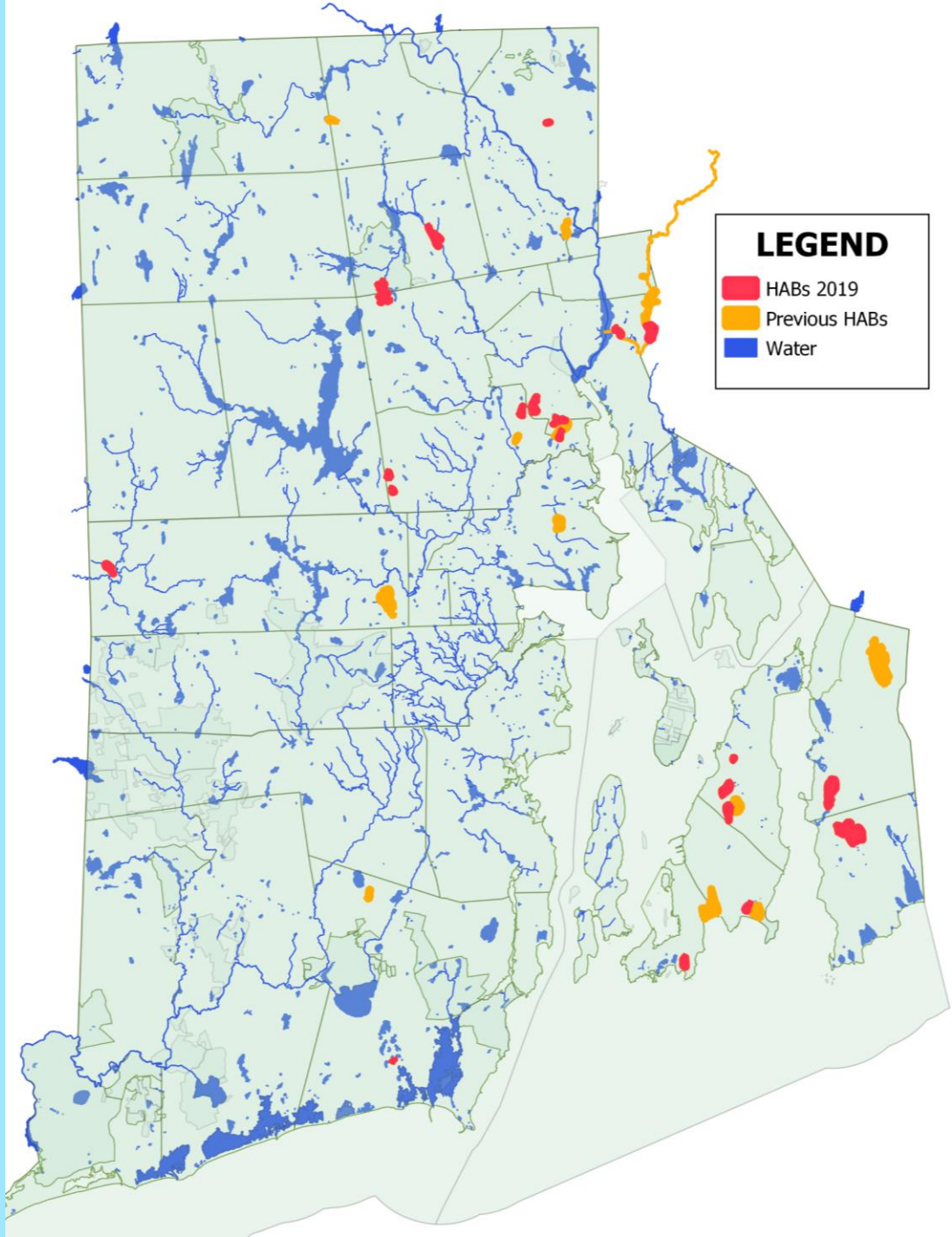
Rhode Island HAB-Cyano Coordination Meeting

