Cyanobacteria Monitoring Program 2018 Report

September 2018

Rhode Island Department of Environmental Management
Office of Water Resources
235 Promenade Street
Providence, Rhode Island 02908
## Contents

- Introduction ................................................................. 2
- Methods ............................................................................... 3
- Results ............................................................................... 8
- Conclusion .......................................................................... 11
- Appendix A .......................................................................... 13
- Appendix B .......................................................................... 36
Introduction

Cyanobacteria (blue-green algae) are microscopic, photosynthetic bacteria naturally found in waterbodies either attached to the substrate or floating in the water column as individual cells or within colonies. Under certain conditions, cyanobacteria can experience rapid growth (blooms) and may produce toxins, which when released into waters can potentially cause health risks for wildlife, pets, livestock, as well as humans. The Rhode Island Department of Health (HEALTH) and the Rhode Island Department of Environmental Management (RIDEM) work cooperatively to detect/respond to the presence of cyanobacteria blooms, evaluate the potential risks to the public, and, when necessary, issue health advisories notifying the public of health concerns. The agencies jointly issue health/recreational advisories when any of the following three guidelines are met:

- Evidence of a visible cyanobacteria scum or mat or lake/pond-wide cyanobacteria bloom.
- Cyanobacteria cell count exceeding 70,000 cells/mL.
- Toxin (Microcystin-LR) level of lysed cells meeting or exceeding 4 ppb (µg/L).

Health advisories recommend that individuals avoid all contact with the affected waterbody, including recreational activities such as swimming, boating, or fishing. People are also advised to not eat fish from the affected waterbody or to allow pets to wade or swim in, or drink untreated water from the affected waters. Health advisories remain in effect for the remainder of what is considered to be the recreation season (until November 1st), unless follow-up sampling by a city, town, third party or RIDEM indicate that the advisory can be lifted. Health advisories may be lifted after two successive and representative sampling rounds, two weeks apart, demonstrate no evidence of a cyanobacterial scum or mat and demonstrate cyanobacteria cell counts and toxin levels below threshold concentrations.

RIDEM’s Office of Water Resources (OWR) receives reports annually about nuisance algal conditions and cyanobacteria blooms from municipal staff, lake and watershed associations, as well as the broader public. From 2011 to 2018, thirty-eight (38) waterbodies have had recreational/health advisories issued with an average of fifteen (15) waterbodies per year. Twelve (12) of the 38 waterbodies are public drinking water supplies and nearly all the remaining waterbodies have a public boat/canoe launch, are routinely used for recreational activities, or have a well-known public access point.

In 2017 RIDEM OWR received an EPA Multi-Purpose Grant allowing for biweekly cyanobacteria monitoring of thirty-two (32) waterbodies throughout the state during the 2017 and 2018 field seasons. This report provides a summary of the results of the 2018 cyanobacteria monitoring program.
Methods
RIDEM’s Quality Assurance Project Plan (QAPP) describes in detail the field and analytical methods and quality assurance/quality control procedures related to this sampling program. The QAPP, titled “Rhode Island Freshwater Harmful Algal Bloom Monitoring” is available at DEM’s Providence office.

In 2018, RIDEM OWR conducted routine biweekly cyanobacteria monitoring of 32 waterbodies from early June to mid September (Table 1). These 32 waterbodies were selected for monitoring at the start of the 2017 field season due to having a history of frequent cyanobacteria blooms in previous years. Additional monitoring was done in response to calls from the public, municipal staff, watershed associations or other RIDEM staff about potential cyanobacteria blooms.

During each visit a fieldsheet was filled out and photographs were taken, regardless of whether or not a bloom was observed. The fieldsheet documented information about location, extent of coverage and physical appearance of the bloom, as well as weather conditions and any active recreation occurring on the water.

If a bloom was observed during a visit, one or more samples were collected following the procedure outlined in the QAPP. Samples were collected from the shoreline with the aid of a sampling stick from the densest portion of the bloom. Preferably, monitoring and sample collection occurred at public access points on each pond. If no public access was available, monitoring and sample collection were done from a secondary access location or through permission of a private property owner. Monitoring/sampling locations for each waterbody are listed in Table 1.

Samples were sent to the Rhode Island State Health Laboratory for cyanotoxin analysis and identification/enumeration by colony count of cyanobacteria genera. The cyanotoxins and cyanobacteria genera identified by the lab as well as the thresholds for issuing an advisory are listed in Tables 2 and 3. RIDEM OWR staff estimated cyanobacteria cell counts from colony counts using conversion factors provided in Hartman and Graffius (1960). Cyanotoxin concentration, colony count, cell count estimation and visual appearance were evaluated by RIDEM OWR and HEALTH and an advisory was issued if any of the previously mentioned thresholds were met. If an advisory was issued for a waterbody as a result of a response visit, the waterbody was subsequently added to the routine biweekly monitoring schedule. Follow-up sampling to lift advisories was conducted when possible.
Table 1. List of Waterbodies Evaluated for Cyanobacteria Blooms.

