SERVICE CONNECTION

The Maine Drinking Water Program Newsletter

Working Together for Safe Drinking Water

Summer 2018 ○ Volume 26, Issue 2

Cyanotoxin Study

Toxin Levels Well Below Health Advisory

Jessie Meeks

Cyanobacteria, also known as blue-green algae, sometimes form harmful algal booms, which can threaten drinking water supplies. Cyanobacteria produces several toxins, known as cyanotoxins, that can be harmful to human health. Microcystin, believed to be the most widespread cyanotoxin, can cause liver damage, which in extreme cases can result in death. To learn more about the risk of microcystin to Maine surface water systems, the Drinking Water Program (DWP) embarked on a six-month water sampling campaign in the summer and fall of 2017. The goal was to assess the presence and temporal evolution of microcystin in select surface water sources of community drinking water. The field campaign, completed in partnership with the Maine Geological Survey, spanned seven water systems with a heightened risk of microcystin exposure. The selected water systems were identified to have elevated risk in a 2016 University of Maine study of harmful algal bloom impacts to drinking water sources. Both raw and finished water samples were collected to assess the effectiveness of the treatment systems on microcystin mitigation. The DWP partnered with New Hampshire's Department of Environmental Services (DES) Limnology Laboratory for sample analysis. DES employed sophisticated analytical practices to assess for

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Free Lead Tests for Schools Still Available

Holly Hockertlotz

Of the 746 schools in the State, 246 are regulated by the Drinking Water Program as public water systems and are subject to all the requirements of the Safe Drinking Water Act (SDWA). The remaining 500 schools are served by public water systems. While public water systems are regulated for lead in drinking water under the SDWA, the schools they serve are not typically sampled because the Lead and Copper Rule prioritizes sampling at residential properties. In 2017, the DWP funded voluntary lead testing for schools served by public water systems.

Results from the voluntary lead sampling program showed that 94% of samples were under the federal action level for lead of 15 parts per billion (ppb). Of the 1,468 samples submitted for testing, 82 individual samples (6% of all samples) had concentrations of lead of 15 ppb or greater. The samples exceeding the lead action level were collected from 33 schools served by 24 different public water systems. None of those public water systems exceed the federal action level for lead in their drinking water, as determined by sampling residential properties under the Lead and Copper Rule.

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Director's Corner

Some Takeaways from 2017

Each spring we compile compliance data from the prior year to measure the success of Maine's public water systems in providing safe, clean, and reliable drinking water. Results from the past decade show that public water systems in our State have been steadily improving in compliance measures and last year was no exception to that trend.

Here are a few highlights from 2017:

- Maine's public water systems continue to see an annual decline in the total number of violations of the Safe Drinking Water Act or the Maine Rules related to Drinking Water. Last year, 1,164 violations were issued to public water systems, the lowest amount over the past decade.
- Correspondingly, we also saw an increase in the number of water systems in compliance. In 2017, nearly 77% of public water systems received no violations.
- While, the number of total coliform bacteria samples testing positive for bacteria increased from 596 (in 2016) to 738, there has been a 50% decrease in positive total coliform bacteria samples since 2008.

Overall, water quality and compliance at public water systems continue to improve. However, we can always strive to do better. Public water systems can continue moving us in the right direction by:

- Being vigilant in maintaining treatment systems – too many violations are the result of inattention to operation and maintenance of an existing treatment system.
- Collecting samples when required – most public water systems are only required to sample once per month or once per quarter. Taking the time to develop a reminder system can help public water systems comply with the most basic 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 protection of public health. Thank you to our State's public water systems for your ongoing effort and please continue to do your part to protect the health of your customers.

Wise words from former Acting Program Manager, Mike Plaziak. We are grateful for Mike's service and hard work on behalf of the Maine CDC Drinking Water Program and wish him well in his new endeavors.

You can look forward to hearing from our new Program Manager, Mike Abbott, in upcoming issues of the *Service Connection*. You may remember Mike from his previous roles at the Drinking Water Program, as Hydrogeologist and Chief Engineer. We're pleased to welcome Mike back to the Drinking Water Program and look forward to his leadership.

