

# Implementing the Recreational Criteria for Microcystins and Cylindrospermopsin

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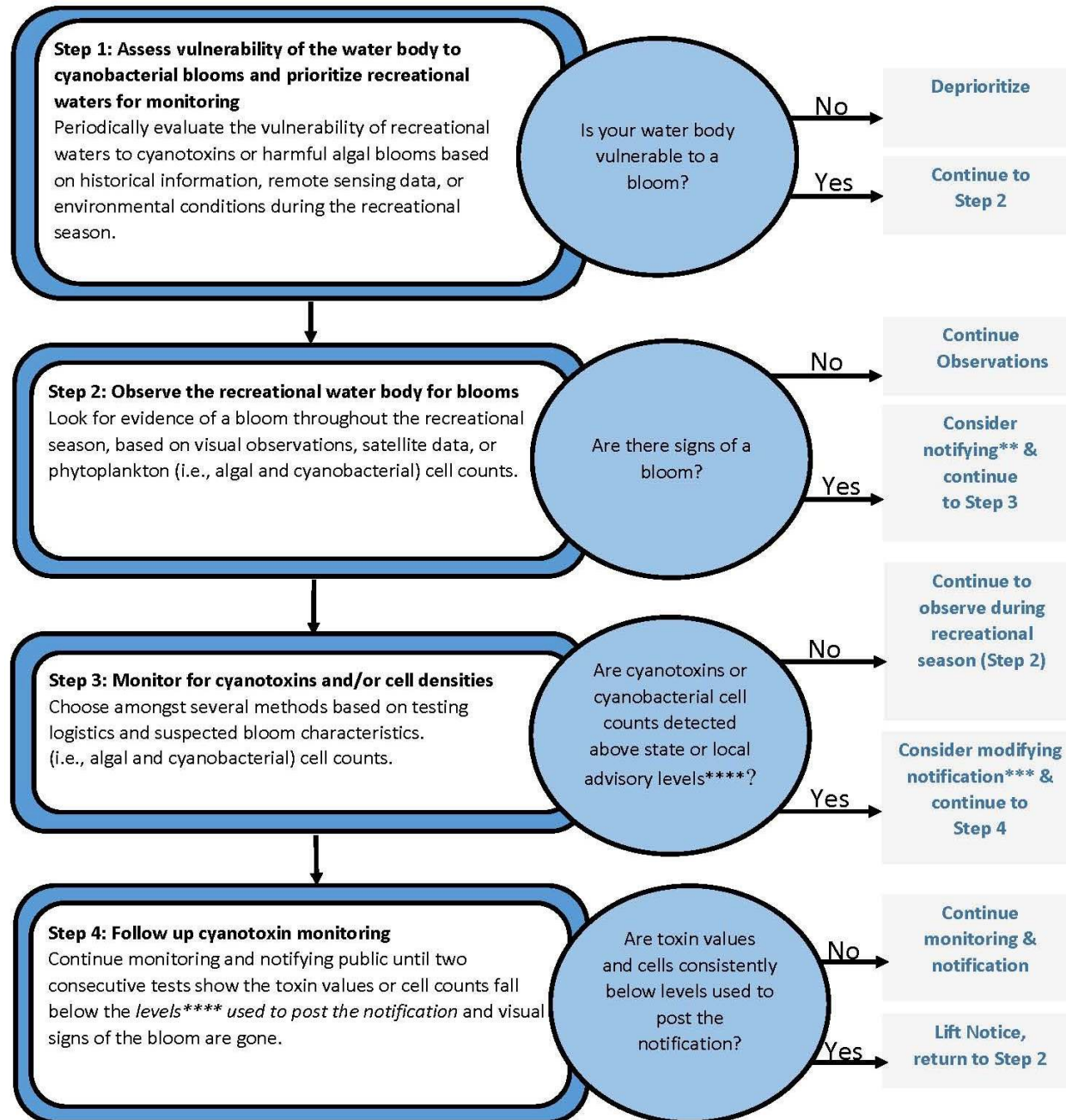
# Implementation Materials (two phases)