<table>
<thead>
<tr>
<th>Sampling Program</th>
<th>Name</th>
<th>Town</th>
<th>Waterbody ID</th>
<th>Primary Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screening Level</td>
<td>Almy Pond</td>
<td>Newport</td>
<td>RI0010047L-01</td>
<td>Access off Coggeshell Ave on South side</td>
</tr>
<tr>
<td></td>
<td>Blackamore Pond</td>
<td>Cranston</td>
<td>RI0006018L-06</td>
<td>Access off Winter Ave</td>
</tr>
<tr>
<td></td>
<td>Cunliff Lake-RWP</td>
<td>Providence</td>
<td>RI0006017L-05</td>
<td>Access at Trailhead parking area</td>
</tr>
<tr>
<td></td>
<td>Deep Spring Lake-RWP</td>
<td>Providence</td>
<td>RI0006017L-05</td>
<td>Access across road from parking area at Cunliff</td>
</tr>
<tr>
<td></td>
<td>Easton Pond-North</td>
<td>Newport</td>
<td>RI0007035L-03</td>
<td>Access road off Bliss Mine Rd</td>
</tr>
<tr>
<td></td>
<td>Easton Pond-South</td>
<td>Newport</td>
<td>RI0007035L-04</td>
<td>Access road off Bliss Mine Rd.</td>
</tr>
<tr>
<td></td>
<td>Edgewood lake-RWP</td>
<td>Providence</td>
<td>RI0006017L-05</td>
<td>Access on east side of FC Greene Memorial Blvd</td>
</tr>
<tr>
<td></td>
<td>Elm Lake-RWP</td>
<td>Providence</td>
<td>RI0006017L-05</td>
<td>Access on South side of FC Greene Memorial Blvd</td>
</tr>
<tr>
<td></td>
<td>Gardiner Pond</td>
<td>Middletown</td>
<td>RI0007035L-01</td>
<td>Access from pull off on Hanging Rock Rd.</td>
</tr>
<tr>
<td></td>
<td>Japanese Gardens-RWP</td>
<td>Providence</td>
<td>RI0006017L-05</td>
<td>Access near Carousel and Roosevelt Lake</td>
</tr>
<tr>
<td></td>
<td>J.L. Curran Reservoir</td>
<td>Cranston</td>
<td>RI0006016L-02</td>
<td>Access area off Seven Mile Rd (boat Launch area)</td>
</tr>
<tr>
<td></td>
<td>Lawton Valley Reservoir</td>
<td>Portsmouth</td>
<td>RI0007035L-06</td>
<td>Access road off Flanagan Rd</td>
</tr>
<tr>
<td></td>
<td>Mashapaug Pond</td>
<td>Providence</td>
<td>RI0006017L-06</td>
<td>Access from boat launch near baseball field at end of Access Rd or Providence Boating Center</td>
</tr>
<tr>
<td></td>
<td>Melville Ponds</td>
<td>Portsmouth</td>
<td>RI0007029R-04</td>
<td>Access near elementary school at fishing dock</td>
</tr>
<tr>
<td></td>
<td>Nonquit Pond</td>
<td>Tiverton</td>
<td>RI0007035L-08</td>
<td>Access off Neck Rd</td>
</tr>
<tr>
<td></td>
<td>Omega Pond</td>
<td>East Providence</td>
<td>RI0004009L-03</td>
<td>Access from private home off of Roger Williams Ave</td>
</tr>
<tr>
<td></td>
<td>Paradise Pond</td>
<td>Middletown</td>
<td>RI0007035L-02</td>
<td>Access at 600 Paradise Ave</td>
</tr>
<tr>
<td></td>
<td>Pleasure Lake-RWP</td>
<td>Providence</td>
<td>RI0006017L-05</td>
<td>Access off Natural History Ave</td>
</tr>
<tr>
<td>Pond Name</td>
<td>Location</td>
<td>File Number</td>
<td>Access Information</td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td>---------------</td>
<td>---------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Polo Lake-RWP</td>
<td>Providence</td>
<td>RI0006017L-05</td>
<td>Access from North side of FC Greene Memorial Blvd</td>
<td></td>
</tr>
<tr>
<td>Roosevelt Lake-RWP</td>
<td>Providence</td>
<td>RI0006017L-05</td>
<td>Access off FC Greene Memorial Blvd</td>
<td></td>
</tr>
<tr>
<td>Scott Pond</td>
<td>Lincoln</td>
<td>RI0001003L-01</td>
<td>Access from Saylesville Fire Department</td>
<td></td>
</tr>
<tr>
<td>Sisson Pond</td>
<td>Portsmouth</td>
<td>RI0007035L-10</td>
<td>Access road off Union St.</td>
<td></td>
</tr>
<tr>
<td>Slack Reservoir</td>
<td>Smithfield-Johnston</td>
<td>RI0002007L-03</td>
<td>Access at public beach off Green Lake Drive or Terrace Drive</td>
<td></td>
</tr>
<tr>
<td>Slater Memorial Park Pond</td>
<td>Pawtucket</td>
<td>RI0004009R-01A</td>
<td>Access near paddleboat rentals or near benches on east side of pond.</td>
<td></td>
</tr>
<tr>
<td>Spectacle Pond</td>
<td>Cranston</td>
<td>RI0006017L-07</td>
<td>Access at end of Midwood St. on south end of pond</td>
<td></td>
</tr>
<tr>
<td>St. Mary’s Pond</td>
<td>Portsmouth</td>
<td>RI0007035L-05</td>
<td>Access road off Union St.</td>
<td></td>
</tr>
<tr>
<td>Stafford Pond</td>
<td>Tiverton</td>
<td>RI0007037L-01</td>
<td>Access at DEM Boat Ramp or Pelletier Ln</td>
<td></td>
</tr>
<tr>
<td>Ten Mile River</td>
<td>East Providence</td>
<td>RI0004009R-01B</td>
<td>Access at Turner Reservoir Loop Trailhead parking lot</td>
<td></td>
</tr>
<tr>
<td>Turner Reservoir</td>
<td>Rumford</td>
<td>RI0004009L-01B</td>
<td>Access off of Newman Ave (route 152) bridge or along Bridgham Farm walking area off of Bridgham Farm Rd</td>
<td></td>
</tr>
<tr>
<td>Warwick Pond</td>
<td>Warwick</td>
<td>RI0007024L-02</td>
<td>Access at boat launch or park off of Edgehill Rd on east side of pond</td>
<td></td>
</tr>
<tr>
<td>Watson Reservoir</td>
<td>Little Compton</td>
<td>RI0007035L-07</td>
<td>Access road off Old Main Rd</td>
<td></td>
</tr>
<tr>
<td>Willow Lake-RWP</td>
<td>Providence</td>
<td>RI0006017L-05</td>
<td>Access near bridge or paddle boat rentals</td>
<td></td>
</tr>
<tr>
<td>Response Level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tiogue Lake</td>
<td>Coventry</td>
<td>RI0006014L-02</td>
<td>Access at Briar Point Beach or right-of-way at the end of Middle Rd</td>
<td></td>
</tr>
<tr>
<td>Central Pond</td>
<td>East Providence</td>
<td>RI0004009L-01A</td>
<td>Access at Newman Crossing boat launch off of Newman Ave (Route 152)</td>
<td></td>
</tr>
<tr>
<td>Stump Pond</td>
<td>Smithfield</td>
<td>RI0006013L-03</td>
<td>Access at DEM access off of Farnum Rd.</td>
<td></td>
</tr>
</tbody>
</table>
Cranston Print Works Pond  | Cranston  | RI0006018L-05  | Access from St. Ann’s Cemetery  
Georgiaville Pond  | Smithfield  | RI0002007L-02  | Access from public beach off of Stillwater Rd  
Wilson Reservoir  | Burrillville  | RI0001002L-01  | Access from boat launch at White Mill Park on E Wallum Lake Rd  
Sucker Pond  | Burrillville  | RI0001002L-05  | Access from Crystal Lake Golf Club parking lot off of route 102  
Barber Pond  | South Kingstown  | RI0008039L-14  | Access from boat ramp off of Barbers Pond Rd  
Tarkiln Pond  | Smithfield-Burrillville  | RI0001002L-08  | Access off of Mowry rd in Burrillville  
Little Pond  | Warwick  | RI0007024L-01  | Access behind Warwick Veterans Junior High School, off of Albert Rd  

**Table 2:** List of cyanotoxins analyzed and advisory threshold level. 

<table>
<thead>
<tr>
<th>Toxin</th>
<th>Threshold for Issuance of Advisory</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Microcystins</strong>*</td>
<td>4.0 µg/L</td>
</tr>
<tr>
<td>Cylindrospermopsin</td>
<td>None Defined</td>
</tr>
<tr>
<td>Anatoxin</td>
<td></td>
</tr>
<tr>
<td>Nodularin</td>
<td></td>
</tr>
</tbody>
</table>

*: Most common toxin found in samples.

