Coventry Lake Cyanobacteria Bloom

Coventry Lake Advisory & Monitoring Committee
Annual Meeting
September 20, 2022

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DIRECTOR OF HEALTH

EHHD
Eastern Highlands Health District

Presentation Outline

- EHHD role
- Connecticut Department of Public Health Role
- Algae bloom timeline
- Public Health Concerns
- Public Health Advisory & Process
- Next Steps

EHHD role in response to HAB

- Local Public Health Authority - CPHC 19a-36-B61(b)(11)(B)
- Investigate, verify conditions
- Consistent with state guidance, issue and lift advisories when supported by data and conditions
- Update and notify lake community and other stakeholders
- Public health education and support

DPH Roles and Responsibilities

- Provides subject matter expertise to DEEP and LHDs on cyanotoxins and health effects from exposure to harmful algal blooms (HABs).
- Works with DEEP to maintain guidance document for LHDs.
- Collects info on HAB events statewide and provides advice to LHDs and others on monitoring and waterbody closures.
- Reports HAB events and human or animal illness info to CDCs "One Health Harmful Algal Bloom system."

Timeline

5/17 – First round of bloom monitoring data collected

7/12 – Monitoring data trending toward HAB status, EHHD notified

7/22 - Public Health Advisory issued, access points posted, Lake Community & Stakeholders notified, monitoring expanded

7/28 – First EHHD update issued

8/8 – Public Health Advisory lifted, weekly monitoring continues

9/20 – Lake Advisory & Monitoring Committee public meeting

Cyanobacteria (Blue-green algae) –Health Concerns

- Exposure to toxin containing water is a real health concern for people and pets
- Direct contact linked to skin irritation, rashes, and eye irritation
- Swallowing toxin containing water can cause : nausea, diarrhea, vomiting
- Swallowing (larger amounts of) toxin containing water can cause: liver damage, kidney damage, neurological damage
- Inhaling water droplets can cause: upper respiratory congestion, sore throat, asthma-like symptoms

Water Activities – Exposure Risk

Table 4: Generalized list of primary exposure pathways of concern for cyanotoxins during recreational activities (Bress & Stone, 2007).

Level of Potential Exposure	Recreational Activity	Primary Exposure Pathway of Concern
High	Swimming/wading	Ingestion
	Diving	Ingestion
	Water skiing/wake boarding	Ingestion/inhalation
	Wind surfing	Ingestion/inhalation
	Jet skiing	Ingestion/inhalation
Moderate	**Fish consumption** *	Ingestion
	Canoeing	Inhalation/skin
	Rowing	Inhalation/skin
	Sailing	Inhalation/skin
	Kayaking	Inhalation/skin
	Motor boating	Inhalation
Low/none	Catch and Release fishing	Skin

*Fish living in waters affected by a blue-green algae bloom may accumulate algal toxins in their muscle tissue and internal organs. However the health risk posed by consumption of such fish is uncertain. Toxin levels are usually higher in internal organs than in the muscle tissue. General precautionary advice to anglers to reduce exposure includes:

- Avoid fishing in areas with visible algae blooms due to potential incidental contact with the water.
- Eat fish from water bodies with blue-green algae blooms in moderation (1-2 meals per week.)
- Remove skin and internal organs before cooking. Wash fillets before cooking or freezing

Public Health Advisory & Process

EHHD Process consistent with guidance provided by CT DPH & DEEP

- (Guidance to Local Health Departments For Blue-Green Algae Blooms in Recreational Freshwaters, June 2021)

Purpose- "… to protect the public's health at lakes or ponds used for recreation"

Process components

- Investigate bloom reports
- Determine bloom risk level
- Risk level determination drives monitoring scope & notifications
- Visual rank and/or cell count primary data points that determine risk level

Cyanobacteria testing vs routine swimming area testing

DPH/DEEP Guidance

Table 6: Suggested interventions based on field observations or cell count data: Examples of appropriate signage are shown in Appendix C.

Observations	*Notifications*	*Further monitoring*	*Public Posting*
Visual Rank Category 1	Not needed	No change	Not needed
Visual Rank Category 2, or blue-green algae cells >20k/ml and < 100k	Notify CT DPH, CT DEEP	Increase regular visual surveillance until conditions change.	Consider cautionary postings at public access points. (See Appendix C, Example B)
Visual Rank Category 3, or blue-green algae cells > 100k/ml	Update/inform CT DPH & CT DEEP and expand risk communication efforts. (See Risk Communication section.)	Collect samples for analysis and/or increase frequency of visual assessment.	POSTED BEACH CLOSURE: If public has beach access, alert water users that a blue-green algae bloom is present. (See Appendix C, Example A) POSTED ADVISORY: At other impacted access points. (See Appendix C, Example B)

Table 5: Summary of the Vermont visual classification scheme:

Category	*Description*
One	Visible material is not likely cyanobacteria or water is generally clear.
Two	Cyanobacteria present in low numbers. There are visible small accumulations but water is generally clear.
Three	Cyanobacteria present in high numbers. Scums may or may not be present. Water is discolored throughout. Large areas affected. Color assists to rule out sediment and other algae.

Next Steps

- Ongoing evaluation of lake conditions
- Explore the development strategies to prevent and manage future blooms
- Reporting, response, and communication planning
- Evaluate and refine state guidance for local use
- Grants?
- Lake Community Role?

Contact Information

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DPH

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Assumed this responsibility in April 2022 after retirement of Stewart Chute.

David Kallander is also DPH's Beach monitoring and notification program coordinator (indicator bacteria).