- The Office of Science and Technology developed implementation materials for both the swimming advisory and criteria aspects of the CWA 304(a) recommendation for microcystins and cylindrospermopsin
  - Materials to Support Monitoring and Risk Communication
    - Phase 1, issued July 2017
  - Materials for states/authorized tribes interested in adopting the criteria into their water quality standards
    - Phase 2, draft for public comment early summer 2019

# Materials to Support Swimming Advisories (Phase 1 – June 2017)

- **Monitoring and responding to HABs:**
  - Recommendations for Cyanobacteria and Cyanotoxin Monitoring in Recreational Waters ([PDF](#))
  - Monitoring and Responding to Cyanobacteria and Cyanotoxins in Recreational Water ([website](#))
- **Communicating risk to the public:**
  - Recreational Water Communication Toolbox ([website](#))
  - HABs infographic ([PDF](#))

# How to Monitor Cyanobacteria/Toxins in Recreational Waters



# Webpages for Monitoring, Responding and Communicating to the Public



Related Topics: [Cyanobacterial HABs](#) | [Ground Water and Drinking Water](#) | [Water Quality Criteria](#) CONTACT US



## Monitoring and Responding to Cyanobacteria and Cyanotoxins in Recreational Waters

This information is intended for recreational waterbody managers, which may include public health officials, lake managers, or other state, local or tribal officials, involved in monitoring water quality and protecting the health of people and animals that use waterbodies within their jurisdiction.

**DISCLAIMER:** *This information does not impose legally binding requirements on the EPA, states, tribes, or the public, nor does it confer legal rights. It does not constitute a regulation, nor does it change or substitute for any Clean Water Act provision or EPA regulation. Any mention of trade names, products, or services does not convey and should not be interpreted as conveying official EPA approval, endorsement, or recommendation for use.*

### On this page:

- [Visual signs of a cyanobacterial bloom](#)
- [Developing an emergency response plan for cyanotoxins](#)

### Related Information

- [Learn about Cyanobacteria and Cyanotoxins](#)
- [Causes of Cyanobacteria](#)
- [Communicating about Cyanobacterial Blooms in Recreational Waters](#)
- [Nutrient Pollution Policy and Data](#)

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## Visual Signs of a Cyanobacterial Bloom

Visual signs of a bloom include:

- surface water discoloration (e.g., a green, white, brown, red, or blue tint);
- reduced transparency (e.g., water that looks like pea soup or lets limited light through); and/or



Related Topics: [Cyanobacterial HABs](#) | [Ground Water and Drinking Water](#) | [Water Quality Criteria](#) CONTACT US



## Communicating about Cyanobacterial Blooms and Toxins in Recreational Waters

EPA designed the tools on this page to support states, tribes, territories, and local governments as they develop their own risk communication materials. The tools can help water managers inform people using recreational waters, as well as pet and livestock owners, of the health risks associated with cyanobacteria and their toxins in lakes, rivers or other recreational water bodies.

Communication to the public may occur through signage at the recreational water body; radio and TV announcements; and/or social media. Messages should clearly define levels of risk and of potential contamination, such as the exposure potential for specific recreational activities. Managers should also be aware that toxins may be transported and affect downstream waters.

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### On this page:

- [Good Practices when Developing Notifications for the Public](#)
- [Templates and Generic Examples](#)
- [State/Tribal Examples](#)




### Related Information

- [Recreational Water Quality Criteria or Swimming Advisories for Cyanotoxins](#)
- [Recommendations for Cyanobacteria and Cyanotoxin Monitoring in Recreational Waters](#)
- [Determination of Cyanotoxins in Drinking and Ambient Freshwaters](#)
- [Control Measures for Cyanobacterial HABs in Surface Water](#)
- [What EPA is Doing to Reduce Nutrient Pollution](#)

# Risk Communication: Example Advisories

## CAUTION




Harmful algae may be present in this water.  
For your family's health, please follow these instructions:

-  You can swim in this water, but **stay away from algae and scum** in the water.
-  **Keep children away** from algae in the water or on the shore.
-  For fish caught here, **throw away guts and clean fillets** with tap water or bottled water before cooking.