**Table 3:** List of cyanobacteria genera identified by the State Health Laboratory. 

<table>
<thead>
<tr>
<th>Genera</th>
<th>Threshold for Issuance of Advisory</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anabaena</strong>*</td>
<td></td>
</tr>
<tr>
<td>Aphanizonmenon</td>
<td></td>
</tr>
<tr>
<td>Chlorella</td>
<td></td>
</tr>
<tr>
<td>Cylindrospermopsis</td>
<td>70,000 cells/mL (total cyanobacteria)</td>
</tr>
<tr>
<td>Microcystis***</td>
<td></td>
</tr>
<tr>
<td>Nodularia</td>
<td></td>
</tr>
<tr>
<td>Planktothrix***</td>
<td></td>
</tr>
<tr>
<td>Woronichina</td>
<td></td>
</tr>
</tbody>
</table>

*: Most common genera found in samples.
Results

Routine cyanobacteria monitoring occurred biweekly from June to Mid-September, resulting in 7 or 8 visits to most waterbodies. Additional visits were conducted on 17 occasions in response to calls from citizens, town managers, environmental organizations, or other RIDEM field staff about potential blooms (Table 4).

The field visits led to the issuance of 19 recreational advisories for cyanobacteria blooms, 11 of which were a result of routine monitoring (Table 5). Response visits resulted in the issuance of 8 advisories. The majority of the advisories were issued based on visual appearance and exceedance of the cell count threshold.

A total of 37 cyanobacteria samples were collected from 22 waterbodies throughout the state. Of the 37 samples, 22 were collected to support initial issuance of an advisory while 15 were collected as follow-up samples in an effort to lift advisories. Requirements to lift an advisory were met on one occasion for Georgiaville Pond, in which 2 samples collected 2 weeks apart exhibited toxin levels and cell counts below the advisory thresholds.

Cyanobacteria colony counts in samples ranged from less than 1 (non-detect) to 100,000 colonies/mL at Slack Reservoir and Tarkiln Pond. The cell count threshold was exceeded in 17 samples from 15 waterbodies (Table 6).

Most samples had a total microcystin concentration less than the reporting limit of 1.0 ug/L (Table 6). Four samples had total microcystin concentrations that exceeded the total microcystin threshold for issuing an advisory. These four samples were collected from Almy Pond (4.3 ug/L), Georgiaville Pond (9.2 and 10 ug/L) and Slack Reservoir (53 ug/L), all of which resulted in recreational advisories.

One sample collected from the “Little beach” at Slack Reservoir on July 27th had both the highest total microcystin concentration (53 ug/L) and the highest cell count estimation (10,151,000 cells/mL).

Potentially toxigenic species, *Anabaena, Aphanizomenon, Microcystis, Planktothrix, and Woronichina* were identified in 33 of the 37 samples collected. The genera *Anabaena, Microcystis* and *Planktothrix* were the most frequently observed genera.
### Table 4: 2018 Response Visits

<table>
<thead>
<tr>
<th>Waterbody</th>
<th>Date</th>
<th>Source of call</th>
<th># of Samples collected</th>
<th>Advisory Issued</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slack Reservoir</td>
<td>7/2/2018</td>
<td>Resident</td>
<td>0</td>
<td>No</td>
</tr>
<tr>
<td>Tiogue Lake</td>
<td>7/12/2018</td>
<td>RIDEM OWR intern</td>
<td>1</td>
<td>No</td>
</tr>
<tr>
<td>Turner Reservoir</td>
<td>7/13/2018</td>
<td>Dog walker</td>
<td>1</td>
<td>Yes: 7/13/2018</td>
</tr>
<tr>
<td>Central Pond</td>
<td>7/16/2018</td>
<td>URI Watershed Watch volunteer</td>
<td>1</td>
<td>Yes: 7/16/2018</td>
</tr>
<tr>
<td>Ten Mile River</td>
<td>7/16/2018</td>
<td>N/A*</td>
<td>0</td>
<td>Yes: 7/16/2018</td>
</tr>
<tr>
<td>Omega Pond</td>
<td>7/18/2018</td>
<td>EPA staff</td>
<td>0</td>
<td>Yes: 7/16/2018</td>
</tr>
<tr>
<td>Mashapaug Pond</td>
<td>7/18/2018</td>
<td>N/A*</td>
<td>0</td>
<td>No</td>
</tr>
<tr>
<td>Slack Reservoir</td>
<td>7/27/2018</td>
<td>Resident</td>
<td>2</td>
<td>Yes: 7/31/2018</td>
</tr>
<tr>
<td>Stump Pond</td>
<td>8/9/2018</td>
<td>RIDEM OWR intern</td>
<td>0</td>
<td>No</td>
</tr>
<tr>
<td>Cranston Print Works Pond</td>
<td>8/14/2018</td>
<td>RIDEM OWR intern</td>
<td>0</td>
<td>No</td>
</tr>
<tr>
<td>Georgiaville Pond</td>
<td>8/17/2018</td>
<td>Municipal staff</td>
<td>2</td>
<td>Yes: 8/17/2018</td>
</tr>
<tr>
<td>Wilsons Reservoir</td>
<td>8/22/2018</td>
<td>Resident</td>
<td>0</td>
<td>No</td>
</tr>
<tr>
<td>Sucker Pond</td>
<td>8/22/2018</td>
<td>RIDEM OWR intern</td>
<td>0</td>
<td>No</td>
</tr>
<tr>
<td>Barber Pond</td>
<td>8/23/2018</td>
<td>URI Watershed Watch volunteer</td>
<td>1</td>
<td>No</td>
</tr>
<tr>
<td>Warwick Pond</td>
<td>8/29/2018</td>
<td>Resident</td>
<td>0</td>
<td>No</td>
</tr>
<tr>
<td>Tarkiln Pond</td>
<td>8/30/2018</td>
<td>RIDEM OWR intern</td>
<td>1</td>
<td>Yes: 8/31/2018</td>
</tr>
<tr>
<td>Little Pond</td>
<td>9/18/2018</td>
<td>URI Watershed Watch volunteer</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

*Visits to Ten Mile River and Omega pond were conducted after receiving calls about Central Pond and Turner Reservoir since they are hydraulically connected.