Thursday, June 11, 2020

Previous Harmful Algae Blooms in Rhode Island

Represents 2019 HABs

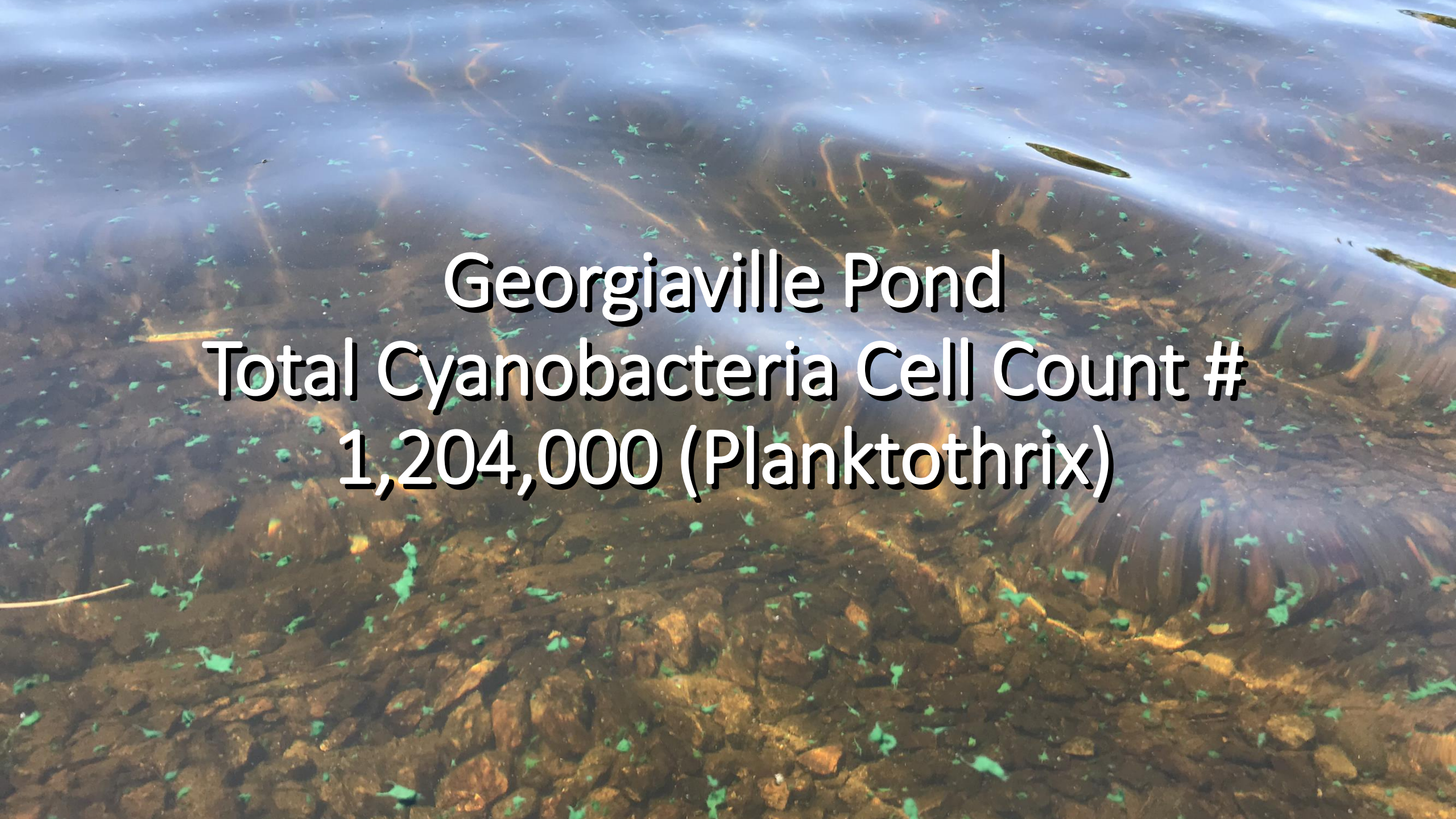
- In 2019, 20 site visits were conducted by RIDEM staff in response to calls about potential algae/cyanobacteria blooms.
- A total of 28 samples were submitted for analysis in 2019.
- This led to the issuance of health advisories on 14 waterbodies.