Call your doctor or veterinarian if you or your pet get sick after going in the water.  
For information on harmful algae, go to [mywaterquality.ca.gov](http://mywaterquality.ca.gov)  
For local information, contact:

## WARNING








Toxins from algae in this water can harm people and animals.

-  **No swimming.**
-  **Stay away** from scum, and cloudy or discolored water.
-  **Do not** use this water for drinking or cooking. Boiling or filtering will not make the water safe.

**For people, the toxins can cause:**  
• Skin rashes, eye irritation  
• Diarrhea, vomiting  
**For animals, the toxins can cause:**  
• Diarrhea, vomiting  
• Convulsions and death  
Call your doctor or veterinarian if you or your pet get sick after going in the water.  
For information on harmful algae, go to [mywaterquality.ca.gov](http://mywaterquality.ca.gov)  
For local information, contact:

## DANGER

Toxins from algae in this water can harm people and kill animals.

-   **Stay out of the water until further notice. Do not touch scum in the water or on shore.**
-   **Do not** let pets or other animals drink or go into the water or go near the scum.
-   **Do not** eat fish or shellfish from this water.
-  **Do not** use this water for drinking or cooking. Boiling or filtering will not make the water safe.

**For people, the toxins can cause:**  
• Skin rashes, eye irritation  
• Diarrhea, vomiting  
**For animals, the toxins can cause:**  
• Diarrhea, vomiting  
• Convulsions and death  
Call your doctor or veterinarian if you or your pet get sick after going in the water.  
For information on harmful algae, go to [mywaterquality.ca.gov/monitoring\\_council/cyanohab\\_network](http://mywaterquality.ca.gov/monitoring_council/cyanohab_network)  
For local information, contact:

# HABs Infographic (link)

## LOOK OUT FOR HARMFUL ALGAL BLOOMS

A harmful algal bloom (HAB) is an overgrowth of algae in a water body that could affect water quality and aquatic life. Some HABs produced by bacteria can create toxins that may also harm people, animals, and the local environment.

### HOW TO IDENTIFY A HARMFUL ALGAL BLOOM

Algal blooms can make the water appear green, blue, brown, gold, or red.

Seeing colors, scum, mats, foam, or paint-like streaks in the water or clumps on the shore may indicate a bloom. However, only professional water testing can confirm if HABs and toxins are present. States often have monitoring programs for this purpose.

### SYMPTOMS OF EXPOSURE

Vary depending on how the person or animal was exposed, and whether the HAB is in salt or fresh water.

<b>EXPOSED?</b> Shower immediately. See a doctor or vet if symptoms occur.	Ear, eye, nose, skin, and throat irritation, and headache	Paralysis, respiratory illness, and seizures	Abdominal pain, diarrhea, liver and kidney damage, and vomiting	Drooling, diarrhea, low energy, not eating, stumbling, tremors, and vomiting

### WHEN IN DOUBT, STAY OUT!

Stay away from the water when a suspected HAB is present.

<b>DON'T</b> Play with scum or mats on the shore	<b>DON'T</b> Let animals drink water, eat algae, or swim	<b>DON'T</b> Swim	<b>DON'T</b> Fish or wade	<b>DON'T</b> Boat or kayak

FOR MORE INFORMATION OR TO REPORT POSSIBLE HARMFUL ALGAL BLOOMS:  
(XXX) XXX-XXXX | xxxxxxxxxxxxxx.html

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### HOW TO IDENTIFY A HARMFUL ALGAL BLOOM

Algal blooms can make the water appear green, brown, gold, or red. They often produce scum, foam, or paint-like streaks in the water or clumps on the shore. However, only professional water testing can confirm if HABs and toxins are present. State and local governments often test water for bacteria or toxins to protect water quality as part of their water quality standards program.