### Table 5: List of confirmed cyanobacteria blooms throughout the 2018 monitoring season.

<table>
<thead>
<tr>
<th>Waterbody</th>
<th>Town</th>
<th>Date Advisory Posted</th>
<th>Date Advisory Lifted</th>
<th>Basis for advisory</th>
<th>Routine visit or response visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sisson Pond</td>
<td>Portsmouth</td>
<td>6/8/2018</td>
<td></td>
<td>Visual, cell count later confirmed</td>
<td>Routine</td>
</tr>
<tr>
<td>Melville Ponds</td>
<td>Portsmouth</td>
<td>6/27/2018</td>
<td>Cell count</td>
<td>Routine</td>
<td></td>
</tr>
<tr>
<td>Almy Pond</td>
<td>Newport</td>
<td>6/27/2018</td>
<td>Toxin level, cell count</td>
<td>Routine</td>
<td></td>
</tr>
<tr>
<td>Turner Reservoir</td>
<td>East Providence</td>
<td>7/13/2018</td>
<td></td>
<td>Visual</td>
<td>Response</td>
</tr>
<tr>
<td>Central Pond</td>
<td>East Providence</td>
<td>7/16/2018</td>
<td>Visual</td>
<td>Response</td>
<td></td>
</tr>
<tr>
<td>Omega Pond</td>
<td>East Providence</td>
<td>7/16/2018</td>
<td>Visual</td>
<td>Response</td>
<td></td>
</tr>
<tr>
<td>Ten Mile River</td>
<td>East Providence</td>
<td>7/16/2018</td>
<td>Visual</td>
<td>Response</td>
<td></td>
</tr>
<tr>
<td>Roosevelt Lake</td>
<td>Providence</td>
<td>7/25/2018</td>
<td>Cell count</td>
<td>Routine</td>
<td></td>
</tr>
<tr>
<td>Mashapaug Pond</td>
<td>Providence</td>
<td>7/25/2018</td>
<td>Cell count</td>
<td>Routine</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>City</td>
<td>Date</td>
<td>Test Results</td>
<td>Response</td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>----------------</td>
<td>------------</td>
<td>--------------------------------------------------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>Slack Reservoir</td>
<td>Smithfield-</td>
<td>7/31/2018</td>
<td>Toxin level, cell count</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Johnston</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Willow Lake</td>
<td>Providence</td>
<td>8/10/2018</td>
<td>Visual, cell count later confirmed</td>
<td>Routine</td>
<td></td>
</tr>
<tr>
<td>Edgewood Lake</td>
<td>Providence</td>
<td>8/10/2018</td>
<td>Visual, cell count later confirmed</td>
<td>Routine</td>
<td></td>
</tr>
<tr>
<td>Japanese Gardens</td>
<td>Providence</td>
<td>8/10/2018</td>
<td>Visual</td>
<td>Routine</td>
<td></td>
</tr>
<tr>
<td>Blackamore Pond</td>
<td>Cranston</td>
<td>8/10/2018</td>
<td>Visual, cell count later confirmed</td>
<td>Routine</td>
<td></td>
</tr>
<tr>
<td>Georgiaville Pond</td>
<td>Smithfield</td>
<td>8/17/2018</td>
<td>Visual, toxin level and cell count later confirmed</td>
<td>Response</td>
<td></td>
</tr>
<tr>
<td>Pleasure Lake</td>
<td>Providence</td>
<td>8/21/2018</td>
<td>Visual, cell count later confirmed</td>
<td>Routine</td>
<td></td>
</tr>
<tr>
<td>Tarkiln Pond</td>
<td>North Smithfield-Burrillville</td>
<td>8/31/2018</td>
<td>Cell count</td>
<td>Response</td>
<td></td>
</tr>
<tr>
<td>Spectacle Pond</td>
<td>Cranston</td>
<td>9/10/2018</td>
<td>Cell count</td>
<td>Routine</td>
<td></td>
</tr>
<tr>
<td>Little Pond</td>
<td>Warwick</td>
<td>9/21/2018</td>
<td>Cell count</td>
<td>Response</td>
<td></td>
</tr>
</tbody>
</table>

**Table 6. Distribution of Total microcystin concentration in samples**

<table>
<thead>
<tr>
<th>Total Microcystin concentration (ug/L)</th>
<th>Non-detect (&lt; 1.0)</th>
<th>1.0 &gt; 4.0</th>
<th>&gt; 4</th>
</tr>
</thead>
<tbody>
<tr>
<td># of samples</td>
<td>27</td>
<td>6</td>
<td>4*</td>
</tr>
</tbody>
</table>

*Almy Pond, Georgiaville Pond (2 samples) and Slack Reservoir

**Table 7. Cell count distribution in samples**

<table>
<thead>
<tr>
<th>Cell Count Estimation (cells/mL)</th>
<th>Non-detect (&lt; 1.0)</th>
<th>1.0 &gt; 70,000</th>
<th>&gt; 70,000</th>
</tr>
</thead>
<tbody>
<tr>
<td># of samples</td>
<td>2</td>
<td>18</td>
<td>17*</td>
</tr>
</tbody>
</table>

*Almy Pond, Blackamore Pond, Edgewood Lake, Georgiaville Pond (2 samples), Little Pond, Mashapaug Pond, Melville Ponds, Pleasure Lake, Roosevelt Lake, Sisson Pond, Slack Reservoir (2 samples) Spectacle Pond, Tarkiln Pond, Ten Mile River, and Willow Lake
**Conclusions**

The results of the 2018 cyanobacteria monitoring season demonstrate the value of conducting routine cyanobacteria monitoring on a regular basis throughout the field season. More than half of the recreational advisories in 2018 were issued as a result of routine monitoring. The 2017 field season achieved similar results, with 13 out of 20 advisories resulting from routine monitoring. Prior to 2017, RIDEM only conducted cyanobacteria field visits in response to calls from the public. Relying on the public to report blooms in the 2017 and 2018 field seasons would have resulted in several blooms going undetected and an increased potential for human exposure to cyanotoxins and their related health implications.

Follow-up sampling for the purpose of lifting advisories was challenging. On some ponds, cyanobacteria blooms subsided then reemerged over periods of days or weeks. On some occasions cell counts remained elevated after the visual appearance of the bloom had subsided. Consequently, only one set of follow up samples from Georgiaville Pond resulted in the lifting of an advisory in 2018.

Estimating cell counts from colony counts using conversion factors from Hartmann and Graffius (1960) was useful for issuing advisories in 2018. Six advisories were issued based solely on cell count estimations exceeding the threshold. Since there is no criteria for issuing an advisory based on colony counts, estimating cell counts from colony counts allows for more thorough identification of potentially harmful blooms.