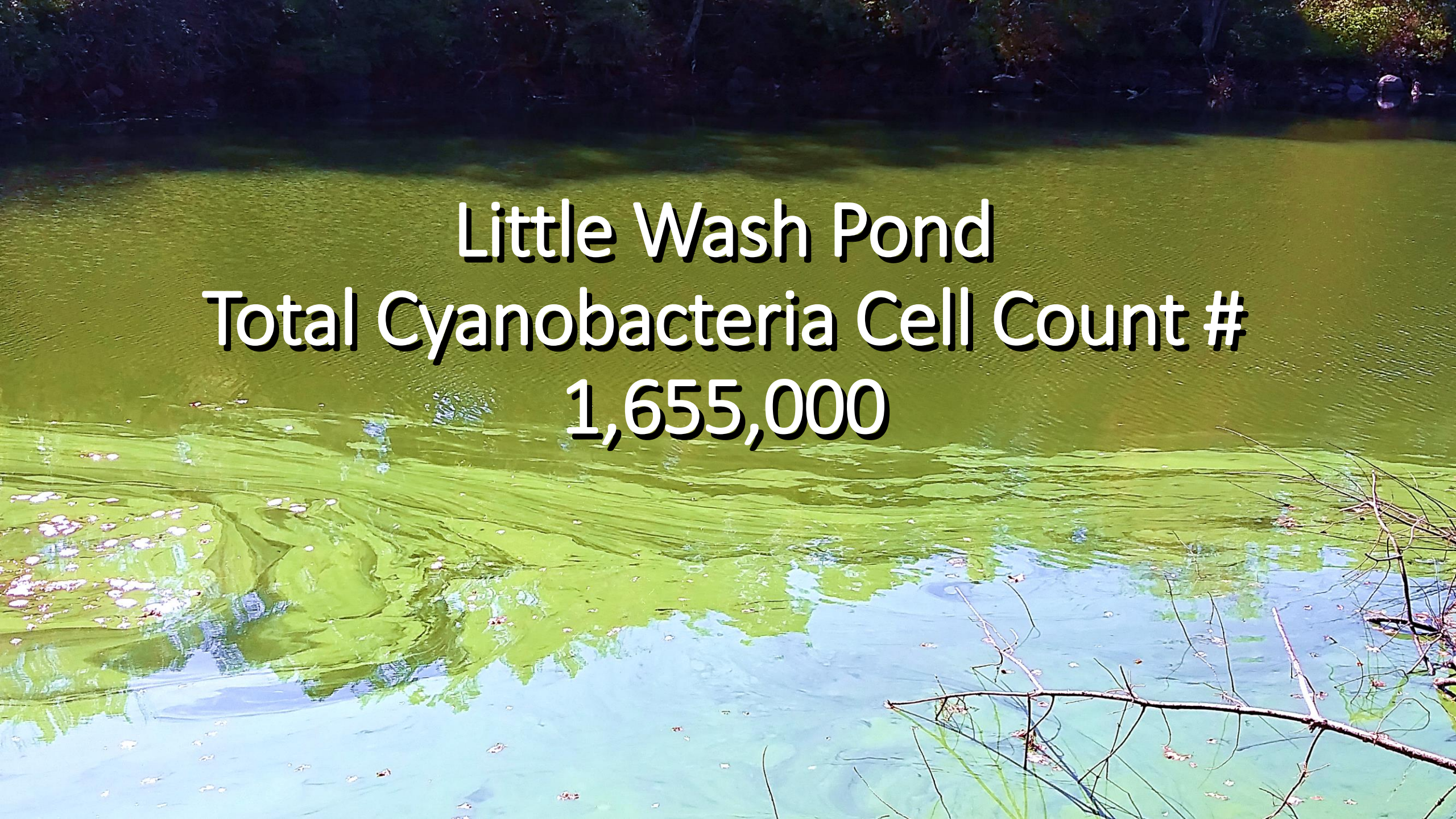


Sample Results for 2019 HAB Advisories

Waterbody	Toxin Results (Anatoxin) (Microcystin)	Cyanobacteria ID/ Cell Count	Total Cyanobacteria Cell Count #
Almy Pond	**Anatoxin-A (3.2 ug/l)**	Anabaena/10,350 Aphanizomenon/47,600 Microcystis/14,000	**71,950**
Sisson Pond	Non-detect	Anabaena/21,850 Microcystis/278,600 Woronichinia/1,000,000	**1,300,450**
J.L. Curran Reservoir	Non-detect	Anabaena/9,200 Aphanizomenon/184,800	**194,000**
Pleasure Lake- RWP	Non-detect	Anabaena/22,310 Aphanizomenon/11,200	**39,110**
Roosevelt Lake- RWP	**Microcystin (8.2 ug/l)**	Anabaena/46,000 Microcystis/84,000 Woronichinia/150,000	**280,000**
Elm Lake- RWP	Non-detect	Anabaena/11,500 Aphanizomenon/1,792,000	**1,804,620**
Mashapaug Pond	Non-detect	Anabaena/10,120 Aphanizomenon/109,200 Microcystis/5,600 Woronichinia/10,000	**134,920**
Georgiaville Pond	Non-detect	**Sample 1:** Planktothrix/112,000 **Sample 2:** Planktothrix/1,204,000 **Sample 3:** Anabaena/230 Microcystis/4,200, Planktothrix/280	**112,000** **1,204,000** **4,710**

