

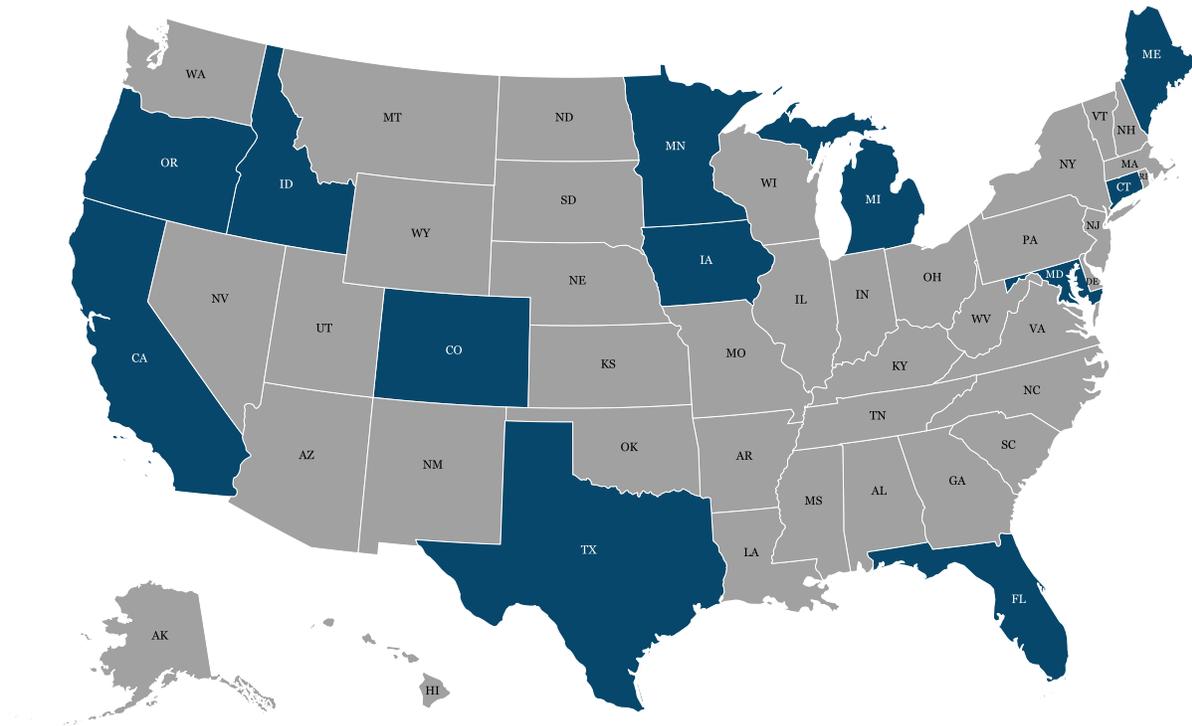
# STRATEGIES FOR MESSAGING ABOUT CYANOBACTERIAL BLOOMS

Lessons from State Listening Sessions

APRIL 2022



During two listening sessions held in August 2021, 17 state health agency (SHA) staff members from 12 states shared their experiences with public health messaging and risk communication when responding to harmful algal and cyanobacterial blooms. Participating states included California, Colorado, Connecticut, Florida, Idaho, Iowa, Maine, Maryland, Michigan, Minnesota, Oregon, and Texas (participating states are shown in dark blue on the map below). This document compiles lessons learned and examples of messaging strategies that were successful during cyanobacterial bloom response. Although the focus of this report is on freshwater blooms, the discussion also includes mention of marine algal blooms in some states.



## DISCUSSION THEMES

### Terminology

SHAs use a range of terminology when discussing harmful algae and cyanobacteria. Terminology referring to blooms can vary among states. Some of the most commonly used terms include:

- Harmful algal blooms
- Toxic algae
- Cyanobacterial blooms or cyanoblooms
- Harmful cyanobacterial blooms
- Blue-green algae
- Cyanotoxins
- Algal mat (for benthic cyanobacteria)
- Red tide (for coastal or marine blooms)

Terminology may differ depending on the target audience—even within the same state. For public communication, SHAs preferred more general terms such as “algae blooms,” “harmful algal blooms (HABs),” or “blue-green algae”. For communication with water system operators who are more worried about toxins that impact taste and odor, SHAs more commonly used “HABs” or “toxic algae.” When speaking with clinical providers, some SHAs frequently used terms such as “microcystin poisoning” or “cyanotoxins.” These specific terms were preferred over the general HABs terms given their focus on symptomatology.

