

SERVICE CONNECTION

The Maine Drinking Water Program Newsletter

Working Together for Safe Drinking Water

Summer 2017 ○ Volume 25, Issue 2

Cyanobacteria

The Emerging Contaminant with Many Names

Jessica Meeks

Harmful algal blooms, also known as blue-green algae or cyanobacteria, are a major environmental and drinking water issue across the country. They typically form in warmer, nutrient-rich waters and can have impacts on human health, aquatic ecosystems, and the economy. While some algal blooms can be non-toxic, others are known to produce substances

that can sicken or kill people and animals. Microcystin is one such cyanotoxin produced by cyanobacteria.

In the drinking water world, cyanotoxins are an emerging contaminant of concern for public drinking water systems that rely on surface waters as their source. In an effort to learn more about the presence of algal blooms and their associated toxins, the University of Maine's Mitchell Center



Algal bloom on Sabattus Pond
Photo: NRC of Maine

for Sustainability Solutions, on behalf of the Maine Drinking Water Program, conducted a State-wide study on the occurrence and risks of cyanobacteria on community public water systems (PWS). The Mitchell Center sought to identify and assess PWS that may be threatened by

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Staff Changes at the Drinking Water Program

Roger Crouse/Sophia Scott

Michael Abbott, Chief Engineer and Assistant Program Manager at the Drinking Water Program, is leaving the DWP for a position outside of State government. Mike has been with the Drinking Water Program since November, 2013. He will be greatly missed.

With the departure of Mike Abbott, Mike Plaziak has been tapped to serve as the Assistant Program Manager. Mike will continue in his role as the supervisor of the Public Water System Inspection team in addition to being the Assistant Program Manager. Mike's capable leadership and

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Photo: Aurelia Werneck

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Maine Center for Disease
Control and Prevention

An Office of the
Department of Health and Human Services

Paul R. LePage, Governor

Ricker Hamilton, Acting Commissioner

DIRECTOR'S Corner

Some Takeaways from 2016

Roger Crouse, Program Manager



The talented staff at the Drinking Water Program has published our 2016 Public Drinking Water in Maine report. You can find the complete report at the Drinking Water Program website, www.medwp.com, but here are a few highlights:

- Maine PWSs continue to see an annual decline in the total number of violations. There were a total of 1,278 violations in 2016 which is a 48 percent decrease in total number of violations since 2006.
- Unfortunately, we also saw a decline in the percentage of public water systems without any violations. In 2015, 72.5 percent of public water systems did not have a violation. In 2016 that number decreased to 69.7 percent. However, even with the one year decrease, the percentage of systems without a violation is still up more than 27 percent since 2006.
- In the first year since the 1989 Total Coliform Rule went into effect, TCR maximum contaminant level violations were not the largest category of health-based violations. This was in large part due to the Revised Total Coliform Rule which eliminated the “non-acute” Total Coliform maximum contaminant level violation.
- The number of total coliform bacteria samples testing positive for bacteria took a sharp drop in 2016 from 898 in 2015 down to 593 in 2016. Overall there is a 48 percent drop in the number of TC positives since 2006.

Overall, water quality and compliance at public water systems in Maine continues to get better. Public water systems can continue moving us in the right direction by:

- Vigilance in maintaining treatment systems – Too many violations are the result of inattention to the operation and maintenance of an existing treatment system.
- Collecting samples when required – The vast majority

of public water systems are only required to sample once per month or once per quarter. If time is taken to develop a reminder system, it can help to remember this most basic of compliance requirements.

- Taking prompt action to address water quality or infrastructure problems – Additional violations accrue when there are delays in addressing problems.

Improvements in these performance measures equal better protections of public health. Thank you to our State’s public water systems; please continue to do your part to protect the health of your customers.

I hope your summer season is prosperous and enjoyable.