Waterbody	Toxin Results (Anatoxin) (Microcystin)	Cyanobacteria ID/ Cell Count	Total Cyanobacteria Cell Count #
Carbuncle Pond	Non-detect	Anabaena/62,100	**62,100**
Little Pond (Sandy Pond)	Non-detect	**Sample 1:** Anabaena/230, Aphanizomenon/420,000 **Sample 2:** Anabaena/230, Aphanizomenon/728,000, Microcystis/1,400	**420,230** **729,400**
Slack Reservoir	Non-detect **Microcystin (1.3 ug/l)** **Microcystin (50 ug/l)**	**Sample 1:** Anabaena/13,800 **Sample 2:** Anabaena/380 Microcystis/9,800, Woronichinia/17,500 **Sample 3:** Anabaena/2,300,000 Microcystis/67,200, Woronichinia/25,000,000	**13,800** **28,680** **27,367,200**
Watson Reservoir	Non-detect	Aphanizomenon/4,760,000 Woronichinia/55,000	**4,815,000**
Melville Ponds	**Microcystin (3.7 ug/l)**	Anabaena/29,000 Aphanizomenon/53,200 Microcystis/19,600	**102,700**
Little Wash Pond	Non-detect	**Sample 1:** Anabaena/1,610,000 Woronichinia/45,000 **Sample 2:** Anabaena/1,610,000 Microcystis/14,000, Woronichinia/10,000	**1,655,000** **1,634,000**


Georgiaville Pond
Total Cyanobacteria Cell Count #
1,204,000 (Planktothrix)


Little Wash Pond
Total Cyanobacteria Cell Count #
1,655,000


Carbuncle Pond
Total Cyanobacteria Cell Count #
62,100 (Anabaena)


Slack Reservoir
Total Cyanobacteria Cell Count #
27,367,200

DOH and DEM jointly issue a recreational health advisory for any of the three conditions:

1. Confirmed cyanobacteria-dominated bloom or lake-wide visible cyanobacteria scum or mat
2. Cyanobacteria cell count >70,000 cells/mL
3. Toxin (Total Microcystin) level ≥4 ppb (µg/L)

Lifting of advisories occurs after two successive and representative sampling rounds, more than two weeks apart, demonstrate that all conditions have been met.

Role of RIDEM – Office of Water Resources

- Respond to reports from the public and others about potential cyanobacteria blooms
- Ability to conduct routine/surveillance monitoring is dependent upon funding
- Coordination with RIDOH on confirmation of cyanobacteria bloom and issuance of public health advisory

Role of RIDEM

- Division of Agriculture - seasonal notice to Veterinarians
- Division of Enforcement - notice to EPOs
- Division of Fish and Wildlife - if necessary, post advisories at state boat ramps and modify trout stocking schedules
  - Notify organizations at affected waterbodies: ARE programs, Fish and Wildlife staff, fishing tournaments, partnership organizations, agencies, or volunteers.