Water Operator News

Jim Jacobsen

The Board of Licensure of Water System Operators recently adopted changes to its water system operators licensing rule (90-429 CMR Chapter 1). The Board advertised the changes on December 27, 2017 and held a public hearing on January 19, 2018. After the Board received and responded to all comments through January 29, 2018, the rule was filed at the Secretary of State's Office on May 9, 2018. The rule became effective on July 1, 2018. The Board, through this rulemaking, established a process for assessing operator penalties for special offenses, eliminated the requirement for applications to be notarized before submission to the Board, and removed the grace period for license renewal, which helps align the rule with Maine statute (22 MRS Chapter 601, Subchapter 3 (Licensure of Operators)). Another change includes the addition of a "restricted license" status for very small water system-licensed operators, who qualified for an education waiver previously approved by the Department. Restricted licenses will be site-specific and non-transferable.

To view a copy of this new rule, go to the Maine CDC Rulemaking webpage, www.mainepublichealth.gov/rules, and select "Recently Adopted Rules."

Maine Drinking Water Program Staff Directory

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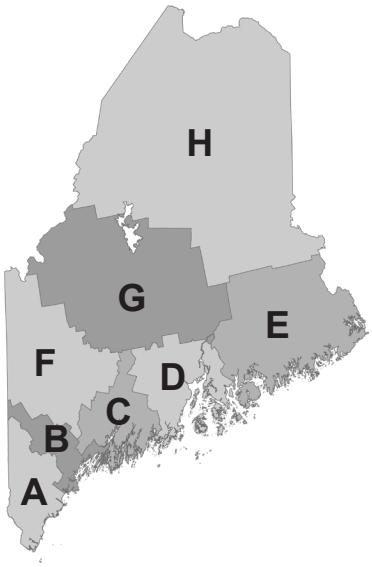

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Updates Coming for Phase II and V Waivers

David Braley

The Safe Drinking Water Act (SDWA) requires that community and non-transient non-community public water systems regularly test their water for many volatile organic and synthetic organic compounds. This testing, commonly known as Phase II Phase V testing, has been required since the early 1990s.

Provisions within the SDWA offer opportunities for public water systems to reduce the frequency of required testing by demonstrating that their source of water is not vulnerable to contamination from these chemicals. To be allowed to reduce the testing frequency, a public water system must demonstrate to the Drinking Water Program that either, 1) the chemicals included in the tests are not used, manufactured, stored, or disposed of within 2,500 feet of the water source ("use" waiver), or 2) that the local geology prevents the movement of the chemicals to the well ("susceptibility" waiver). This assessment of risk must be completed every three years for a public water system to be eligible to continue reduced testing.

Assessing the risk of contamination for each public drinking water source may allow the DWP to limit required testing to chemicals that are present near the source. In the past, systems have been required to submit revised vulnerability assessments every three years to be eligible for reduced or waived testing. Using the assessment information submitted in the past and the results from extensive testing, the DWP is currently re-evaluating the process used for assessing risks associated with water supplies and the testing frequencies that are appropriate.

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WE VALUE OUR READERS

We are interested in your opinion. What do you like about the *Service Connection*? Where do you see room for improvement? What would you like to see more of? Are there particular topics about which you'd like to learn more that we haven't covered?

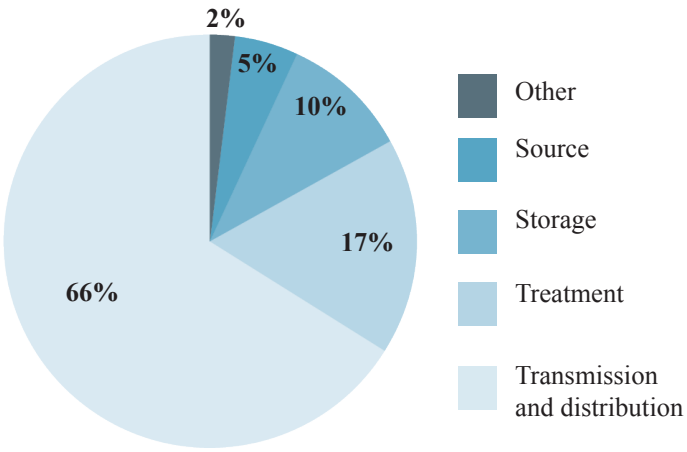
Let us know what you think!