Yours for safe drinking water, *Roger*

Upcoming Dates to Remember

September

- 10 August Monthly Operating Reports due.
- 30 End collection of annual and triennial samples for Lead & Copper and/or Disinfection Byproducts (DBP) (scheduled systems only).

October

- 1 Deadline for beginning LT2 sampling (filtered surface water systems serving populations of less than 10,000 only). Sampling to continue for 12 months.
- 1 Signed CCR distribution certification due at DWP.
- 10 September Monthly Operating Reports due.
- 31 Water Operator license renewal materials mailed to operators.

November

- 1 Water operator license renewal opens.
- 10 October Monthly Operating Reports due.

December

- 10 November Monthly Operating Reports due.
- 31 Deadline for license renewal (Water Operators only). Licenses not renewed by this date will change to ‘inactive’ status.
- 31 All annual sampling must be completed.



Maine Drinking Water Program Staff Directory

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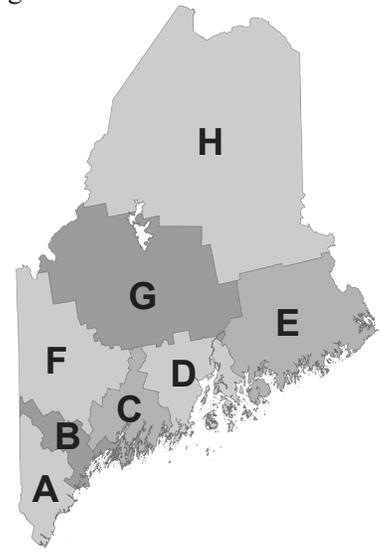
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Reminder: Sample Results Due by the 10th of the Following Month

Roger Crouse

As required by State and Federal regulations, all compliance sample results for public water systems in Maine must be submitted to the Maine CDC Drinking Water Program by the 10th of the month following the month in which the sample was collected. For example, if a sample was collected in June, compliance sample results must be submitted to the Drinking Water Program by July 10.

If a sample result arrives at the Maine CDC Drinking Water Program after the tenth day of the following month or later, the public water system will receive notice of a failure-to-report violation.

Please ensure that when you submit compliance samples to your laboratory you include your seven-digit Public Water System Identification (PWSID) Number.

Do not wait until the end of your monitoring period to collect your samples. Some tests take longer to analyze and some labs subcontract tests out to other labs. If you wait until the very end of the monitoring period to collect your sample, the results may not make it to the DWP on-time, which could put you in a non-compliance situation. ■

Calling All Water Operators!

The Drinking Water Program is continually seeking ways to improve water operator training. We want to be responsive to your needs, ensuring that the training opportunities being offered are relevant and timely.

- What training topics interest you?
- Where in Maine would you like to see training sessions offered?

We encourage you to share your thoughts.

To take part, please email Sara Flanagan at sara.m.flanagan@maine.gov.

Water Operator News

James Jacobsen

Proposed Changes to the Rules

The Board of Licensure of Water System Operators (Board) has proposed changes to the Rules Relating to the Licensure of Water System Operators. The proposed changes include removal of definitions which are no longer relevant, modifications to Operator in Training requirements, clarification of licensing requirements, and fee increases to ensure the Board remains financial solvent.

The proposed changes are currently under review at the Office of the Governor. Upon approval for rulemaking, the Board will notify interested parties and a public hearing notice will be distributed.

ABC Operator Examinations Update

The Association of Boards of Certification (ABC) has revised its Standardized Exams for water treatment operators and water distribution operators. The revised exams were piloted through the end of June with a goal of full implementation in July. Changes include, but are not limited to, removal of regulation-based questions, greater emphasis on operational knowledge, and introduction of metric measurement units to the exams. The changes were made to allow for better transferability across jurisdictions and to create exams with world-wide applicability.