There are several differences in the cyanobacteria monitoring results from 2017 and 2018. In 2017, 33% (21 out of 64) of samples exceeded the total microcystin threshold, compared to 11% (4 out of 37) in 2018 (Figure 1). The majority of advisories in 2017 were issued due to exceedance of the toxin threshold while in 2018 most advisories were based on visual appearance and/or cell count estimations. In both years there was a predominance of *Anabaena* and *Microcystis* genera in samples, however *Planktothrix* was found in 35% of samples in 2018 compared to only 13% of samples in 2017. In both years, Slack Reservoir had the highest total microcystin concentration of all samples however it was substantially higher in 2017 at 600 ug/L compared to 53 ug/L in 2018. These results demonstrate the degree of variation in cyanobacteria blooms from year to year and the difficulties associated with predicting blooms.
Figure 1: Total microcystin concentration vs. cell density estimations in 2017 and 2018. Non-detect data not included.

References

### Appendix A

**Table 1:** Results for cyanobacteria monitoring of Almy Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: June 25&lt;sup&gt;th&lt;/sup&gt;, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/08/18</td>
<td>No bloom. Brown/turbid water.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>06/25/18*</td>
<td>Pea soup, appearance in corner of pond near access dock.</td>
<td>Total Microcystin: 4.3</td>
<td>Anabaena: 270 Microcystin: 3,650</td>
<td>Anabaena: 6,210 Microcystis: 511,000 Total: 517,210</td>
<td></td>
</tr>
<tr>
<td>07/12/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/23/18</td>
<td>Streaking and bubbling scum.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/07/18</td>
<td>Bloom is still very apparent.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/05/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/17/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

*: Health Advisory Issued; **Exceedance of Threshold.**

**Table 2:** Results for cyanobacteria monitoring of Barber Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: August 23&lt;sup&gt;rd&lt;/sup&gt;, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/23/18</td>
<td>Response visit. Water is almost entirely clear. Very occasional bright green algae, particularly at boat ramp.</td>
<td>All &lt; 1 Planktothrix: 140</td>
<td>Planktothrix: 3,920</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Observations</td>
<td>Toxin Levels (ug/L)</td>
<td>Colony Count (colonies/mL)</td>
<td>Cell Count Conversion (cells/mL)</td>
<td>Photograph: August 9th, 2018</td>
</tr>
<tr>
<td>---------</td>
<td>------------------------------------------------------------------------------</td>
<td>---------------------</td>
<td>----------------------------</td>
<td>----------------------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>06/26/18</td>
<td>No bloom. Water is fairly clear.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/11/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/24/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/09/18*</td>
<td>Water is cloudy with greenish hue and some clumps of cyanobacteria on the surface.</td>
<td>All &lt; 1</td>
<td>Anabaena: 40,000 Microcystis: 120</td>
<td>Anabaena: 920,000 Microcystis: 16,800 Total: 936,800</td>
<td></td>
</tr>
<tr>
<td>08/21/18</td>
<td>Cloudy, pea soup appearance in pond.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/05/18</td>
<td>Cloudy, green water. Small dots of cyanobacteria on surface.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/18/18</td>
<td>Water is fairly clear. No bloom.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

*: Health Advisory Issued; Exceedance of Threshold.
Table 4: Results for cyanobacteria monitoring of Central Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: July 16th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/16/18 *</td>
<td>Response visit. Bloom present along shore, extending into center of pond. Strong odor.</td>
<td>All &lt; 1</td>
<td>Anabaena: 2,410 Microcystis: 10</td>
<td>Anabaena: 55,430 Microcystis: 1,400 Total: 56,830</td>
<td></td>
</tr>
<tr>
<td>07/25/18</td>
<td>No bloom. Water is cloudy.</td>
<td>All &lt; 1</td>
<td>Anabaena: 120 Aphanizomenon: 110 Planktothrix: 500</td>
<td>Anabaena: 2,760 Aphanizomenon: 30,800 Planktothrix: 14,000 Total: 47,560</td>
<td></td>
</tr>
<tr>
<td>08/08/18</td>
<td>Water is fairly clear. No bloom.</td>
<td>All &lt; 1</td>
<td>Anabaena: 20 Planktothrix: 820</td>
<td>Anabaena: 460 Planktothrix: 22,960 Total: 23,420</td>
<td></td>
</tr>
<tr>
<td>08/22/18</td>
<td>Water is cloudy. gray color. No bloom.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/19/18</td>
<td>Water is clear. No bloom.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

*: Health Advisory Issued

Table 5: Results for cyanobacteria monitoring of Cranston Print Works Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: August 14th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/14/18</td>
<td>Response visit. A lot of duckweed but no cyanobacteria.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>
Table 6: Results for cyanobacteria monitoring of Cunliff Lake in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: June 26th 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/26/18</td>
<td>No blooms observed.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/11/18</td>
<td>Frequently noted cloudy, low clarity water during visits.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/24/18</td>
<td>Frequently noted cloudy water with low visibility or discoloration during visits.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/09/18</td>
<td>Water is cloudy but no bloom.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/21/18</td>
<td>Water is cloudy but no bloom.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/05/18</td>
<td>Water is cloudy but no bloom.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/18/18</td>
<td>Water is cloudy but no bloom.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

Table 7: Results for cyanobacteria monitoring of Deep Spring Lake in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: June 26th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/26/18</td>
<td>No blooms observed.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/11/18</td>
<td>Frequently noted cloudy, low clarity water during visits.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/24/18</td>
<td>Frequently noted cloudy water with low visibility or discoloration during visits.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/09/18</td>
<td>Water is cloudy but no bloom.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/21/18</td>
<td>Water is cloudy but no bloom.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/05/18</td>
<td>Water is cloudy but no bloom.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/18/18</td>
<td>Water is cloudy but no bloom.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>
Table 8: Results for cyanobacteria monitoring of North Easton Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: August 7th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/08/18</td>
<td>No blooms observed.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>06/25/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/10/18</td>
<td>Frequently noted cloudy water with low clarity and brownish color.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/23/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/07/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/20/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/04/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/17/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

Table 9: Results for cyanobacteria monitoring of South Easton Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: July 10th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/08/18</td>
<td>No blooms observed.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>06/25/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/10/18</td>
<td>Frequently noted cloudy water with low clarity.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/23/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/07/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/20/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/04/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/17/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>
### Table 10: Results for cyanobacteria monitoring of Edgewood Lake in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: August 9th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/11/18</td>
<td>No bloom. Water is cloudy with low clarity.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/24/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/09/18 *</td>
<td>Bloom along eastern shoreline. Bright green scum, streaking, spilled paint appearance.</td>
<td>Total Microcystins: 3.8</td>
<td>Anabaena: 8,500 Microcystis: 5,600 Woronichina: 2,300</td>
<td>Anabaena: 195,500 Microcystis: 784,000 Woronichina: 575,000 Total: 1,554,500</td>
<td></td>
</tr>
<tr>
<td>08/21/18</td>
<td>Better than previous visit. Still some light streaking on the surface and cloudy water.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/05/18</td>
<td>Water is green and cloudy with dots in the water column and light streaking on surface. Improvement since last visit.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/18/18</td>
<td>No bloom. Water is dark and cloudy.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

*Health Advisory Issued; Exceedance of Threshold.