Audience	Common Terms Used in Communications
Public	Algal blooms, Algal mat, Harmful algal blooms, Red tide, Blue-green algae, Harmful cyanobacterial blooms
Water system operators	Harmful algal blooms, Toxic algae, Harmful cyanobacterial blooms, Benthic cyanobacteria
Clinicians	Cyanobacterial blooms, Cyanotoxins, Microcystin poisoning

One coastal state even held a signage workgroup that coordinates messaging for various platforms (e.g., posted signs, social media). Due to complex factors like species diversity, settings of exposures, and potential for toxins, one state tried to simplify terms across the spectrum, including in public notification and press releases.

*One state avoided terms that risked sounding frightening to the public, such as “toxic algae.” Another state declines using the terms “blue-green algae” and “HABs,” and increasingly uses “cyanobacterial blooms.”*

Other states noted pairing general terms with more specific terms in public communications (e.g., linking algal blooms to cyanobacteria).

## State and Local Partners

SHAs often work with multiple partners on cyanobacterial bloom communication and education efforts.

Common Partners for Cyanobacterial Bloom Response	Role
Local health department	Support response for bloom events. Support public health surveillance. Develop risk communication and guidance materials.
State department of environmental quality	Manage bloom response and environmental remediation.
Water body manager	Monitor water quality and post signage during bloom events.
Water system operator	Manage the drinking water source.
Other partners, such as state departments of natural resources, departments of agriculture, and fish and wildlife.	Support response for bloom events. Some states have a hotline staffed by multiple agencies to answer questions during bloom events.

Some SHAs participate in state-level task forces or working groups on algal blooms. One state has governor-led task forces for red tide and blue-green algae. Through these task forces, four state agencies collaborate to develop state guidance for responding to harmful algal blooms. In one state, the SHA meets weekly with partners to coordinate efforts and messaging. When responding to cyanobacterial bloom events, they come together more frequently. In another state, reports of cyanobacterial bloom events go to the pollution control agency (PCA). If illnesses are linked to recreational cyanobacterial bloom exposure, the PCA will connect with the SHA. For drinking water, the SHA works with public water system operators to assist with any issue that might arise regarding cyanobacterial blooms. For cases of animal illness, the PCA handles initial reports and will contact the SHA.

Through a [One Health](#) approach, SHAs also work with state veterinarians, fish and wildlife departments, and departments of agriculture.

*One state has convened a group to discuss the challenge with animal feeding operations due to cyanobacterial blooms caused by drought.*

This group is led by the department of homeland security, and includes the SHA, departments of natural resources and agriculture, city waterworks, and beef and poultry associations.

*Two states noted that concerns about drought and cyanobacterial blooms impacting water systems led to expanded partnerships and increased focus on the emergency water supply planning.*

SHAs may also work with the Department of Homeland Security, FEMA and local emergency managers, and preparedness teams, especially when working with hospitals and care facilities on emergency water supply planning. Finally, SHAs assist local health departments with their monitoring and surveillance efforts.

States noted other unique partnerships, including:

- Convening a committee to coordinate the prevention and control of toxic substances, featuring departments of environmental quality, parks and wildlife, and state veterinarians.
- Working with a group of agency leaders on weather patterns. Drought has caused the committee to expand to new members.
- Collaborating with active Tribes.
- Engaging surveillance information centers, emergency departments, and urgent care centers.
- Partnering with CDC's Environmental Public Health Tracking program.
- Working with communications teams, health educators, and emerging contaminants coordinators.
- Establishing memorandums of understanding with environmental agency partners.

# Communication Materials

SHAs use a variety of material types to communicate about cyanobacterial blooms.

*The most frequently used formats are standardized signs posted at water bodies, social media messages to provide updates to advisories, press releases, and direct outreach to clinicians and veterinarians.*

## Standardized signs available for use by local water system operators

- SHAs create caution and warning signs with pictures to physically post at water bodies.

## Social media messaging

- Some SHAs will re-post partners' messages to promote consistency and continuity in public messaging.
- News media will often reference SHA websites when updating the public on when people can resume water use, which helps increase SHA visibility and awareness.
- Posts that share a specific, local issue (e.g., blooms in a specific water body, local water restrictions due to drought) have had more engagement than general bloom messaging.

## Press releases

- SHAs issue press releases as a standalone release, or sometimes as an interagency press release. As part of One Health efforts, SHAs have written joint press releases with departments of environmental quality and animal health state agencies. According to one state, these press releases receive substantial media attention.
- SHAs may send out a press release template to local health departments, which are then disseminated to their local communities.

