Communicating the Risks of Cyanotoxins in Drinking Water

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Presentation Overview

• Overview of risk communication needs and challenges
• Introduction to EPA’s Cyanotoxin Drinking Water Risk Communication Toolbox
• Overview of Toolbox contents
Blooms are widespread across the country
Algal Toxin Risk Assessment and Management Strategic Plan for Drinking Water

- Includes steps and timelines for:
  - Assessing human health effects
  - Developing list of algal toxins of concern
  - Publishing Health Advisories
  - Assessing treatment options
  - Developing analytical and monitoring approaches
  - Summarizing the causes of HABs
  - Recommending source water protection actions
  - Strengthening collaboration and outreach
Risk communication tools identified as a need

- April 29th, 2016 Public Meeting: Updates and feedback on drinking water and cyanotoxin activities
- Regional HABs Workshops
Key Messages from Stakeholders: 
April 29, 2016 Public Meeting

1. Lessons learned on managing cyanotoxins during 2015
   - Important to develop a plan accounting for competing priorities
   - Collaboration is needed with all stakeholders impacted by blooms
   - **Open communication across all stakeholders including multiple levels of government, multiple users of source waters, and customers**

2. Remaining needs
   - **Better understanding of risk communication**
   - Predictive tools
   - Treatment and mitigation strategies
   - Monitoring and methods
Recent EPA tools to address risks of cyanotoxins in drinking water
Developed with input from:
- Multiple States
- Several public water systems
- Centers for Disease Control and Prevention
- American Water Works Association
- Association of State Drinking Water Administrators
- Water Research Foundation
- American Public Health Laboratories

Available online at: https://www.epa.gov/ground-water-and-drinking-water/drinking-water-cyanotoxin-risk-communication-toolbox
Purpose

- Ready-to-use, web-based “one-stop shop” for communicating risks of cyanotoxins in drinking water
- Tools including fillable templates, general information and graphics for local and state governments and drinking water systems
- Public is target audience
- Key tools available in English and Spanish

Available online at:
https://www.epa.gov/ground-water-and-drinking-water/drinking-water-cyanotoxin-risk-communication-toolbox
and
https://espanol.epa.gov/espanol/caja-de-herramientas-para-la-comunicacion-del-riesgo-de-cianotoxinas-en-el-agua-potable
Intended Uses

- Toolbox provides specific materials for communication
- Use in conjunction with a Cyanotoxin Management Plan
  - Communication strategy and the process for when and how to communicate, should be developed as part of the Cyanotoxin Management Plan
EPA’s Health Advisories for Cyanotoxins Used as Example

- U.S. EPA’s national drinking water Health Advisory levels are used as example cyanotoxin levels that inform public communication decisions in the toolbox.
- Templates are editable to include state and local action levels.

<table>
<thead>
<tr>
<th>chemical</th>
<th>10-day advisory</th>
</tr>
</thead>
<tbody>
<tr>
<td>microcystins</td>
<td>Bottle-fed infants and preschool children</td>
</tr>
<tr>
<td></td>
<td>School-age children and adults</td>
</tr>
<tr>
<td>0.3 μg/L</td>
<td>1.6 μg/L</td>
</tr>
<tr>
<td>cylindrospermopsin</td>
<td>0.7 μg/L</td>
</tr>
<tr>
<td></td>
<td>3 μg/L</td>
</tr>
</tbody>
</table>
Risk Communication Toolbox
Contents - Templates

Templates – Editable, fillable and ready to use

- Press releases
- Drinking Water Advisories (available in Spanish)
- Social media and text alerts (available in Spanish)

Template Options
- Available in editable pdf or word formats
- 3 scenarios per template, based on the level of toxins occurring and the population impacted:
  - **Everyone**: > U.S. EPA’s Health Advisory level for everyone
  - **Vulnerable Populations**: > EPA’s Health Advisory level for infants and young children under the age of six, but ≤ to the Health Advisory level for children six years and older through adults;
  - **Advisory Lifted**: ≤ EPA’s Health Advisory level for everyone

Available online at: https://www.epa.gov/ground-water-and-drinking-water/drinking-water-cyanotoxin-risk-communication-toolbox-templates
Risk Communication Toolbox
Contents – Template Examples

Available online at: https://www.epa.gov/ground-water-and-drinking-water/drinking-water-cyanotoxin-risk-communication-toolbox-templates
General information

- Public messaging
- Frequently Asked Questions (available in Spanish)
- Factsheets (available in Spanish)
- Co-branding option available

Available online at: https://www.epa.gov/ground-water-and-drinking-water/drinking-water-cyanotoxin-risk-communication-toolbox-general
Risk Communication Toolbox
Contents - Graphics

Graphics
• Menu of multiple downloadable options
• 4 styles to help communicate key messages
• From over 20 graphics to choose

Available online at: https://www.epa.gov/ground-water-and-drinking-water/drinking-water-cyanotoxin-risk-communication-toolbox-graphics
Drinking Water Health Advisories

Cyanotoxin Drinking Water Advisory

Vulnerable populations: infants, children, pregnant women, nursing mothers, those with pre-existing liver conditions, those receiving dialysis treatment, the elderly and sensitive populations.