Role of RI Department of Health

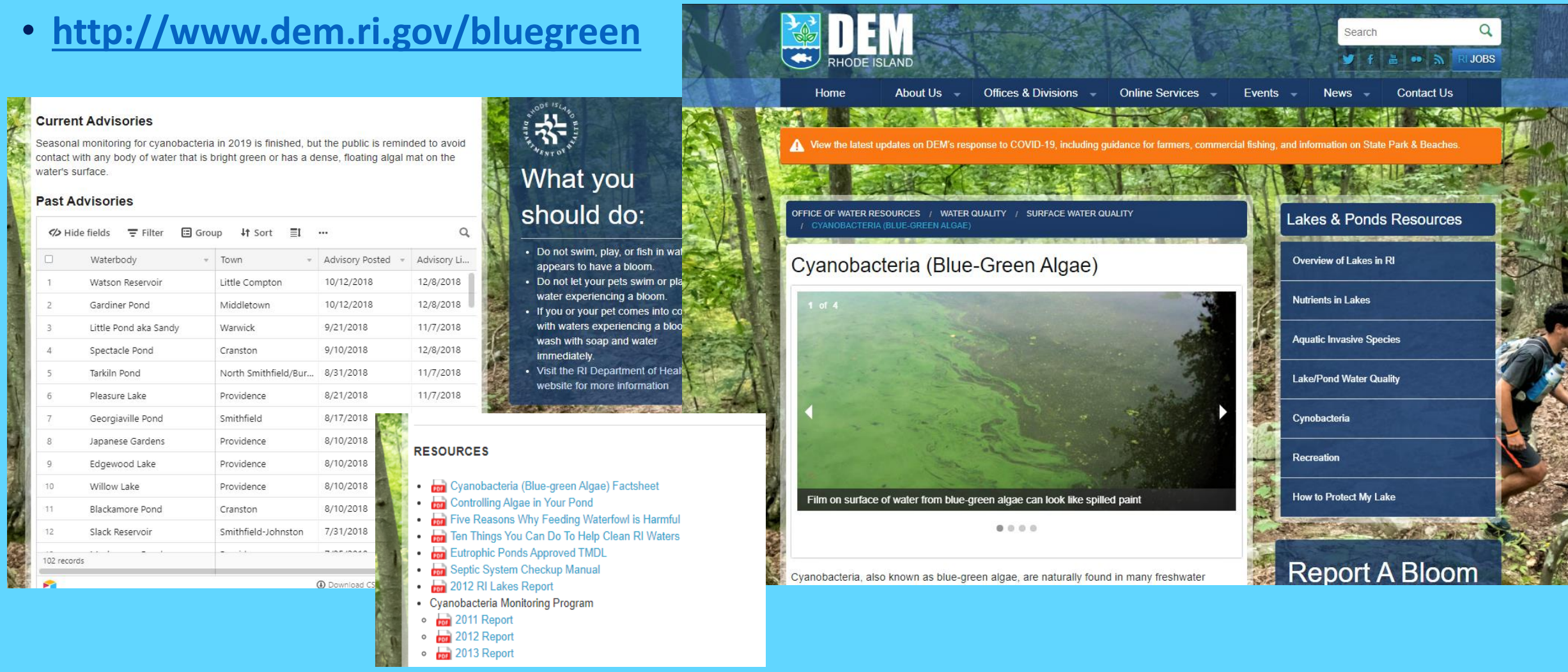
- Consult with RIDEM-Water Resources on need for advisories
- Announce advisories via press releases
- Relay information via public media
- Send letter and suggested signage format to and coordinate with municipalities
- Coordinate with other agencies/divisions
- Discuss of pro-active public health advisory for Newport Water Supply Reservoirs
- RIDOH Lab - Toxin analysis and cyanobacteria ID and count

Role of URI Watershed Watch

- **Point of contact for volunteers and others observing blooms**
- **Distribute advisories to listservs:**
  - **Watershed Watch**
  - **Save The Lakes**

RIDEM Website Updates

- http://www.dem.ri.gov/bluegreen



Proposed Budget for Monitoring (2020)

EPA multi-purpose grant funding will support:

- **One full-time seasonal employee to conduct pre-emptive surveillance on the 25 affected waterbodies. They will monitor bloom conditions and collect a one-time confirmatory sample with additional capacity to possibly “lift” public health advisories should conditions improve.**
- **Anticipated capacity (129 samples) to screen other vulnerable waterbodies and/or collect additional samples at affected waterbodies.**
- **Analysis of 154 samples for cyanotoxins and cell count (and ID)**
- **Allows the state to conduct routine monitoring on waterbodies with confirmed cyanobacteria blooms and lessens reliance upon the public.**

Proposed Waterbodies for Monitoring (2020)

2020 Proposed Waterbodies
Almy Pond
Blackamore Pond
Carbuncle Pond
Central Pond
J.L. Curran Reservoir
Mashapaug Pond
Melville Ponds
Omega Pond
Slack Reservoir
Spectacle Pond
Stafford Pond
Ten Mile River
Turner Reservoir
Warwick Pond