4 | 12.7 | 9.8 | 93 |

Pocotopaug Monitoring Sites Map:



The April 5th, 2022 nutrient monitoring data results are displayed in the table below. There are no values that are unusually high. All Total Phosphorus (TP) values were below 22 µg/L (0.022mg/L). Generally, the risk of dense cyanobacteria blooms is elevated when surface TP reaches above 30 µg/L, while below 15 µg/L is considered low (good) TP for Lake Pocotopaug.

Total Nitrogen values were overall moderate. TN values greater than 600 µg/L in summer usually coincide with increased cyanobacteria abundance in Lake Pocotopaug. TN values lower than 300 µg/L in Pocotopaug are extremely rare. Overall, the April 2022 nutrient concentrations are similar to the range of values seen since 2015.

Only surface water samples (1-meter depth) were analyzed for Chlorophyll-a; 'NSS' indicates 'No Sample Sent.'

May nutrient monitoring data should be ready within 6 weeks of the field sampling.

| Units | µg/L | µg/L | µg/L | µg/L | µg/L |
|---|-------------------------|---------------------------------|-----------------------|----------------------|-------------------------|
| EPA Method # | 350.1 | 353.2 | 353.2 | 445 | 365.4 |
| Practical Quantitation Limit (PQL) | 10 | 10 | 50 | 0.3 | 10 |
| Method Detection Limit (MDL) | 3 | 3 | 8 | 0.1 | 1 |
| Collection date | 4/5/2022 | 4/5/2022 | 4/5/2022 | 4/5/2022 | 4/5/2022 |
| | Ammonia Nitrogen | Nitrate+Nitrite Nitrogen | Total Nitrogen | Chlorophyll-a | Total Phosphorus |
| | NH3 | NOX | TN | Chla | TP |
| Pocotopaug Markham 1 m | 6 | 79 | 462 | 4.3 | 17 |
| Pocotopaug Markham 5 m | 12 | 85 | 508 | NSS | 20 |
| Pocotopaug Markham 8.5 m | 16 | 88 | 458 | NSS | 20 |
| Pocotopaug Oakwood 1 m (duplicate averaged) | 9 | 76 | 491 | NSS | 12 |
| Pocotopaug Oakwood 5 m | 11 | 81 | 487 | NSS | 11 |
| Pocotopaug Oakwood 9 m | 16 | 85 | 494 | NSS | 22 |
| Pocotopaug Island 1 m | 6 | 74 | 465 | 7.1 | 19 |
| Pocotopaug South 1 m | 7 | 72 | 508 | 5.6 | 18 |