No Cyanotoxin Drinking Water Advisory

EVENYONE
Speedometer style graphics

Drinking Water Health Advisories

- **Cyanotoxins detected in tap water at levels of concern**
  - **Cyclindospermapin Greater than 0.7 through 3.0 µg/L**
  - **Microcystin Greater than 1.8 µg/L**

**ACTION**
- Young children and vulnerable populations
- Do not drink the tap water. Use alternative sources of drinking water.

- **Cyanotoxins not detected in tap water at levels of concern**
  - **Cyclindospermapin Greater than 0.3 through 1.8 µg/L**
  - **Microcystin Greater than 0.3 µg/L**

**ACTION**
- No action needed. Continue to use the tap water for drinking and all other uses.

- **Cyanotoxins not detected in tap water at levels of concern**
  - **Microcystin Greater than 0.7 µg/L**

**ACTION**
- Do not drink the tap water. Use alternative sources of drinking water.

**Drinking Water Health Advisories**

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**Drinking Water Health Advisories**

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**ACTION**
- No action needed. Continue to use the tap water for drinking and all other uses.

- **Cyanotoxins not detected in tap water at levels of concern**
  - **Microcystin Greater than 0.7 µg/L**

**ACTION**
- Do not drink the tap water. Use alternative sources of drinking water.
Thermometer style graphics

Drinking Water Health Advisories

**Advisory Level**
- Cyanotoxins detected in tap water at levels of concern.

**Health Advisory Values**
- Microcystins: Greater than 1.6 μg/L
- Cylindrospermopsin: Greater than 3.0 μg/L

*Vulnerable populations = infants, children under the age of six, pregnant women, nursing mothers, those with pre-existing liver conditions, those receiving dialysis treatment, the elderly and sensitive populations.

Drinking Water Health Advisories

**Advisory Level**
- Cyanotoxins detected in tap water at levels of concern for young children and vulnerable populations.

**Health Advisory Values**
- Microcystins: Greater than 0.8 through 1.6 μg/L
- Cylindrospermopsin: Greater than 0.7 through 3.0 μg/L

Drinking Water Health Advisories

**Advisory Level**
- Cyanotoxins detected in tap water at levels of concern.

**Health Advisory Values**
- Microcystins: Less than or equal to 0.3 μg/L
- Cylindrospermopsin: Less than or equal to 0.7 μg/L

Drinking Water Health Advisories

**Advisory Level**
- Cyanotoxins not detected in tap water at levels of concern.

**Health Advisory Values**
- Cylindrospermopsin: Less than or equal to 0.7 μg/L

*Vulnerable population = infants, children under the age of six, pregnant women, nursing mothers, those with pre-existing liver conditions, those receiving dialysis treatment, the elderly and sensitive populations.
Drinking Water Health Advisories

MEANING

- Cyanotoxins detected in tap water at levels of concern.
- Cyanotoxins detected in tap water at levels of concern for young children and vulnerable populations*.
- Cyanotoxins not detected in tap water at levels of concern.

ACTION

- Do Not Drink the tap water. Use alternative sources of drinking water.
- Young children and vulnerable populations* Do Not Drink the tap water. Use alternative sources of drinking water.
- No action needed, continue to use the tap water for drinking and all other uses.

*Vulnerable populations: infants, children under the age of six, pregnant women, nursing mothers, those with pre-existing liver conditions, those receiving dialysis treatment, the elderly and sensitive populations.
Conclusion

• Effectively communicating cyanotoxin risks in drinking water is important to protecting public health
• EPA’s Cyanotoxin Drinking Water Risk Communication Toolbox can be customized to help communicate
• Tips for communicating:
  – Develop a communication strategy, including when/how to communicate and who to communicate to
  – Clear, concise and consistent messaging should be used across all communication products
  – Incorporate icons, color and other visuals
  – Keep messages simple and relevant to audiences, particularly if there are actions they need to take
Questions?

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Drinking Water Cyanotoxin Risk Communication Toolbox:
https://www.epa.gov/ground-water-and-drinking-water/drinking-water-cyanotoxin-risk-communication-toolbox

OGWDW cyanotoxins website:
https://www.epa.gov/ground-water-and-drinking-water/cyanotoxins-drinking-water

CyanoHABs website:
https://www.epa.gov/cyanohabs