### Table 11: Results for cyanobacteria monitoring of Elm Lake in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: August 21st, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/26/18</td>
<td>No blooms observed.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/11/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/24/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/09/18</td>
<td>Frequently noted cloudy water with low clarity.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/21/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/05/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/18/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>
**Table 12:** Results for cyanobacteria monitoring of Gardiner Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: August 7th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/08/18</td>
<td>No blooms observed.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>06/25/18</td>
<td>Occasionally noted cloudy water.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/10/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/23/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/07/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/20/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/04/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/17/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

**Table 13:** Results for cyanobacteria monitoring of Georgiaville Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: August 17th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/17/18*</td>
<td>Bright green large globs that break apart if poked. Some smaller bright green dots that don’t break apart as easily.</td>
<td>Large clumps: Total Microcystins: 9.2 Small dots: Total Microcystins: 10</td>
<td>Large clumps: Planktothrix: 100,000 Small dots: Anabaena: 70 Microcystis: 190 Planktothrix: 35,000</td>
<td>Large clumps: Planktothrix: 2,800,000 Small dots: Anabaena: 1,610 Microcystis: 26,600 Planktothrix: 980,000 Total: 1,008,210</td>
<td></td>
</tr>
<tr>
<td>09/06/18</td>
<td>Water is very clear. No green globs. Several small bright green dots in water at dam and boat ramp.</td>
<td>Beach: All &lt; 1.0 Boat Ramp: All &lt; 1.0</td>
<td>Beach: Microcystis: 90 Boat Ramp: Chlorella: 40 Microcystis: 40 Planktothrix: 240</td>
<td>Beach: Microcystis: 12,600 Boat Ramp: Chlorella: N/A Microcystis: 5,600 Planktothrix: 6,720 Total: 12,320</td>
<td></td>
</tr>
<tr>
<td>09/19/18</td>
<td>Water is clear at beach and boat ramp. No bloom.</td>
<td>Beach: All &lt; 1.0</td>
<td>Beach: Microcystis: 10</td>
<td>Beach: Microcystis: 1400</td>
<td></td>
</tr>
</tbody>
</table>

*: Health Advisory Issued; Exceedance of Threshold.
### Table 14: Results for cyanobacteria monitoring of Japanese Gardens in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: August 21&lt;sup&gt;st&lt;/sup&gt;, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/11/18</td>
<td>Green soup appearance.</td>
<td>Not Sampled</td>
<td>Anabaena: 10</td>
<td>Anabaena: 230</td>
<td></td>
</tr>
<tr>
<td>07/24/18</td>
<td>Some streaking on surface.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/09/18 *</td>
<td>Bloom present. Pea soup appearance and streaking around shoreline and bridge to Willow Lake.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/21/18</td>
<td>Bloom has worsened and expanded to entire pond.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/05/18</td>
<td>Water resembles pea soup. Very cloudy and green with some dots of cyanobacteria on the surface.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/18/18</td>
<td>No bloom. Water is very cloudy and brown.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

*: Health Advisory Issued

### Table 15: Results for cyanobacteria monitoring of J.L. Curran Reservoir in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: August 8&lt;sup&gt;th&lt;/sup&gt;, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/27/18</td>
<td>No blooms observed.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/12/18</td>
<td>Water was clear early in the season, growing cloudy in the late summer.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/25/18</td>
<td>Water was clear early in the season, growing cloudy in the late summer.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/08/18</td>
<td>Water was clear early in the season, growing cloudy in the late summer.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/22/18</td>
<td>Water was clear early in the season, growing cloudy in the late summer.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/06/18</td>
<td>Water was clear early in the season, growing cloudy in the late summer.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/19/18</td>
<td>Water was clear early in the season, growing cloudy in the late summer.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>
**Table 16:** Results for cyanobacteria monitoring of Lawton Valley Reservoir in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph:</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/08/18</td>
<td>No blooms observed.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>06/25/18</td>
<td>Frequently noted brownish, cloudy water.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/10/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/23/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/07/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/20/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/04/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/17/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

**Table 17:** Results for cyanobacteria monitoring of Little Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph:</th>
</tr>
</thead>
<tbody>
<tr>
<td>09/18/18</td>
<td>Water is mostly clear with no obvious scum or bloom. There is a narrow swampy area with pea soup colored green water coming out into pond in a plume.</td>
<td>All &lt; 1</td>
<td>Aphanizomenon: 5520 Microcystis: 10</td>
<td>Aphanizomenon: 1,545,600 Microcystis: 1400 Total: 1,547,000</td>
<td>September 18th, 2018</td>
</tr>
</tbody>
</table>

*: Health Advisory Issued; Exceedance of Threshold.
### Table 18: Results for cyanobacteria monitoring of Mashapaug Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: July 24th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/26/18</td>
<td>No bloom-water is fairly clear.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/11/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/09/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/21/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/05/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/18/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

*: Health Advisory Issued; Exceedance of Threshold.

### Table 19: Results for cyanobacteria monitoring of Melville Ponds in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: June 25th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/08/18</td>
<td>Possible bloom in NW corner of pond. Green streaking particulate.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/10/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/23/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/07/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/20/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/04/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/17/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

*: Health Advisory Issued; Exceedance of Threshold.
Table 20: Results for cyanobacteria monitoring of Nonquit Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: July 10th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/08/18</td>
<td>No blooms observed.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>06/25/18</td>
<td>Frequently noted cloudy, tannic water.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/10/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/23/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/07/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/20/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/04/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/17/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

Table 21: Results for cyanobacteria monitoring of Omega Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: July 16th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/27/18</td>
<td>No bloom. Water is clear.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/12/18</td>
<td>No bloom. Water is cloudy/brownish color.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/16/18 *</td>
<td>Green streaking/clumps of cyanobacteria present.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/25/18</td>
<td>No bloom. Pond has cleared up since last visit.</td>
<td>All &lt; 1</td>
<td>Anabaena: 30</td>
<td>Anabaena: 690</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aphanizomenon: 10</td>
<td>Aphanizomenon: 2,800</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Microcystis: 10</td>
<td>Microcystis: 1,400</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Planktothrix: 460</td>
<td>Planktothrix: 12,880</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total: 17,770</td>
<td></td>
</tr>
<tr>
<td>08/08/18</td>
<td>No bloom. Duckweed and other algae along shore.</td>
<td>All &lt; 1</td>
<td>Planktothrix: 100</td>
<td>Planktothrix: 2,800</td>
<td></td>
</tr>
<tr>
<td>08/22/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/06/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/19/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