## Direct outreach to clinicians and veterinarians

- SHAs send similar press releases directly to clinicians and veterinarians.
- Some SHAs have developed guidance for clinicians for diagnosing and treating illnesses related to cyanobacterial bloom exposure.

## Poll results from the listening session indicated that the following resources may aid future SHA communication efforts:

- **Updated factsheets** or web pages about pets' exposure to cyanobacterial blooms.
- **Updated research** on the health impacts of cyanotoxin exposure.
- **Sharing of funding opportunities** related to developing public health messages for blooms.
- **Editable graphics materials** (i.e., "native files") for the public, to be agency-branded and used on social media.
- **Repository** of other state resources.
- **More state listening sessions** to discuss challenges and experiences related to cyanobacterial blooms.
- **Opportunities** to support development and sharing of outreach and education for emerging risk communication issues.

## Role in Communication

During the listening sessions, there was consensus that the main role of the SHA is for routine monitoring coupled with public notification in the early phases of cyanobacterial bloom events to help reduce exposure. States also noted that they assist with water body monitoring and response by developing guidance to aid water providers and water body managers. Water utilities and water body managers find state water body monitoring guidance to be helpful because it shows how their role aligns with SHA public health surveillance guidance.

Press releases are considered a standard tool for public notification. One state issues a pre-season press release that is not a public health advisory, but rather intended to encourage vigilance. Press releases can encourage people to be their own advocate to minimize their risk of exposure to cyanobacterial blooms. SHAs also advise municipal partners on the types of messaging that they can use to address public concerns that do not warrant a health advisory.

As part of their public health surveillance activities, SHAs input cases into the One Health Harmful Algal Bloom [System](#). SHAs often do some follow-up with cases, including documenting the origin of exposure and any symptoms. In at least one state, microcystin poisoning is also a mandatory reportable disease.

States also noted their role in developing guidance for clinicians about how to approach treatment and recognize different types of toxins and the symptoms they cause. Since a range of symptoms have been associated with different toxins, more detailed education and training resources are needed for clinicians.

State poison centers are also capturing incidents of cyanobacterial bloom exposures. Due to privacy challenges, some SHAs have taken steps to remedy information gaps between the two groups due to differences in data collection and coding discrepancies.

*One state noted that they are trying to formalize and improve data-sharing agreements between health agencies and poison control centers.*

## Challenges with Cyanobacterial Bloom Messaging

One common theme across both listening sessions was the challenge of varying terminology used by partner agencies. Terminology can pose challenges with communication across jurisdictions, and it may also contribute to confusion when referring audiences to resources, especially given that CDC, EPA, and state and local partners often use unique terms. Since blooms can occur anywhere, states tend to focus on sharing the message, “when in doubt, stay out.”

Each water body manager tends to take a different approach to monitoring, which can also make it challenging to have consistent public messaging. Some water body managers test water bodies before closure, whereas others wait for lab results to confirm presence of cyanobacterial blooms before announcing any closures. Additionally, local health departments don’t always have resources to post or remove signage at water bodies, but the public may have an expectation that every water body is being monitored or should be tested. States that maintain maps of affected water bodies also noted challenges communicating that monitoring of water bodies can be irregular, since there is an expectation by the public that all water bodies are being continuously monitored.

Since testing and posting signage are voluntary, it may not be a top priority for water body managers. Some water body managers have more knowledge about cyanobacterial blooms than others, and signage can also differ depending on the area. It can be difficult to reach water body managers in remote areas or areas without many blooms. Also, some water body managers respond differently and don't follow state recommendations, and not everyone wants to be a part of a cyanobacterial bloom reporting process.

SHAs also noted challenges with private water bodies, such as golf course lakes or homeowner's association-owned lakes that aren't public. It can be difficult to reach out to private water body managers that are outside the authority of the local or state agencies. It is easier to inform people of the water bodies that are public and tested, but states may struggle with testing and messaging about private water bodies.

*Several SHAs also mentioned communication challenges around benthic algae, scientific uncertainty around exposures, and reaching individuals who may not understand potential health risks.*

Also, there were a few challenges noted for messaging about animals getting sick. It can be difficult to address potential misinformation on social media about animal deaths attributed to cyanobacterial blooms due to their charged nature. It can be difficult to immediately address public concerns on social media, since confirmatory testing to determine cyanobacterial bloom exposure takes some time. It can also be difficult to reach public information officers at partner organizations and coordinate synchronized messaging in a timely manner.

## **Challenges with Coordinating Cyanobacterial Bloom Response**

It can be a challenge for the public to stay informed due to the number of partners involved in a cyanobacterial bloom response effort. Some SHAs have developed formal documents outlining different partner roles for a cyanobacterial bloom response.

