



CBWM Table-Top Exercise Do Not Consume Advisory

**Community Based Water Monitor
and Operator Training
November 20th, 2024**

Health Emergency Planning

Health Emergency:

A current or imminent health event that falls outside the scope of normal operations and requires prompt co-ordination of resources in order to protect the health and safety of community members.

Health Emergency Planning



A tabletop exercise is a safe place to practice an emergency plan. It can help you create or update your plan. It helps you see if you are prepared for an emergency.

Goals of this Tabletop Exercise

- Build Operator/CBWM capacity and leadership for emergencies.
- Point out the most important activities to manage emergency response.
- Explain roles and duties.
- Make clear what internal and external resources exist.
- Build connections with partners and stakeholders.
- To be better prepared to review, update or create the communicable disease emergency plan.

Blue-green algae or “Cyanobacteria”

- Blue-green algae – also known as Cyanobacteria - are microscopic, plant-like organisms that occur naturally in ponds, rivers, lakes and streams.
- Large presence of Blue-green algae is referred to as a “bloom”.
- Blue-green algae occurs naturally in surface waters like lakes, ponds, rivers and streams.
- The toxins in some algae can make people sick and can be fatal for pets if ingested.
- Warm temperatures plus increased amounts of nutrients (like nutrients from fertilizers, septic systems and other runoff sources) promote growth / blooms.

Blue-green algae VS Algae

- Blue-green algae
 - type of bacteria that can release toxins into the water when a bloom forms
 - Several types of cytotoxins may be produced by blue green algae
 - GCDWQ Table 2: Cyanotoxins MAC of 0.0015mg/L for total Microcystin
 - Microcystin considered the most important of the freshwater cyanotoxins
- Algae – generic term that is used to describe a diverse group of aquatic plant like organisms, in most cause not a health hazards.
 - Not a health concern in most cases (there are some specific species of algae can cause health effects, IE Red tide)
 - No GCDWQ MACs

Blue-green algae and Algae growth in a waterbody can visually appear very similar

Planktonic blue-green algae blooms

Blue-green algae can be suspended in the water of a lake, pond, river or stream or float in a thin layer on the surface. These are planktonic algae blooms.



A low-density planktonic blue-green algae bloom near the shoreline of a lake.



A medium-density planktonic blue-green algae bloom near the shoreline of a lake.



A planktonic blue-green algae bloom resembling spilled paint near the shoreline of a lake.



A decaying planktonic blue-green algae bloom resembling grass clippings on the shoreline of a lake.

Benthic blue-green algae mats

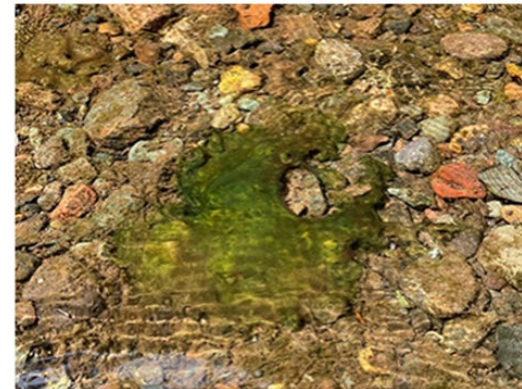
The algae mats look like sheets of slimy green, brown or reddish growth, with visible bubbles or air pockets that can appear black, brown or dark green in the water. They can also look like web-like grey, brown or yellowish growth on rocks, shorelines, lakebeds or riverbeds.



A benthic blue-green algae mat (yellow-beige web-like growth covering most of the rocks) attached to the bottom of a river.



A benthic blue-green algae mat (with bubbles visible within the sheet of growth) attached to a rock.



A green sheet of benthic blue-green algae mat growing on a riverbed.



A benthic blue-green algae mat growing in a fast-moving river (some sections are bright green and some are dark brown or black).

Instructions

- This tabletop exercise is designed to encourage discussion using a fictitious scenario to examine and resolve potential issues.
- It is not expected that people have the answers to all the potential questions-this is meant to be a chance to learn from each other.
- Respond as you would in your job, in accordance with relevant plans and existing procedures.
- Consider all information you receive as true.
- Confirm current preparedness and response procedures and capabilities, key actions and decisions in the management of a case or outbreak.

Stakeholders

- AFNWA/Community Water Operations Team / CBWM
- Public Health Officials / Oversight Entity
- Emergency Management Team
- Communication/PR Team
- Local First Nations Representatives
- Community at large
- Lab(s)

Community Background

- 2500 residents
- Surface Water Source (Lake) of Drinking Water via Public Water Supply,
- Treatment Coagulant, Sand filter + UV + Chlorination

Scenario

Date: Late Summer, Monday, 10:00 AM

Weather: Overcast, with mild temperature. The last several weeks were very hot and there was a large rainfall last week.