*: Health Advisory Issued
### Table 22: Results for cyanobacteria monitoring of Paradise Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: August 20th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/08/18</td>
<td>No blooms observed.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>06/25/18</td>
<td>Frequently noted cloudy water is a brown or greenish hue.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/10/18</td>
<td>Frequently noted cloudy water is a brown or greenish hue.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/23/18</td>
<td>Frequently noted cloudy water is a brown or greenish hue.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/07/18</td>
<td>Frequently noted cloudy water is a brown or greenish hue.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/20/18</td>
<td>Frequently noted cloudy water is a brown or greenish hue.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/04/18</td>
<td>Frequently noted cloudy water is a brown or greenish hue.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/17/18</td>
<td>Frequently noted cloudy water is a brown or greenish hue.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

### Table 23: Results for cyanobacteria monitoring of Pleasure Lake in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: August 21st, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/26/18</td>
<td>No bloom. Water is cloudy with low clarity.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/11/18</td>
<td>Bloom may be forming- some minor streaking along shoreline. Cloudy water with low clarity.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/24/18</td>
<td>Bloom may be forming- some minor streaking along shoreline. Cloudy water with low clarity.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/09/18</td>
<td>No bloom. Water is dark and cloudy.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/05/18</td>
<td>Striking/spilled paint appearance along shoreline. Pea soup appearance throughout water column.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/18/18</td>
<td>Water is cloudy but no bloom.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

*: Health Advisory Issued; Exceedance of Threshold.
**Table 24:** Results for cyanobacteria monitoring of Polo Lake in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: July 24th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/26/18</td>
<td>No blooms observed.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/11/18</td>
<td>Frequently noted cloudy, low clarity water.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/24/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/09/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/21/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/05/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/18/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

**Table 25:** Results for cyanobacteria monitoring of Roosevelt lake in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: July 24th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/26/18</td>
<td>No bloom.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/11/18</td>
<td>Water is cloudy and murky.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/24/18*</td>
<td>Scum/spilled paint appearance accumulating at weir, pea soup/streaking pond-wide.</td>
<td>Total Microcystins: 2.1</td>
<td>Anabaena: 1,180 Aphanizomenon: 150 Microcystis: 850 Woronichinia: 2,260</td>
<td>Anabaena: 27,140 Aphanizomenon: 42,000 Microcystis: 119,000 Woronichinia: 565,000 Total: 753,140</td>
<td></td>
</tr>
<tr>
<td>08/09/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/21/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/05/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/18/18</td>
<td>Water is cloudy but no bloom.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

* Health Advisory Issued; **Exceedance of Threshold.**
Table 26: Results for cyanobacteria monitoring of Saint Mary’s Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: August 7th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/08/18</td>
<td>No blooms observed.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/25/18</td>
<td>Frequently noted cloudy water with low clarity.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/10/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/23/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/07/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/20/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/04/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/17/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

Table 27: Results for cyanobacteria monitoring of Scott Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: July 12th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/27/18</td>
<td>No blooms observed.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/12/18</td>
<td>Water was very clear early in the season, becoming cloudier in the late summer.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/25/18</td>
<td>Water was very clear early in the season, becoming cloudier in the late summer.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/08/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/22/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/06/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/19/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>
Table 28: Results for cyanobacteria monitoring of Sisson Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: June 8th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/08/18 *</td>
<td>Bloom present pond-wide, accumulating in NE corner of pond. Various shades of green mats on surface.</td>
<td>All &lt; 1</td>
<td>Anabaena: 3,160</td>
<td>Anabaena: 72,680</td>
<td></td>
</tr>
<tr>
<td>06/26/18</td>
<td>No bloom.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/10/18</td>
<td>Cloudy, brownish, turbid water.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/23/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/07/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/20/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/04/18</td>
<td>Looks worse than some of the previous weeks. Small string-like dots throughout water column. Green, cloudy appearance.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/17/18</td>
<td>Pea soup appearance throughout. Scum accumulating in NE corner of pond.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

*: Health Advisory Issued; Exceedance of Threshold
Table 29: Results for cyanobacteria monitoring of Slack Reservoir in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: Little Beach, July 27th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/27/18</td>
<td>No bloom. Water is fairly clear.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/02/18</td>
<td>Response visit. No bloom. Water is cloudy, greenish at Little Beach. Water is clear at Greenlake beach.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/12/18</td>
<td>No bloom. Water is clear.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/25/18</td>
<td>No bloom. Water is clear.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/27/18 *</td>
<td>Response visit. <strong>Little Beach</strong>: spilled paint appearance and streaking along shoreline. <strong>Greenlake Beach</strong>: Very few dots/clumps on surface of water and green line of scum washed up on shoreline.</td>
<td><strong>Little Beach</strong>: Total Microcysts: 53 <strong>Greenlake Beach</strong>: Total Microcysts: 2.8</td>
<td><strong>Little Beach</strong>: Anabaena: 27,000 Microcystis: 27,000 Woronichinia: 23,000 <strong>Greenlake Beach</strong>: Anabaena: 170 Microcystis: 550 Woronichinia: 1,480</td>
<td><strong>Little Beach</strong>: Anabaena: 621,000 Microcystis: 3,780,000 Woronichinia: 5,750,000 Total: 10,151,000 <strong>Greenlake Beach</strong>: Anabaena: 3,910 Microcystis: 77,000 Woronichinia: 370,000 Total: 450,910</td>
<td></td>
</tr>
<tr>
<td>08/08/18</td>
<td>No bloom at Little Beach or Greenlake Beach. Water is clear.</td>
<td><strong>Little Beach</strong>: All &lt; 1 <strong>Greenlake Beach</strong>: All &lt; 1</td>
<td><strong>Little Beach</strong>: Microcystis: 90 <strong>Greenlake Beach</strong>: Microcystis: 20</td>
<td><strong>Little Beach</strong>: Microcystis: 12,600 <strong>Greenlake Beach</strong>: Microcystis: 2,800</td>
<td></td>
</tr>
<tr>
<td>08/22/18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09/06/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/19/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>
*: Health Advisory Issued; Exceedance of Threshold.