Visit our Facebook page to take a short survey or get in touch with Sophia Scott via email, sophia.scott@maine.gov, or phone, 485-4058.

Transmission and Distribution Need Remains Large

Bill Dawson and Sophia Scott

The Safe Drinking Water Act (SDWA) requires the Environmental Protection Agency to assess the country's public water system infrastructure needs every four years. This information is then used to distribute Drinking Water State Revolving Fund grants to the states. The Drinking Water Infrastructure Needs Survey and Assessment, conducted in 2015, and released in March of this year, found that there is a $472.6 billion need for infrastructure investments across the country over the next 20 years to protect public health and comply with drinking water regulations.



Results of the 2015 Needs Survey. The total national need is $472.6 billion for water infrastructure.

Maine's Needs Survey results project the drinking water infrastructure needs to be $1.348 billion for the period of 2015-2035.

In Maine, the category of highest need is piping projects. Small and medium sized systems have over 80% of the need.

Table 1. Maine's 20-year Need (in millions of January 2015 dollars)

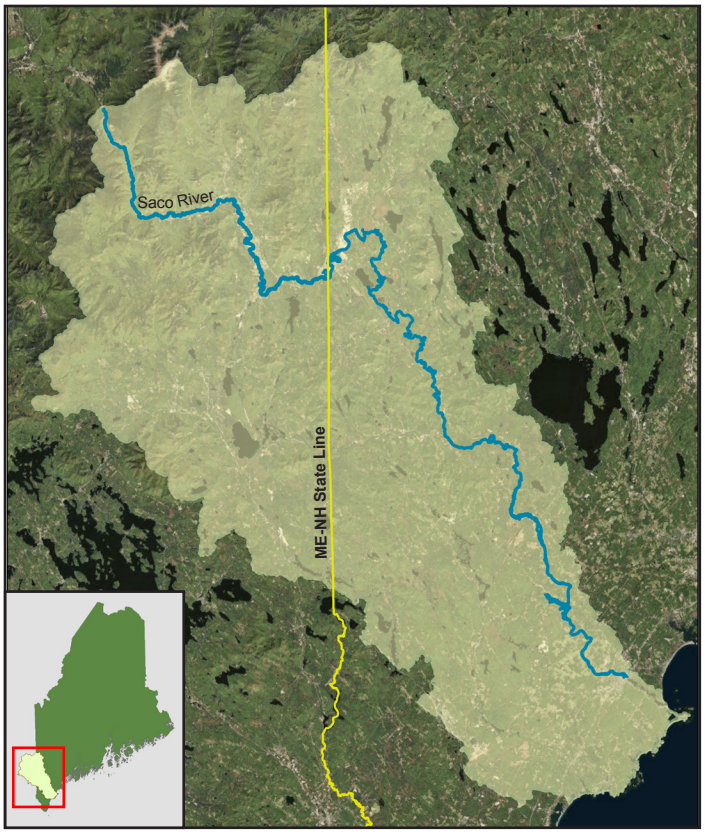
Project Category	Pipe	Treatment	Storage	Source	Other	Total
	$883.3	$198.2	$181.6	$72.6	$12.7	$1,348.3
System Size	**Large**	**Medium**	**Small**	**Non-profit non-community**		**Total**
	$158.9	$566.6	$579.2	$43.6		$1,348.3

As reported in the Drinking Water Infrastructure Needs Survey and Assessment, US EPA 2018.

