

Wayland BoH protocol for Harmful Algae Blooms (HABS) at Wayland Town Beach/Lake Cochituate Note: Wayland Town Beach location is North Pond of Lake Cochituate. Lake Cochituate consists of 3 ponds; South Pond (Natick)/Middle Pond (Natick) and North Pond (Wayland/Framingham).

CURRENT STATE PROTOCOL Note: Health effects for humans and animals can occur from exposure to HABS. DPH recommends issuing a public health advisory for HABS at recreational freshwater locations when at least one of the following criteria is met: 1. A visible cyanobacteria scum or mat is evident; 2. Total cell count of cyanobacteria exceeds 70,000 cells/mL; 3. Concentration of the toxin microcystins exceeds 8ug/L; or 4. Concentration of the toxin cylindrospermospin exceeds 15 ug/L. **Note: criteria 1 is used by DPH for issuing and advisory primarily due to lack of funding to support lab testing to confirm HABS. Guideline values are based on US Environmental Protection Agency (US EPA) and World Health Organization (WHO) recommendations (note this is not a law or regulation).** When issuing and advisory, signage should be posted at each access point at the waterbody warning against any contact with water.

SUMMARY OF PROBLEMS WITH CURRENT PROTOCOL

It has become a regular occurrence for visual observations of what is believed to be cyanobacteria scum in Lake Cochituate. Advisories are issued as per state recommendation and in some cases the beach is closed, then test results show thresholds are not met (no cyanobacteria scum). The DPH protocol to lift an advisory requires 2 rounds of testing after visual observation has cleared, 1 week apart, which can mean beach closure for 2 weeks or more. Health Director (HD) and Recreation Director (RD) request more observation/surveillance of the lake and updated HABS protocols for Town Beach.

CONCLUSION TO CREATE NEW PROTOCOL

Numerous meetings have taken place with Julia Junghanns, Katherine Brenna, DPH Toxicology staff, Surface Water Quality Committee Chair Tom Klem, Carole Plumb and also with Board of Health (BoH). After research we have identified that there are other ways HABS are being managed in other towns in the Commonwealth; for example the Worcester Cyanobacteria Monitoring Collaborative. There is agreement with all parties that current protocols are problematic/outdated and updated protocols with monitoring and surveillance should be created to study the lake water and obtain scientific data to make decisions. We also have a summer intern to assist. For this season a draft HABS monitoring and response protocol was created by the Health Director it has been reviewed by DPH Toxicology staff. **DPH has provided feedback that was folded in and concluded that we did a great job creating our own protocol. After a full discussion the BoH voted to adopt the protocol on June 12, 2023.** DPH is also recommending a regional approach for how to manage the HAB's in Lake Cochituate; a regional working group identifying problems and solutions for pollution sources; i.e. fertilizer/failed septic/bird waste/runoff, community education.

Wayland Health Department – Draft HABS Monitoring and Response Protocol for North Pond/Town Beach 2023

ONGOING SURVEILLANCE: See summer intern monitoring schedule for North Pond, start date May 31st.

ROUTINE WATER TESTING: Beginning June 15, Wayland begins taking samples for lab test #1 for 9 weeks: \$100 per week, with 7-10 day turnaround, 100x9=\$900.

If cyanobacteria counts start to go up, weekly or twice a week microcystins testing using Abraxis rapid test strips will begin: **\$510.00 (for 20 test strips).** Note: HD has purchased an Abraxis rapid test kit.

If microcystins start to show an increase then consider lab testing #2 at \$70 per test with 7-10 day turnaround, approx. 3 tests, 70x3=\$210. **Estimate cost for routine testing for the season: \$1620.00**

NON ROUTINE TESTING: Plan for 2 tests, both #1 and #2 with same day turnaround \$300(2)=\$600, \$210(2)=\$420

Total: 600+210=\$1,020.00+\$1620= **Estimated total cost of testing for the season: \$2,640.00. Note this assumes no help with lab testing from DPH. MAIL SAMPLES TO: Northeast Laboratories, 30 Cold Spring Rd. Suite 1, Rocky Hill, CT 06067**

Scenario 1- DPH recommends advisory for North Pond that **includes Wayland Town Beach**-Health Dept issues advisory and signage is posted at Town Beach and access areas, Health Director reviews the monitoring logs, observations, and any completed water testing results. Health Director reviews all available information and with Intern assistance, tests water using Abraxis test strips, reviews results and compares with prior test results if any, if toxin levels are elevated then we recommend beach closure. **ASSUMPTION-** routine tests are being done for cyanobacteria counts in Town Beach swim area. HD or state takes sample and tests for habs w 24 hour result, this may be both tests 1 and 2 or only test 2. Laboratory results are received and reviewed by Health Director to determine if beach stays open, following DPH guidance. Beach continues to be monitored. Routine testing and monitoring continues, begin 1x or 2x per week Abraxis testing.