The ABC Need to Know guidance documents have been revised accordingly. There are now separate Need to Know documents for each of the four classes in each discipline, i.e., distribution and treatment. All of the Need to Know documents can be found by following the links on the ABC website, www.abccert.org > Testing Services > 2017 Standardized Exam Pilot > Water Distribution/Water Treatment Operator Preparation Resources

Water Operator Board Meetings Go Live

In May, 2017, the Board began using facilities at the Public Utilities Commission (PUC) for board meetings. The July meeting was also held at the PUC. This meeting was broadcast live on the PUC's video broadcasting system. If you would like to see the next board meeting but you don't want to make the drive to the Capital area, go to the PUC website (www.maine.gov/MPUC) and click on the "Live Audio-Video" button.

The next two meetings are scheduled for September 15 and November 17, 2017. Meetings start at 9:00am. ■



Successes and Challenges of Source Water Protection

Sophia Scott

When challenged with the prospect of a new potential source of contamination in the watershed of his District's drinking water source, Jon Ziegra of the Boothbay Region Water District found out just how hard his board of trustees was willing to fight to protect this resource. In the fall of 2016, Ziegra, the District's General Manager, learned that a proposed new development with a wastewater disposal system, would be built largely within the watershed of Knickerbocker Lake, a source of drinking water for the region. Ziegra described the project as, "A plan that would clear cut 30 acres of high value habitat and a wastewater disposal system that would discharge roughly 10,000 gallons of wastewater in our watershed and eventually, the lake."

Ziegra's job is to ensure that his water system provides safe and reliable drinking water to all consumers and he felt that this type of development within the watershed of the region's drinking water source was unacceptable. With this in mind, the Boothbay Region Water District hired an

attorney to try to move the proposed wastewater disposal system out of the Knickerbocker Lake watershed. "We went in swinging, it was that important to us," Ziegra said. "If you have something like this, you have to fight for it." Eventually, after a bitter fight and upwards of \$50,000 in legal fees, the wastewater system was relocated to outside the Knickerbocker Lake watershed. "We committed quite a bit of time and resource to get something that made sense, or else we would still be fighting them today," Ziegra said, "I think it raised the profile of the District and showed that we were serious – not the silent service."

Like many Maine towns, Boothbay's decisions are made at the local level and under local ordinances that the water district does not control. The proposed development was legal under the law and the project met State requirements. It was a wakeup call to Ziegra and the Town of Boothbay

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The Review of Engineering and Treatment Plans by the DWP

Nate Saunders

When source, treatment, or storage changes at a public water system (PWS) are needed, the PWS must send construction plans describing the changes to the Drinking Water Program (DWP). The DWP then reviews the plan and approves or requires changes. The Maine Rules Relating to Drinking Water state, "No new construction, addition, or alteration involving the source, treatment, or storage of water in any system" may occur until the DWP reviews and approves the proposed changes. (For more, including exemptions to review requirements, see the *Maine Rules Relating to Drinking Water*, Section 3: Facilities Approval, at www.medwp.com.)

For changes impacting the source, treatment, or storage, the Drinking Water Systems Change Application must be submitted with the construction plans. The application form can be found on the DWP website in the "Public Water Systems" section under the "Treatment" link. The completed Change Application and construction plans are submitted to your PWS inspector. If a PWS is required to have a licensed operator, the primary operator must sign the application or provide acknowledgement of approval of the application to the DWP.

Review of engineering and treatment plans is completed by the DWP Engineering and Water Resources Team. After a Change Application or other plan(s) is received by the PWS inspector, an engineer is assigned to review the plan. Although 30 days is allowed for DWP review, every effort is made to provide review and approval as quickly as possible. During the review process, an engineer may contact the PWS, treatment company, the person who completed the treatment application, or other involved parties to obtain additional information or discuss the review.

After the DWP engineer completes her/his review, the specifics of the approval are shared with the PWS inspector and a DWP Rule Specialist for additional input. Once this three-point proposal review is completed, an approval letter, with or without conditions, is sent by your PWS inspector to the PWS and associated parties.

