



# PWS Bloom Tracking Form

This algae bloom tracking form was created as a technical assistance tool intended to support Public Water Systems (PWSs) with identifying and tracking all algae blooms, including potential cyanobacterial harmful algal blooms (CyanoHABs) within their surface water source(s). MassDEP encourages all PWSs with surface water sources to routinely monitor their reservoirs (ponds or lakes) for any changes and recommends recording all algae or potential cyanobacterial (blue-green) blooms observed. The information obtained by completing this form during events and tracking the information internally over time will help better assess the risk to your PWS treatment facility, aid in appropriate response efforts, and support both in-source treatment applications and/or in-plant treatment process changes if necessary.

## Who Can I Contact For Assistance With Completing This Form?

Please contact Kristin Divris of the Water Utility Resilience Program (WURP) at 508-887-0021 or [Kristin.Divris@mass.gov](mailto:Kristin.Divris@mass.gov) the Boston DWP at [program.director-dwp@mass.gov](mailto:program.director-dwp@mass.gov) (Subject: PWS Bloom Tracking), or your MassDEP Regional Office listed below:

NERO (Wilmington): Damon Guterman - 978-694-3260

SERO (Lakeville): James McLaughlin - 508-946-2805

CERO (Worcester): Robert Bostwick - 508-849-4036

WERO (Springfield): Deirdre Doherty - 413-755-2148

## A. PWS Information

**Important:** When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



\_\_\_\_\_

PWS ID

\_\_\_\_\_

PWS Name

\_\_\_\_\_

Source Location Name & ID #

\_\_\_\_\_

Name of person completing form

\_\_\_\_\_

Name, phone number & email of person reporting bloom to PWS (if applicable)

## B. General Bloom Information

### IMPORTANT:

#### Note 1:

If a resident has reported a bloom to the PWS, then PWS staff should observe the source, suspected bloom, and plant conditions to record applicable information. This information may be maintained internally to document trends and made available to MassDEP upon request.

1. Date Bloom Initially Observed:

2. Time Bloom Observed:

3. Attached map with bloom location noted (e.g. Google Map image):  Yes  No

4. Digital Photos Collected? (MassDEP highly encourages including digital photographs of any suspected blooms in close-up and landscape formats to assist with identification)

Yes  No

5. Weather Observations:

a. Air Temperature:

b. Wind Direction:

c. Precipitation:  Yes  No

d. Surface Water Conditions:

e. Other:

6. Bloom Description:

a. Describe the location of the bloom in the surface water source with easily identifiable landmarks if possible (e.g. northern side of reservoir, at boat dock, etc.)

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b. Identify approximate size of the bloom (sq. ft.) and the extent of the area affected (e.g. entire reservoir, shoreline accumulation, etc...)

c. Identify any color(s) observed in the water column:

Green  Blue  Red  Rust  Brown  Milky White  Purple  Black

Other/Description:

d. Identify any odor(s) observed in the source water:

Earthy/Musty  Fishy Other (please describe):

e. Identify if a surface scum is present (an accumulation at the surface) or if algae is floating near the water surface. (Algal blooms floating at the surface can look like grass clippings, green cottage cheese curds or spilled paint)  Yes  No  Uncertain

f. Visually examine the bloom to determine if it may or may not be a potential CyanoHAB:

**MAY BE A CyanoHAB:**

Material consists of small particles  Yes  No

Material is collecting in a layer on the surface or along a shoreline  Yes  No

**NOT A CyanoHAB:**

Material has any leaf-like structures  Yes  No

Material can be lifted out of the water on a stick  Yes  No

Material is firmly attached to plants, rocks or bottom  Yes  No

h. Identify the distance of the bloom from the drinking water intake:

i. List any known approved or unapproved recreational use for the source, or if there is a public beach nearby that may be impacted by diverted water from the reservoir:

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**IMPORTANT:**

**Note 2:**

**Staff Safety**

Staff examining any algae bloom should take appropriate safety precautions to avoid direct contact. Any examination or sampling of blooms should be done with gloves and safety goggles to protect exposed skin and eyes. Masks are recommended to avoid inhalation of water spray caused by boats, wind or other water surface disturbances.