### WHEN IN DOUBT, STAY OUT!

STAY AWAY FROM THE WATER WHEN YOU SUSPECT A HARMFUL ALGAL BLOOM IS PRESENT.

<b>DON'T</b> Play with scum or mats on the shore	<b>DON'T</b> Let animals drink water, eat algae, or swim	<b>DON'T</b> Swim	<b>DON'T</b> Fish or wade	<b>DON'T</b> Boat or kayak

### WHO CAN GET SICK FROM A HAB?

Humans and children, Household pets, Livestock, Fish and shellfish

### ROUTES & SYMPTOMS OF EXPOSURE TO HABs

SYMPTOMS CAN VARY DEPENDING ON HOW THE PERSON OR ANIMAL WAS EXPOSED, AND WHETHER THE HAB IS IN SALT OR FRESH WATER.

#### ROUTES OF EXPOSURE

<b>SKIN CONTACT</b>	<b>INGESTION</b>	<b>INHALATION</b>

#### SYMPTOMS OF EXPOSURE

Eye, nose, skin, and throat irritation	Paralysis, respiratory illness, and seizures	Abdominal pain, diarrhea, liver and kidney damage, and vomiting	Drooling, diarrhea, low energy, not eating, stumbling, tremors, and vomiting

### WHAT TO DO IF EXPOSED TO A HAB

See a doctor or vet if symptoms occur	<b>SHOWER IMMEDIATELY</b>	Contact your veterinarian for advice

FOR MORE INFORMATION OR TO REPORT POSSIBLE HARMFUL ALGAL BLOOMS:  
(XXX) XXX-XXXX | xxxxxxxxxxxxxx.html

# Phase 2: Criteria Implementation

- Single FAQ document covering criteria implementation, with Q&As on monitoring and assessment
- Working with ACWA Focus Group (8 states: CA, CO, FL, IN, IA, NJ, NC, WI) and internal EPA workgroup (OST, OWOW, OWM)
- ACWA MSA Committee Review in March 2019
- Next Steps: internal management review
- Draft for public comment summer 2019



# Draft TSD: Implementing the 2019 Criteria

1. What are the EPA's recommended recreational water quality criteria for total microcystins and cylindrospermopsin?
2. How can the EPA's recommended recreational water quality criteria for total microcystins and cylindrospermopsin be used for swim advisories?
3. What flexibilities do states and authorized tribes have when adopting recreational water quality criteria for total microcystins and cylindrospermopsin?
4. What is the relationship between cyanobacterial blooms and the recommended criteria?
5. Why is it important to reduce nutrient pollution in a waterbody and how can this also help to reduce the production of cyanotoxins?

# Draft TSD: Implementing the 2019 Criteria

6. What information should states and authorized tribes consider when prioritizing which waterbodies to monitor based on risk of elevated levels of cyanotoxins?
7. How frequently and over what time period should states and authorized tribes collect data on cyanotoxin levels?
8. How should states and authorized tribes analyze and interpret cyanotoxin monitoring data and information to evaluate ambient condition and recreational use support ?
9. What should states and authorized tribes consider when selecting an analytical method and sampling locations?
10. What data and information should states and authorized tribes assemble and evaluate to complete CWA water quality assessments with the EPA's recommended cyanotoxin criteria?

# Draft TSD: Implementing the 2019 Criteria

11. Should states and authorized tribes update their assessment methodology to include the evaluation of cyanotoxin data and information? If so, what should be considered in these updates?
12. What happens if a state or authorized tribe does not have sufficient data to make an assessment determination?
13. What factors should be considered in defining waterbody segmentation (e.g., if dividing a waterbody into smaller assessment units for advisories and 303(d) listings)?
14. How should states and authorized tribes approach waterbody assessments for a waterbody that is already in the CWA section 303(d) list?
15. How should states and authorized tribes complete TMDLs for waterbodies that are listed under CWA section 303(d) as water-quality limited due to cyanotoxins?