If you have questions on the engineering review process, please contact your PWS inspector, or Nate Saunders: phone 287-5685 or email nathan.saunders@maine.gov. ■

Source Water Protection

Continued from Page 5...

that local ordinances did not adequately consider source protection. The Town is now working towards creating better ordinances. “The Town invited us, and we are participating in updating ordinances so they are 21st century ordinances because growth is so prevalent in this region of the Midcoast.” Ziegra noted another success, “We were very public about opposition to [the project], not only those on the peninsula, but [people] statewide were able to see how important drinking water and protecting drinking water is. That was a real good thing that came out of it.”

Looking back, Ziegra reflected, “It was a wakeup call in how quickly we can have our watersheds in danger.” Development trends in Maine continue to rise, particularly in southern and coastal regions, creating conflict with source protection of drinking water. As source protection is the first line of defense in preserving drinking water quality, public water systems and public officials must continually be vigilant in efforts to protect drinking water resources. ■

Guidance on Issuing Drinking Water Orders

Nate Saunders

When a water main breaks or some other event causes low, zero, or negative pressure in your water system, do you know when to place a Drinking Water Order and when not to? This can be a challenging decision to make and we are here to help guide you through this process.

The Drinking Water Program and several key water system superintendents and staff have collaborated to develop guidance information that will help you make these difficult decisions. The document, *Guidance on Issuing Drinking Water Orders to Protect Public Health during an Event Resulting in Low, Zero, or Negative Water Pressure*, is available on the DWP Website. www.medwp.com > Public Water Systems > Emergency Response Resources > Loss of Pressure/Loss of Water. ■

REMINDER: When submitting documents to the Drinking Water Program, please make sure that they contain your correct PWSID number and all text and handwriting is legible.

Staff Changes

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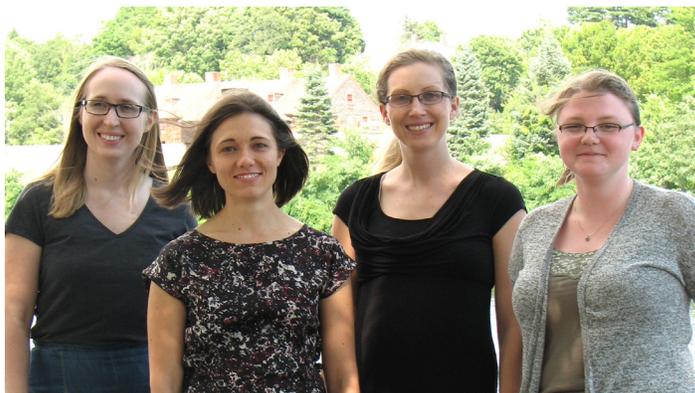
strong problem solving abilities have made him a great asset to the Drinking Water Program since August, 2016. Congratulations, Mike!

New Staff Members at DWP

The Drinking Water Program welcomes Maia Ferris, Racheal French, Audra Martin, and Christina Trufant.

Maia Ferris, Rule Specialist, completed her B.S. in Mechanical Engineering at Northern Arizona University in 2010. She has recently returned from Ghana, where she lived and taught mathematics as part of the U.S. Peace Corps. (Phone 287-3962, or email maia.ferris@maine.gov)

Racheal French, Public Water System Inspector (Municipalities), recently graduated from the University of Maine where she earned a B.S. in Civil and Environmental Engineering, with a focus on hydrology and environmental engineering. (Phone 441-5328, or email racheal.french@maine.gov)



L-R: Maia Ferris, Audra Martin, Christina Trufant, and Racheal French. Photo: Peter Bernard

Audra Martin, Assistant Environmental Analyst, holds a Master of Environmental Management from Texas Christian University. Audra’s previous work includes surface water quality monitoring with the Massachusetts Department of Environmental Protection. (Phone 287-4484, or email audra.martin@maine.gov)

Christina Trufant, Environmental Analyst/Rule Specialist, earned a B.S. in Environmental Science from the University of Southern Maine. For the past 6 years Christina has worked as a Commercial Landings Specialist for the Maine Department of Marine Resources. (Phone 287-4458, or email christina.trufant@maine.gov) ■

Cyanobacteria *Continued from Page 1...*

cyanotoxins. The researchers analyzed historical water quality data, site-specific bloom history, and source water samples to generate site-specific risk profiles.