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**C. Treatment Facility Operation**

**IMPORTANT:**

**Note 3: Treatment**

for cyanotoxins vary depending upon whether toxins are intracellular or extracellular. PWSs should be aware of their treatment capabilities and update their ERP to include response to a CyanoHAB event.

1. Identify any observed odor(s) in the raw water within the plant:

None  Earthy/Musty  Fishy Other (please describe):

2. Increase in the raw water pH:  Yes  No

If yes, specify changes:

3. Increase in the filter Influent turbidity:  Yes  No

4. Increase in the filter Effluent turbidity:  Yes  No

5. Identify if there are decreased filter run times:  Yes  No

If yes, identify specific run time changes:

6. Increased need for coagulant dosage:  Yes  No
7. Increase in chlorine demand:  Yes  No
8. Decreased chlorine residual at the finished water tap:  Yes  No
9. Any customer complaints about taste and odor:  Yes  No
- If yes, please explain:
- 

## D. Sampling Information

### 1. List any sampling performed within source water for algal identification and enumeration (or attach lab results):

Sample Location(s): \_\_\_\_\_ Sample Date: \_\_\_\_\_

Sample Type:  Surface Grab  Discrete Depth  Integrated Tube

Sample Depth(s) if applicable: \_\_\_\_\_

Analysis Lab Name \_\_\_\_\_ Sample Result(s) \_\_\_\_\_

### 2. List any cyanotoxin samples collected and analyzed (or attach lab results):

**IMPORTANT:**  
**Note4:Sampling**

Cyanotoxin sampling should be performed in consultation with your MassDEP regional office.

Sample Location(s): \_\_\_\_\_ Sample Date: \_\_\_\_\_ Sample Location ID (LOCID) if within plant (i.e., RW-01S) \_\_\_\_\_

Cyanotoxin Type:  Microcystins  Cylindrospermopsin  Other: \_\_\_\_\_

Analysis Type:  Strip Test  ELISA (EPA 546)  LC/MS/MS (EPA 545)

Analysis Lab Name \_\_\_\_\_ Sample Result(s) \_\_\_\_\_

### 3. List any additional source water sampling performed:

- a. Phycocyanin (PC):  Yes  No Location(s): \_\_\_\_\_  
PC - Date(s) & Result(s): \_\_\_\_\_
- b. Chlorophyll a:  Yes  No Location(s): \_\_\_\_\_  
Chlorophyll a - Date(s) & Result(s): \_\_\_\_\_
- c. Secchi Disk Depth (SD):  Yes  No Location(s): \_\_\_\_\_  
SD - Date(s) & Result(s): \_\_\_\_\_
- d. Water Temperature:  Yes  No Location(s): \_\_\_\_\_  
Temp. - Date(s) & Result(s): \_\_\_\_\_
- e. pH:  Yes  No Location(s): \_\_\_\_\_  
pH - Date(s) & Result(s): \_\_\_\_\_
- f. Dissolved Oxygen (DO):  Yes  No Location(s): \_\_\_\_\_  
DO - Date(s) & Result(s): \_\_\_\_\_
- g. Total Phosphorus Concentration:  Yes  No Location(s): \_\_\_\_\_  
TP: Date(s) & Result(s): \_\_\_\_\_
- h. Total Nitrogen Concentration:  Yes  No Location(s): \_\_\_\_\_  
TN - Date & Result: \_\_\_\_\_

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**E. Ongoing Event Information:** Use this section to track any changes observed (i.e., weather changes and bloom movement) or additional monitoring performed for the same event over various hours, days or weeks.

**Date:**                      **Time:**                      **Operator/Staff Name:**

Observations/Monitoring Conducted:

Planned Action(s)/Next Step(s):

**Date:**                      **Time:**                      **Operator/Staff Name:**

Observations/Monitoring Conducted:

Planned Action(s)/Next Step(s):

**Date:**                      **Time:**                      **Operator/Staff Name:**

Observations/Monitoring Conducted:

Planned Action(s)/Next Step(s):

**Date:**                      **Time:**                      **Operator/Staff Name:**

Observations/Monitoring Conducted:

Planned Action(s)/Next Step(s):

**Date:**                      **Time:**                      **Operator/Staff Name:**

Observations/Monitoring Conducted:

Planned Action(s)/Next Step(s):