Scenario 2- DPH recommends advisory for North Pond of Lake Cochituate that **does not include Wayland Town Beach**-Town does not issue advisory, Health Director reviews the monitoring logs, observations and any water testing results for

conditions. With Intern assistance, tests water using Abraxis microcystin rapid test strips and reviews results, compares to prior test results if any. **ASSUMPTION: routine tests are being done for cyanobacteria counts in Town Beach swim area, HD uses Abraxis microcystin rapid test strips to determine if toxins are elevated and compares to prior test results if any. HD checks water test results to determine if additional lab testing is needed. ASSUMPTION-routine tests are being done for cyanobacteria counts. HD or DPH may take samples and tests for #2 w 24 hour or 1-2 day result. Begin routine 1x or 2x per week Abraxis testing, if not already begun.**

Scenario 3-DPH recommends advisory for other areas (South Pond, Middle Pond) of Lake Cochituate but not in North Pond, Town does not issue advisory, Health Director reviews the monitoring logs, observations and any water testing results for conditions. **ASSUMPTION: routine tests are being done for cyanobacteria counts in Town Beach swim area, HD uses Abraxis microcystin rapid test strips to determine if toxins are elevated and compares to prior test results if any. HD checks water test results to determine if additional lab testing is needed.**

ASSUMPTIONS: Town Beach will be closed if test results reflect levels in DPH protocol for 1 & 2. DPH may and have tests (1 & 2) done when visual observation is confirmed but typically only conducts testing to confirm a bloom has cleared.

Below is a quote from the laboratory for doing the testing, samples can be dropped off to fedex for delivery.

Algae ID & Enumeration (Including Blue/Green Cyanobacteria and Expanded)	1 - Algae ID & Enumeration (Blue/Green Cyanobacteria Only)	2 - Microcystins by Abraxis 520022 (Non- Quantitative)	Turn Around Time
\$140	\$100	\$70	Standard (7-10 Business Days)
\$210	\$150	\$105	3-5 Day
\$280	\$200	\$140	1-2 Day
\$420	\$300	\$210	Same Day

NELaboratories neclientservices@gmail.com

Summer Intern Monitoring Schedule for Town Beach/North Pond

Training & Assignments: Watch Worcester Cyanobacteria Monitoring Collaborative (WCMC) presentation videos and review their website and training on use of Cyanobacteria monitoring kit, attend DPH HABS training, review EPA website, watch DPH habs videos, create excel sheets for tracking monitoring results, review State Beach Regulations 105 CMR 445.00 Minimum standards for bathing beaches, State Sanitary Code, Chapter VII. Work with DPH to determine sample procedure/protocol for 1 & 2. Attend BoH meeting before conclusion of internship, to present recommendations/best practices. Consultation with volunteer Caitlin Fields, former intern. Health Dept to acquire WCMC Cyanobacteria monitoring kit and learn to use the kit with assistance from Caitlin and SWQC members.

Summer Intern monitoring schedule beginning May 31:

Weekly water sampling for ecoli, weather monitoring; wind, sun, air temp, heavy rain events, tracking, weekly or as needed water clarity test using secchi disc, beginning mid-June, Weekly (and as needed) sampling for cyanobacteria and transport to fedex /post office to test for 1 or 2 in consultation with Health Director. Testing as needed, determined by Health Director, using Abraxis test strips, twice a week visual observation of lake water (take photographs), monitor adjacent areas to Wayland borders; boat launch area, “the wall”, Framingham Town Beach, Wayland Sandy Point. Periodically monitor/view other areas including Snake Brook Cove adjacent to route 30 and the Pike, enter and track all information in excel spreadsheet, continuous communication with Health Department and Recreation and DPH contact person on current or emerging situations and/or advisories, weekly or more often updates on water quality changes or visual observations, Post advisory signage as needed, help with pr language, make recommendations to BoH for surveillance and protocol going forward. Protocol for sampling when a scum is visible, use gloves, PPE/K N95, yoga mat for leaning on dock rinse/clean gloves.