A Watershed Based Approach to Protecting Drinking Water

Sophia Scott

Drinking water source protection is one of the primary objectives of the Saco Watershed Collaborative. The Collaborative is a diverse group of stakeholders working to protect the transboundary watershed of the Saco River, the source of drinking water for approximately 39,600 people in southern Maine. A group of individuals, representing 54 organizations first gathered in December of 2016 to discuss and identify potential collaborative partnerships to protect the Saco River and its 1,700-square-mile watershed. Since then, interested parties have been meeting on a regular basis to develop an action plan for the Collaborative. The Saco Watershed Collaborative Action Plan, released in January of this year, identifies four action strategies: "1) Engage and inspire governments, organizations, and citizens to take action to sustain water in the Saco Watershed; 2) Protect water quality through pollution prevention and restoration of degraded waters in the Saco Watershed; 3) Support land conservation and stewardship to protect water quality in the Saco Watershed; and 4) Promote and enforce low impact development strategies, stormwater, and wastewater best management practices, and land use development that protects water."



Roughly 55% of the 1,7000-square mile Saco River watershed lies within Maine.

There are over 300 public water systems within the Saco Watershed, including 94 community systems in Maine. With the many interested parties working to protect drinking water, public water systems within the Saco Watershed have a large support system they can turn to if they would like assistance in their source protection goals. If you would like to learn more about the Saco Watershed Collaborative, visit their Facebook page, www.facebook.com/UNESacoWatershedCollaborative; Story Map web page, bit.ly/swcstorymap; or contact Emily Greene at egreene@une.edu to be added to the group's mailing list.

For any other questions, contact Sophia Scott at 485-4058 or sophia.scott@maine.gov.

Cyanotoxins

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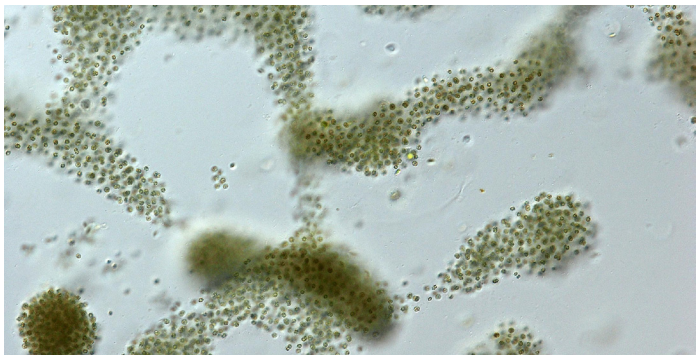
microcystin at extremely low concentrations, several orders of magnitude below the Environmental Protection Agency's 0.3 ppb (parts per billion) health advisory for children ages six and under. While each of the seven sampled systems had at least one trace microcystin detection, none of the finished or raw water detections exceeded 0.03 ppb, which is well below the health advisory. These results demonstrate that these surface water sources of drinking water are, at this time, not heavily impacted by microcystin. This is wonderful news! However, public water systems must maintain diligent source protection measures to keep cyanobacteria blooms at bay. Blooms typically form in warm, nutrient-rich waters, so maintaining an active watershed management plan is paramount to continued provision of clean, safe drinking water.