- On a typical Monday morning, the Operations team at AFNWA receives a call from the public stating that a Blue Green Algae (Cyanobacteria) bloom is present in the Lake. The resident is concerned about the health effects of this bloom and has already notified several councillors and posted the same concerns to social media.

Phase 1: Incident Detection and Initial Response

Time: Monday, 10:15 AM

Details: AFNWA operation staff meet to discuss the situation and develop a plan to respond.

Key Questions:

1. How does the water quality team immediately respond to this complaint?
2. Who will be notified first, and how will notifications be communicated within the organization and/or community?
3. What are the steps for determining the extent of contamination and identifying impacted service areas?

Phase 2: Issuing the "Do Not Consume" Advisory

Time: Monday, 11:00 AM

Details:

- A second community member has reported a dog who was swimming in the lake over the weekend became ill as of Monday morning - Vomiting, diarrhea.
- AFNWA Staff are utilized to complete visual assessment of water supply. A bloom is observed in the Lake near the area where the raw water intake is located.
- Public health officials, emergency management, and communication teams need to mobilize quickly to inform the public.
- Water sampling plan is being developed but cannot be completed immediately and may take several days.
- Based on the details quickly collected and out of an abundance of caution the decision is made to issue a DNC advisory.

Phase 2: Key Questions

1. What is the decision making process involved in issuing a DNC?
2. What is a DNC, what are the recommendations / implications
3. What are the immediate actions for issuing a DNC advisory, and who is responsible for each step?
4. How will the message be communicated to residents, businesses, schools, and healthcare facilities?
5. What resources or support are available for populations with special needs, such as those without access to alternative drinking water?

Phase 3: Emergency Response and Water Distribution

Time: Monday, 2:00 PM

Details:

- The AFNWA/Community begins planning for emergency water distribution in the community.
- AFNWA is responsible for communication plan to community leadership and residents.
- Coordination with external agencies and suppliers is necessary to provide bottled water or alternative sources to the community.
- Sampling plan must be developed with AFNWA, Oversight Body and CBWMs.

Phase 3: Key Questions

1. How does the AFNWA/ Community coordinate with external partners to secure and distribute alternative water sources?
2. What specific sites or distribution centers will be set up for water distribution?
3. How will ongoing communication with the public be managed to provide updates and ensure compliance with the DNC advisory?
4. What is the sampling plan? AFNWA + Dal & FNIHB + CBWMs?
5. What are the possible immediate health implication for frontline staff?

Phase 4: Monitoring

Time: Monday / Tuesday

Details:

- Sampling plan developed after internal discussions; AFNWA to utilize Dalhousie Center for Water Resources Studies – benchtop onsite sampling with quick results are available to be utilized at the WTP Lab but will take up to 2 days to be delivered on site due to back order for reagents.
- ISC FNIHB has consulted with their contracted Lab; CBWMs have been updated on the issue and are proceeding with Lab submitted sampling. Samples submitted will be a priority to analyze but will take several days to confirm results.
- Visual monitoring of the water supply to be completed by on site staff.

Phase 4: Key Questions

1. What would sampling plan entail?
2. How will ongoing testing be conducted to ensure water safety?
3. What does the ongoing messaging / support to the community look like?
4. When can the DNC advisory be lifted? How is the decision made and how will this be communicated to the public?

Phase 5: Sample Results and Decision for Lifting the Advisory

Time: Tuesday - Friday

Details:

- Onsite benchtop sampling completed Wednesday did not return the presence for Cyanobacteria toxins.
- The temperatures cooled off through the week and the bloom size decreased.
- ISC FNIHB / CBWM first set of lab confirmed samples were returned as absent for cyanobacteria toxins on Friday.
- Stakeholder met Friday to discuss sample results / situation – decision was made to lift the DWA – DNC
- ISC FNIHB has worked with CBWM to complete immediate samples and to continue with ongoing monitoring to ensure that no cyanobacteria toxins are present going forward.

Phase 5: Key Questions

1. What criteria must be met before considering lifting the DNC advisory?
2. Who will make the final decision to lift the advisory, and how will this be communicated to the public?
3. How will ongoing testing be conducted to ensure water safety?

Exercise Debrief and After-Action Review

- Strengths and Weaknesses: Identify response successes (e.g., efficient internal communication) and areas needing refinement.
- Communication Gaps: Review how communication with the public, emergency services, and other stakeholders could be enhanced.
- Operational Response: Discuss any challenges in the operational response, including resource availability, coordination with partners, and logistical support.
- Lessons Learned: How to mitigate future occurrences, how to be better prepared for possible incidents.