



Benjamin Holcomb <bholcomb@utah.gov>

Fwd: HAB Advisory Update

Kate Fickas-Naleway <kfickas@utah.gov>
To: Benjamin Holcomb <bholcomb@utah.gov>
Cc: Nathan LaCross <nlacross@utah.gov>

Tue, Jan 28, 2020 at 1:11 PM

FYI: Utah Lake Commission Comment

----- Forwarded message -----

From: **Eric Ellis** <eric@utahlakecommission.org>
Date: Tue, Jan 28, 2020 at 1:08 PM
Subject: Re: HAB Advisory Update
To: Kate Fickas-Naleway <kfickas@utah.gov>
CC: Erica Gaddis <egaddis@utah.gov>

Kate,

Thank you for the quick response. I have a concern or "comment" about the new document being circulated. As many of the changes have been proposed were to simplify confusion, please note that the cell count portion of the new guidance document will instead exacerbate that confusion.

It seems the new recommendation of a warning advisory for cell counts between 100,000 - 10,000,000 is lost entirely by what should be a footnote; describing the contextual situation that Health Departments should consider when cell counts are between 5,000 and 100,000 cells/mL.

If anything, the new guidance appears to establish a threshold of 5,000-100,000 and at first glance seems to have a large gap between 100,000 and 10,000,000 = more confusion.

Please consider using 100,000 - 10,000,000 as the bolded range for Warning advisory and then use the "Note 1" or the existing description as the footnote in that threshold box.

If not, 5,000 - 100,000 cells/mL will be the new standard for warning advisories, as it's easier and safer politically than considering the contextual information. When the public sees in large print below the "Warning Advisory" 5,000 - 100,000 cells/mL and the health department is not issuing a warning, It will be slammed for the appearance of not protecting human health. If it's a footnote below the constant warning threshold of

100,000 - 10,000,000, Health Departments will be more comfortable not issuing a warning when those contextually aggravating variables are not present.

"Note 1" it reads: Significant increases in inflammatory health effects have been reported in people exposed to between 5,000 and 100,000 cells/mL. An advisory should be issued above 100,000 cells/mL. Below 100,000 cells/mL, take into account other contextual information and consider issuing an advisory.

Table 1: UDOH/UDEQ Recommended HAB Advisory Thresholds

Observed / Potential Bloom		Warning Advisory	Danger Advisory
<p>This is not a formal advisory level. Rather, these are indicators that a bloom may exist or may become more severe. Increased monitoring and surveillance are strongly recommended. Indicators may include:</p> <ul style="list-style-type: none"> • Visual reports • Reports of animal or human illness • Detection of cyanotoxins below thresholds <ul style="list-style-type: none"> • Detectable levels should be defined using appropriate QA/QC procedures <p>Consider cautioning users of the waterbody depending on specifics of the event and waterbody.</p>	Cyanobacterial Cell Density (cells/mL) ^{1,2,3}	5,000 - 100,000 Human symptoms have been reported within this range ³ . An advisory should be issued at 100,000 cells/mL. Below 100,000 cells/mL, take into account other contextual information and consider issuing an advisory.	10,000,000
	Microcystins (µg/L) ^{1,2}	8	2,000
	Cylindrospermopsin (µg/L) ³	15 *	
	Anatoxin-a (µg/L) ^{3,4,5}	15	90
	Health Risks ^{1,2,3}	Potential for long-term illness Short-term effects (e.g., skin and eye irritation, nausea, vomiting, diarrhea)	Potential for acute poisoning Potential for long-term illness Short-term effects (e.g., skin and eye irritation, nausea, vomiting, diarrhea)
	Recommended Actions	Issue WARNING advisory Post WARNING signs Sampling recommended at least weekly	Issue DANGER advisory Post DANGER signs Consider CLOSURE Sampling recommended at least weekly

Guidance sources

- ¹ WHO, 1999. Toxic cyanobacteria in water.
 - ² WHO, 2003. Guidelines for safe recreational water environments, Volume 1, Chapter 8: Algae and cyanobacteria in fresh water.
 - ³ EPA, 2019. Recommended human health recreational ambient water quality criteria or swimming advisories for microcystins and cylindrospermopsin.
 - ⁴ OHA, 2019. Oregon Health Authority. Recreational use public advisory guidelines: cyanobacterial blooms in freshwater bodies.
 - ⁵ CWQMC, 2016. California Water Quality Monitoring Council. Cyanobacteria guidance for recreational and related water uses (2016 update).
- * Data are sparse on where cylindrospermopsin advisory break points should be. Consult with UDEQ and UDOH as needed on this issue.

Regards,

Eric J. Ellis

Executive Director

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On Tue, Jan 28, 2020 at 11:56 AM Kate Fickas-Naleway <kfickas@utah.gov> wrote:

Hi Eric,

No problem. Right now we're in the public comment period - we've presented and gotten approval from local health departments and the Water Quality Board.

Here: <https://documents.deq.utah.gov/water-quality/standards-technical-services/harmful-algal-blooms/DWQ-2020-001564.pdf> is the guidance update, with the table down at the bottom.

Let me know if you have any questions.

Cheers,

Kate



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On Tue, Jan 28, 2020 at 9:38 AM Eric Ellis <eric@utahlakecommission.org> wrote:

Kate,

I'm told the HAB Advisory group has been working up updates to the advisory thresholds. I'm told most if not all criteria thresholds have increased. What is the status of those adjustments? I assume the document below found on the HABS.utah.gov site will be updated as well?

Sorry to be out of the loop on this a little, but any info would be greatly appreciated, as we would like to be able to inform the curious what to expect this coming summer.

Thanks,

Public Health Advisories

Utah Department of Health (UDOH) and Utah Department of Environmental Quality (UDEQ) have developed a multi-tiered approach to public health advisories for HABs. These advisories incorporate a variety of measures and are aligned with national and international guidelines. These guidelines primarily rely on cyanobacterial cell density and toxin concentrations

WARNING

- Do not swim or water ski in this area
- Avoid areas of algae scum when boating
- Keep animals away
- Do not ingest the water
- Clean fish well and discard guts



DANGER

- Lake closed
- Keep out of the water



Triggering an Advisory

Local health departments are recommended to issue HAB advisories when cell counts for cyanobacteria and other algal species reach the following levels:

	Warning	Danger
Relative Probability of Acute Health Risk	Moderate	High
Cyanobacterial Cell Density (cells/mL)	20,000 - 10,000,000	> 10,000,000
Microcystins (µg/L) (liver toxin)	4 - 2,000	> 2,000
Cylindrospermopsin (µg/L)	> 8	—
Anatoxin-a (µg/L) (neurotoxin)	Detection - 90	> 90

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