Due to limited sampling capacity, states often prioritize higher traffic public recreational water sites for water testing. States don't have the resources to monitor every water body, so leveraging partnerships and multi-sector groups is helpful.

There are also geographical challenges, such as those posed by remote regions, and it can be difficult to coordinate sample collection and testing in a timely fashion. Further, COVID-19 interruptions to the supply chain have impacted cyanobacterial bloom testing and have reduced laboratory capacity. Shipping delays were also identified as a challenge during the COVID-19 pandemic because some samples expired during the time it took for delivery. Due to reduced SHA workforce capacity in 2020, it was hard to get public notifications out in a timely manner, and there was a noticeable dip in states' reporting during this time. To avoid delays with issuing public notifications, SHAs found it useful to increase proactive communication with partners to expedite hot spot identification. There is often a lag time in interagency response, which could be potentially improved through automation. However, most health departments are not equipped for this.

States identified misalignment of risk communication efforts as a barrier to coordinating an effective cyanobacterial bloom response, which may be improved through developing unified terminology.

## Gaps in Cyanobacterial Bloom Communication Tools

Some state response efforts have become less ad hoc and more structured over time through coordination and general awareness about cyanobacterial blooms. The jurisdictions that established cyanobacterial bloom working groups identified needs for more health-related messaging around dermal toxins and guidance for aerosols, irrigation water, and fish consumption.

Many states experienced challenges with benthic algae or cyanobacteria.

*States want to know how messaging can be adapted for benthic blooms, as well as how to message about dermal toxins compared to other toxins.*

## Cyanobacterial Bloom Communication Resources

SHAs have had success developing toolkits and risk communication protocols for local health departments. Additionally, several states established working groups for cyanobacterial blooms to guide research and outreach to state and local partners. SHAs also noted anticipation for the Interstate Technology and Regulatory Council's cyanobacterial bloom guidance [document](#), as well as updated state factsheets on blue-green algae and marine red tide.

SHAs noted that it would be helpful to have editable graphics materials on cyanobacterial blooms. These materials would help communicate standardized information to the public and could be included in agency-branded materials and used on social media.

## SUMMARY

SHAs are often the leads for routine cyanobacterial bloom monitoring and public notification in their state. Leveraging partnerships is key to sharing the burden of responsibility for specific tasks and extending the reach of communication. SHAs use a variety of materials to communicate about cyanobacterial blooms, such as standard signs posted at water bodies, social media posts to provide updates to advisories, press releases, and direct outreach to clinicians and veterinarians. Preferred terminology varies from state to state, but the most common terms for freshwater blooms include cyanobacterial blooms, harmful algal blooms, toxic algae, blue-green algae, and cyanotoxins. Terminology often varies by audience, with more general terms being used with the public, and more precise terms used with partners (e.g., water body managers, state level collaborators, clinicians).

# APPENDIX I: DISCUSSION QUESTIONS

## Section 1. Lessons Learned

- Does the way you talk about HABs change with different audiences? If so, how?
  - What terminology resonates with audiences [e.g., Public, Clinicians/veterinarians, Media, Legislators] when talking about HABs?
- Who are key partners in your HABs communication/education efforts? How do you typically engage them?
- What types of formats have been successful in reaching your target audiences? (e.g., website material, posted flyers at water bodies, distributing pamphlets, training materials, etc.)
- What is the role of the state health agency in responding to HAB events in your state?

## Section 2. Challenges

- What aspect of HABs messaging has been most challenging?
  - How might these challenges be addressed?
- Which audience is most difficult to reach?
- What challenges do you see when coordinating with partners while responding to HAB events in your state?

## Section 3. Moving Forward

- Are there additional partners you are hoping to engage for HABs education and outreach efforts?
- How has your agency's role in HABs response changed over time? Are you anticipating any new changes?
- Does your agency have any new or upcoming HABs communications resources that you would be willing to share?

# APPENDIX II: CYANOBACTERIAL BLOOM COMMUNICATION RESOURCES

- [CDC Communication Resource Center](#)
- [Harmful Algal Bloom Communication Resources | CDC](#)
- [Cyanobacterial Blooms: Information for Animal Owners | Harmful Algal Blooms | CDC](#)
- [Cyanobacterial Blooms and Animals \(cdc.gov\)](#)
- [Posters | Harmful Algal Blooms | CDC](#)
- [CDC-INFO On Demand - Order free posters, factsheets, and reference cards from CDC](#)



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