

From: [Poy, Thomas](#)
To: [Crooks, Jennifer](#); [Prysby, Mike \(DEQ\)](#)
Cc: [Benzie, Richard \(DEQ\)](#)
Subject: RE: Flint
Date: Thursday, May 29, 2014 3:57:51 PM

Hi Mike: Since Jennifer is out, I got to speak to Mr. Jefferson about Flint's water causing rashes. Jennifer showed me the Phase 2/5 test results from July 2013. Are there more recent results on the water currently served to the customers? Rashes can be caused by other changes in water chemistry due to the change in source waters but the first step would be to rule out regulated contaminants. Sorry, I'm sure you've already gone over this with Jennifer.

Thanks.

Tom

Tom Poy
Chief, Ground Water and Drinking Water Branch
USEPA - Region 5
(312) 886-5991

From: Crooks, Jennifer
Sent: Wednesday, May 28, 2014 3:03 PM
To: Prysby, Mike (DEQ)
Cc: Poy, Thomas
Subject: Flint

Thank you again, Mike, for talking to me about the Flint water issue. I really like your idea of encouraging the City to do some customer service with the citizens that are complaining about the water. Flushing their line and/or taking a sample at the citizen's house might go a long way to calming people down.

I was also thinking about you doing a chain of custody sample at the plant. I know you trust Brent the operator; but this could be another response to customer complaints to instill trust in the water department. It wouldn't have to be compliance sampling; a special purpose sample perhaps.

Something else I thought of—Ohio is having issues of blue-green algae/cyanotoxins in some of its surface waters, which are related to taste and odor, and can cause rashes; pretty nasty stuff. Don Moore said that the Flint River does have a lot of algae growing on it. See the email below, with some websites on the issue of cyanotoxins in drinking water

The person at Ohio EPA that has dealt with blue-green algae/cyanotoxins in drinking water is Heather Raymond. She might be a good resource to discuss whether it would be worth sampling and analyzing for cyanotoxins in the Flint finished water.

FYI, Don Moore said he was organizing a protest picket line in his neighborhood at the water treatment plant.

Jennifer

From: Drake, Wendy
Sent: Wednesday, May 28, 2014 2:39 PM
To: Crooks, Jennifer
Subject: HABs info

Hi, Jennifer.

Here are a few HABs websites. Both Ohio and Illinois have taken samples at systems and sources where problems have been reported, and I'm not sure about the other states.

U.S. EPA cyanobacterial HABs website: <http://www2.epa.gov/nutrient-policy-data/cyanobacterial-harmful-algal-blooms-cyanohabs>; Lesley D'Anglada from the EPA Office of Water's Office of Science and Technology also sends out HABs news updates that people can sign up for by contacting her (see forwarded e-mail below)

Ohio EPA's HABs—information for PWSs website: <http://epa.ohio.gov/ddagw/HAB.aspx>; Ohio EPA has a PWS HAB response strategy (<http://epa.ohio.gov/Portals/28/documents/HABs/PWSHABResponseStrategy.pdf>) in which they list Heather Raymond as the PWS HAB Coordinator—her contact information is heather.raymond@epa.ohio.gov and (614) 644-2911. Ohio has experienced the most problems in our region.

Illinois EPA's HABs and algal toxins website: <http://epa.state.il.us/water/algal-bloom/index.html>; Illinois just launched this program last summer

IDEM's blue-green algae website: <http://www.in.gov/idem/algae/>

MDH's blue-green algal blooms and microcystin website:
<http://www.health.state.mn.us/divs/eh/hazardous/topics/bluegreenalgae.html>

WDNR's blue-green algae website: <http://dnr.wi.gov/lakes/bluegreenalgae/?a=1>

Please let me know if you have any questions.

Wendy

Wendy Drake | U.S. EPA, Region 5, Water Division, Ground Water and Drinking Water Branch
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From: DAnglada, Lesley

Sent: Tuesday, May 27, 2014 5:48 AM

To: DAnglada, Lesley

Subject: HABs News - May 2014

News

EPA's Webinar: Prevention, Control and Mitigation of Cyanobacteria and Cyanotoxins

EPA's Office of Science and Technology conducted a webinar on Wednesday, May 14th, on the Prevention, Control and Mitigation of cyanobacteria and cyanotoxins. The presentations are posted on the Control and Treatment tab at the CyanoHABs web page: <http://www2.epa.gov/nutrient-policy-data/cyanobacterial-harmful-algal-blooms-cyanohabs> and the audio recording is available here: <https://epa.connectsolutions.com/p17loeiiigbi/>

House Science Panel OKs Bill to Enhance Research, Control Efforts for Algae Blooms

A House committee approved by voice vote May 21 the *Harmful Algal Bloom and Hypoxia Research and Control Amendments Act* (S. 1254) to authorize a national strategy of research, mitigation and control for algal blooms that kill fish and shellfish by depleting oxygen in marine and freshwater bodies. The bill was approved by the Senate in February. It still must make it through the House Natural Resources Committee before it can go to the full House.

http://news.bna.com/deln/DELNWB/split_display.adp?fedfid=47002944&vname=dennotallissues&jd=a0f0u7h9x7&split=0

Taking the fight to Lake Erie algal blooms before they reach Western New York

Government officials and environmentalists in Buffalo aim at stopping toxic blue-green algae in Lake Erie before it reaches Western New York. They called for a two-pronged federal approach involving the U.S. Environmental Protection Agency and U.S. Department of Agriculture.