**Table 30**: Results for cyanobacteria monitoring of Slater Memorial Park Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: July 25th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/27/18</td>
<td>No blooms observed.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/12/18</td>
<td>Frequently noted dark, cloudy water with low clarity and greenish hue.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/25/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/08/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/22/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/06/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/19/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

**Table 31**: Results for cyanobacteria monitoring of Spectacle Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: September 5th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/26/18</td>
<td>No bloom. Water is clear.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/11/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/24/18</td>
<td>No bloom. Water is cloudy with low clarity.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/09/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/21/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/05/18*</td>
<td>Bloom is starting - light streaking/dots on surface and water is cloudy green color.</td>
<td>All &lt; 1</td>
<td>Anabaena: 1,370 Microcystis: 80 Woronichinia: 860</td>
<td>Anabaena: 31,510 Microcystis: 11,200 Woronichinia: 215,000 Total: 257,710</td>
<td></td>
</tr>
<tr>
<td>09/18/18</td>
<td>Water is cloudy with green hue but no bloom.</td>
<td>Not sampled</td>
<td>Not sampled</td>
<td>Not sampled</td>
<td></td>
</tr>
</tbody>
</table>
Table 32: Results for cyanobacteria monitoring of Stafford Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: July 23rd, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/08/18</td>
<td>No blooms observed. Water appeared clear all summer.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>06/25/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/10/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/23/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/07/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/20/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/04/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/17/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

Table 33: Results for cyanobacteria monitoring of Stump Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: August 8th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/08/18</td>
<td>Response visit. No bloom. Water is clear.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

Table 34: Results for cyanobacteria monitoring of Sucker Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: August 22nd, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/22/18</td>
<td>Response visit. No bloom. Water is very clear.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>
Table 35: Results for cyanobacteria monitoring of Tarkiln Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: August 30th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/30/18 *</td>
<td>AIS interns noted large clumps of cyanobacteria on western shore near boat ramp.</td>
<td>All &lt; 1</td>
<td>Planktothrix: 100,000</td>
<td>Planktothrix: 2,800,000</td>
<td></td>
</tr>
<tr>
<td>09/06/18</td>
<td>No bloom. Water is clear with a lot of plant growth.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/19/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

*: Health Advisory Issued; Exceedance of Threshold.

Table 36: Results for cyanobacteria monitoring of Ten Mile River in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: July 17th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/17/18 *</td>
<td>Bloom present throughout the river. Pea soup appearance throughout.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/25/18</td>
<td>Looks like bloom has dissipated. Water is cloudy/brown but no bloom.</td>
<td>All &lt; 1</td>
<td>Anabaena: 10</td>
<td>Anabaena: 230</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aphanizomenon: 240</td>
<td>Aphanizomenon: 67,200</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Planktothrix: 650</td>
<td>Planktothrix: 18,200</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total: 85,630</td>
<td></td>
</tr>
<tr>
<td>08/08/18</td>
<td>Water is clear at shore but cloudy brown/green in center of river.</td>
<td>All &lt; 1</td>
<td>Planktothrix: 1,840</td>
<td>Planktothrix: 1,840</td>
<td></td>
</tr>
<tr>
<td>08/22/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/06/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/19/18</td>
<td>No bloom. Water is tannic.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

*: Health Advisory Issued; Exceedance of Threshold.
Table 37: Results for cyanobacteria monitoring of Tiogue lake in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: July 12th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/12/18</td>
<td>Response visit. Water is cloudy brown color. Dots/clumps of cyanobacteria on the surface and in the water column. Some streaking on surface.</td>
<td>All &lt; 1</td>
<td>Microcystis: 30</td>
<td>Microcystis: 4,200</td>
<td></td>
</tr>
</tbody>
</table>
Table 38: Results for cyanobacteria monitoring of Turner Reservoir in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: July 16th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/27/18</td>
<td>No bloom. Water is fairly clear.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/12/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/13/18 *</td>
<td>Green pea soup, spilled paint appearance all along Western shoreline</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/16/18</td>
<td>Bloom present all along western shoreline down to spillway. Strong odor. Spilled paint, streaks, bubbling on surface.</td>
<td>All &lt; 1</td>
<td>Anabaena: 1,650 Aphanizomenon: 10</td>
<td>Anabaena: 37,950 Aphanizomenon: 2,800 Total: 40,750</td>
<td>![Photograph]</td>
</tr>
<tr>
<td>07/25/18</td>
<td>No bloom. Water is clear, slightly tannic.</td>
<td>All &lt; 1</td>
<td>Anabaena: 60 Aphanizomenon: 50 Planktothrix: 680</td>
<td>Anabaena: 1380 Aphanizomenon: 14,000 Planktothrix: 19,040 Total: 34,420</td>
<td></td>
</tr>
<tr>
<td>08/09/18</td>
<td>All &lt; 1</td>
<td>Anabaena: 470 Planktothrix: 2,070</td>
<td>Anabaena: 10,810 Planktothrix: 57,960 Total: 68,770</td>
<td></td>
<td></td>
</tr>
<tr>
<td>08/22/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/06/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/19/18</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

*: Health Advisory Issued
Table 39: Results for cyanobacteria monitoring of Warwick Pond in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: July 24th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/26/18</td>
<td>No blooms observed.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/11/18</td>
<td>Water has been clear most of the summer.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/24/18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08/09/18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08/21/18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08/29/18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09/05/18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09/18/18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 40: Results for cyanobacteria monitoring of Watson Reservoir in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: September 17th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/08/18</td>
<td>No blooms observed.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>06/25/18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/10/18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/23/18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08/07/18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08/20/18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09/04/18</td>
<td>Start of a bloom. Some small patches of dots on the surface on northern shore.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/17/18</td>
<td>Bloom accumulating around intake. Light green streaking on surface and staining on rocks.</td>
<td>All &lt; 1</td>
<td>Anabaena: 2040</td>
<td>Anabaena: 46,920</td>
<td></td>
</tr>
</tbody>
</table>
Table 41: Results for cyanobacteria monitoring of Willow Lake in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph: August 9th, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/26/18</td>
<td>No bloom. Water is cloudy with low clarity.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/11/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>07/24/18</td>
<td>Water is pea soup green color.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>08/21/18</td>
<td></td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/05/18</td>
<td>Improved since previous visit. Pea soup color and some small dots throughout water column.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
<tr>
<td>09/18/18</td>
<td>No bloom. Water is cloudy.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

*: Health Advisory Issued; Exceedance of Threshold.
### Table 42: Results for cyanobacteria monitoring of Wilson Reservoir in 2018.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Toxin Levels (ug/L)</th>
<th>Colony Count (colonies/mL)</th>
<th>Cell Count Conversion (cells/mL)</th>
<th>Photograph:</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/22/18</td>
<td>Response visit. No bloom. Water is clear, very tannic.</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td>Not Sampled</td>
<td></td>
</tr>
</tbody>
</table>

### Appendix B.

Links to waterbody access points on Google Maps.

- Northern RI ponds: [https://goo.gl/maps/Fn2LbwQLLZT2](https://goo.gl/maps/Fn2LbwQLLZT2)
- Newport ponds: [https://goo.gl/maps/M6fS7V47eNH2](https://goo.gl/maps/M6fS7V47eNH2)
- Cranston area ponds: [https://goo.gl/maps/1Y8njpdWCHG2](https://goo.gl/maps/1Y8njpdWCHG2)