Results from their analysis indicated that, while no systems exceeded the EPA health advisory limits for microcystin, cyanotoxins are present at low concentrations in many of Maine’s lakes and ponds that serve as public drinking water supplies.

Given this, the DWP, in collaboration with the Maine Geological Survey, is conducting a follow-up study to better understand the risk of cyanotoxins in Maine PWSs. Raw and finished water samples will be taken at seven community PWSs

throughout the summer and fall of 2017 and analyzed for microcystin. PWSs were selected based on the results of the risk analysis study performed by the Mitchell Center.

Results will give the DWP and PWSs a better understanding of how cyanotoxin concentrations change over the course of a season, as well as determining how successful different treatment approaches are at removing any toxins prior to water entering a distribution system. Results from the 2017 sampling effort are expected to be available in early 2018.

To learn more about harmful algal blooms and their associated toxins, please visit the EPA's website: www.epa.gov/nutrientpollution/harmful-algal-blooms. ■

Harmful algal blooms
(HABs) can be made up of **cyanobacteria**, also known as blue-green algae.

Cyanobacteria can produce harmful substances called **cyanotoxins**.
Microcystin is one type of cyanotoxin.

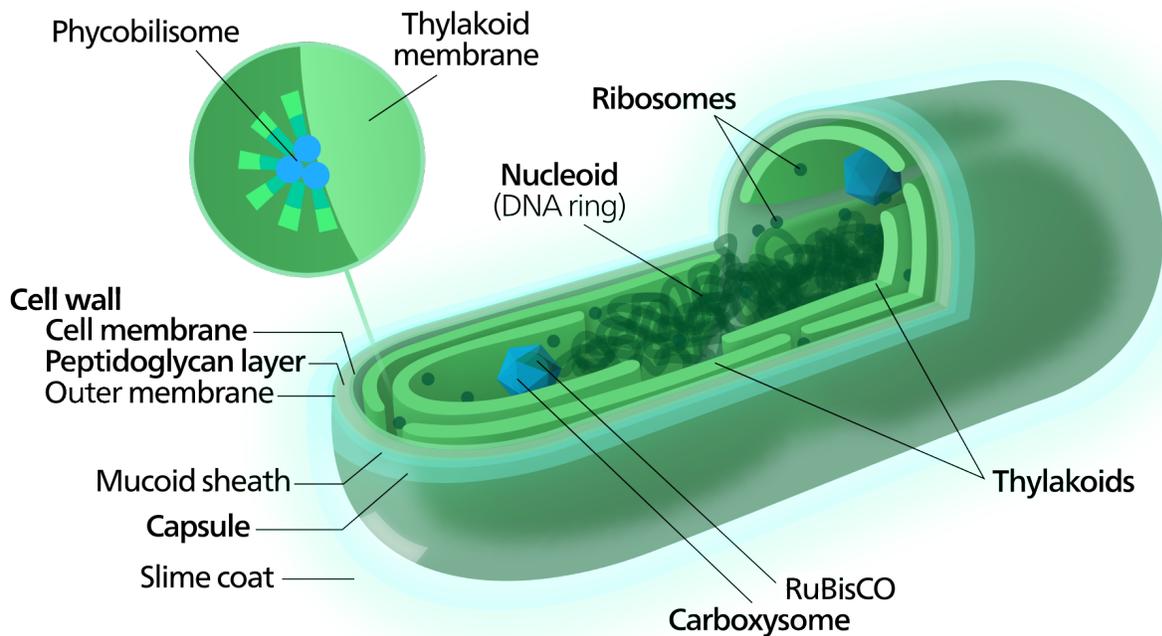


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