<http://www.buffalonews.com/city-region/environment/taking-the-fight-to-lake-erie-algal-blooms-before-they-reach-western-new-york-20140505>

Sea Otter's Scourge

Microcystin stalks marine mammals off the coast of California and kills dogs and cats further inland.

<http://www.the-scientist.com/?articles.view/articleNo/39864/title/Sea-Otter-s-Scourge/>

Climate change brings mostly bad news for Ohio

Scientists delivered a mostly negative forecast for how climate change will affect Ohioans during the next year or so, and well beyond

<http://phys.org/news/2014-05-climate-bad-news-ohio.html>

Blue-green algae in Kansas water

Warnings and Advisories in place from the previous sampling season.

<http://kansasfirstnews.com/2014/05/22/blue-green-algae-in-kansas-water/>

New Research

Land use patterns, ecoregion, and microcystin relationships in U.S. lakes and reservoirs: A preliminary evaluation (attached)

John R. Beaver, Erin E. Manis, Keith A. Loftin, Jennifer L. Graham, Amina I. Pollard, and Richard M. Mitchell

Harmful Algae, Volume 36, June 2014, Pages 57-62, ISSN 1568-9883

<http://www.sciencedirect.com/science/article/pii/S1568988314000444>

Survival, growth and toxicity of *Microcystis aeruginosa* PCC 7806 in experimental conditions mimicking some features of the human gastro-intestinal environment

Mara Stefanelli, Susanna Vichi, Giuseppe Stipa, Enzo Funari, Emanuela Testai, Simona Scardala, Maura Manganelli, *Chemico-Biological Interactions*, Volume 215, 25 May 2014, Pages 54-61, ISSN 0009-2797

<http://www.sciencedirect.com/science/article/pii/S0009279714000830>

Rapid quantitative analysis of microcystins in raw surface waters with MALDI MS utilizing easily synthesized internal standards

Amber F. Roegner, Macarena Pérez Schirmer, Birgit Puschner, Beatriz Brena, Gualberto Gonzalez-Sapienza, *Toxicon*, Volume 78, February 2014, Pages 94-102, ISSN 0041-0101

<http://www.sciencedirect.com/science/article/pii/S0041010113004637>

Cyanotoxin occurrence and potentially toxin producing cyanobacteria in freshwaters of Greece: A multi-disciplinary approach

Spyros Gkelis, Nikos Zaoutsos, *Toxicon*, Volume 78, February 2014, Pages 1-9, ISSN 0041-0101

<http://www.sciencedirect.com/science/article/pii/S0041010113004388>

Investigating the production and release of cylindrospermopsin and deoxy-cylindrospermopsin by *Cylindrospermopsis raciborskii* over a natural growth cycle

Timothy W. Davis, Philip T. Orr, Gregory L. Boyer, Michele A. Burford, *Harmful Algae*, Volume 31, January 2014, Pages 18-25, ISSN 1568-9883

<http://www.sciencedirect.com/science/article/pii/S1568988313001364>

Status, causes and controls of cyanobacterial blooms in Lake Erie

Morgan M. Steffen, B. Shafer Belisle, Sue B. Watson, Gregory L. Boyer, Steven W. Wilhelm, *Journal of Great Lakes Research*, Available online 25 January 2014, ISSN 0380-1330

<http://www.sciencedirect.com/science/article/pii/S0380133013001913>

***Cylindrospermopsis raciborskii* dominates under very low and high nitrogen-to-phosphorus ratios**

Michael F. Chislock, Katherine L. Sharp, Alan E. Wilson, *Water Research*, Volume 49, 1 February 2014, Pages 207-214, ISSN 0043-1354,

<http://www.sciencedirect.com/science/article/pii/S0043135413009330>

Acute, chronic and reproductive toxicity of complex cyanobacterial blooms in *Daphnia magna* and the role of microcystins

Marie Smutná, Pavel Babica, Sergio Jarque, Klára Hilscherová, Blahoslav Maršálek, Maher Haeba, Ludek Bláha, *Toxicon*, Volume 79, 1 March 2014, Pages 11-18, ISSN 0041-0101

<http://www.sciencedirect.com/science/article/pii/S0041010113004650>

A nanosensor based on quantum-dot haptens for rapid, on-site immunoassay of cyanotoxin in environmental water

Long Feng, Anna Zhu, Hongchen Wang, Hanchang Shi, *Biosensors and Bioelectronics*, Volume 53, 15 March 2014, Pages 1-4, ISSN 0956-5663,

<http://www.sciencedirect.com/science/article/pii/S0956566313006362>

Inductive reasoning and forecasting of population dynamics of *Cylindrospermopsis raciborskii* in three sub-tropical reservoirs by evolutionary computation

Friedrich Recknagel, Philip T. Orr, Hongqing Cao, *Harmful Algae*, Volume 31, January 2014, Pages 26-34, ISSN 1568-9883,

<http://www.sciencedirect.com/science/article/pii/S1568988313001339>

For more information please visit the Cyanobacterial HABs website at <http://www2.epa.gov/nutrient-policy-data/cyanobacterial-harmful-algal-blooms-cyanohabs>

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