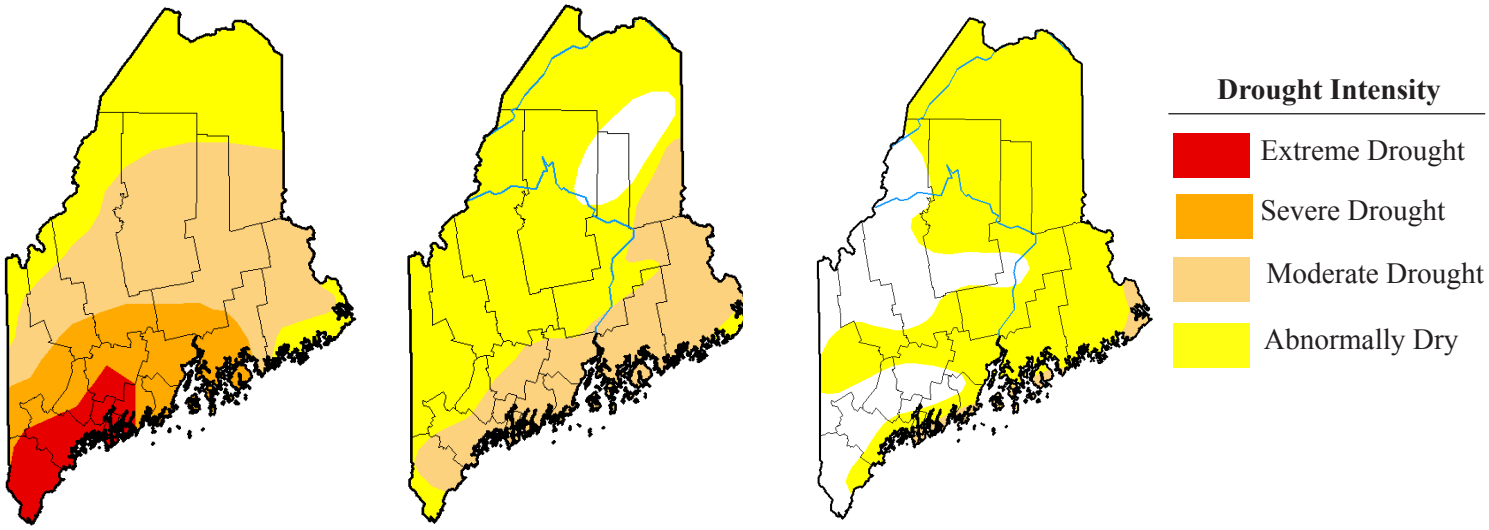
Cyanobacteria under the microscope. Photo source: US Environmental Protection Agency.

You can learn more about cyanobacteria in the 2017 summer Service Connection (Volume 25, Issue 2), available on our website: www.medwp.com/pws/serviceConnection.shtml

Be Prepared for a Dry Spell

Sophia Scott

Drought conditions are relatively rare in Maine. However, the historic 2001 drought impacted 53 public water systems across the State and resulted the implementation of conservation measures at five surface water systems and ten groundwater systems. More recently, the past two summers have solidified that dry years can have significant impacts. Though currently only the immediate coast and easternmost part of the State are experiencing moderate drought conditions, it is always best to be prepared. Your water source, whether it is a lake, river, or well, may be susceptible to insufficient recharge following a prolonged dry spell. Now is the time to think about monitoring, tracking, and measuring water before you are impacted by drought. Determining who receives priority water usage during a drought can be difficult; water is needed for drinking water, fire suppression, and sanitary needs. Remember, public education in times of drought can prove to be tremendously successful with gaining support for voluntary conservation measures, should they become necessary.



October 18, 2016 *October 17, 2017* *October 9, 2018*

Dry summers resulted in drought conditions in the fall of 2016 and 2017. At the time of publication, only the immediate coast and the easternmost part of the State were experiencing a moderate drought. Maps courtesy of the University of Nebraska Drought Monitoring page.

You can find the current drought conditions at the University of Nebraska's Drought Monitoring page: www.droughtmonitor.unl.edu ■

Waivers

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When the Phase II/V testing was first required, most of the tested chemicals had never been sampled at public water system sources and the likelihood of detecting them in drinking water was largely unknown. Since then, public water systems have provided the DWP with over two decades of test results for the Phase II/V chemicals. The DWP now has a much better understanding of the risk of contamination of drinking water sources. With this long history of testing and very few detections, the DWP is now able to re-evaluate the assessment process and make adjustments that better align assessments with established risks and reduce the effort required for public water supplies to seek waivers every three years.

The revision of the Phase II/V waiver process will likely take several months and require approval from the Environmental Protection Agency. The DWP anticipates implementing the revised Phase II/V assessment process in 2019. Public water systems that have assessments required in 2018 will be evaluated using information submitted for your system's previous waiver application, no further submittals will be required for this three-year period.

We'll keep you updated as we make progress. Please contact your public water system inspector if you have any questions. ■

Lead Education

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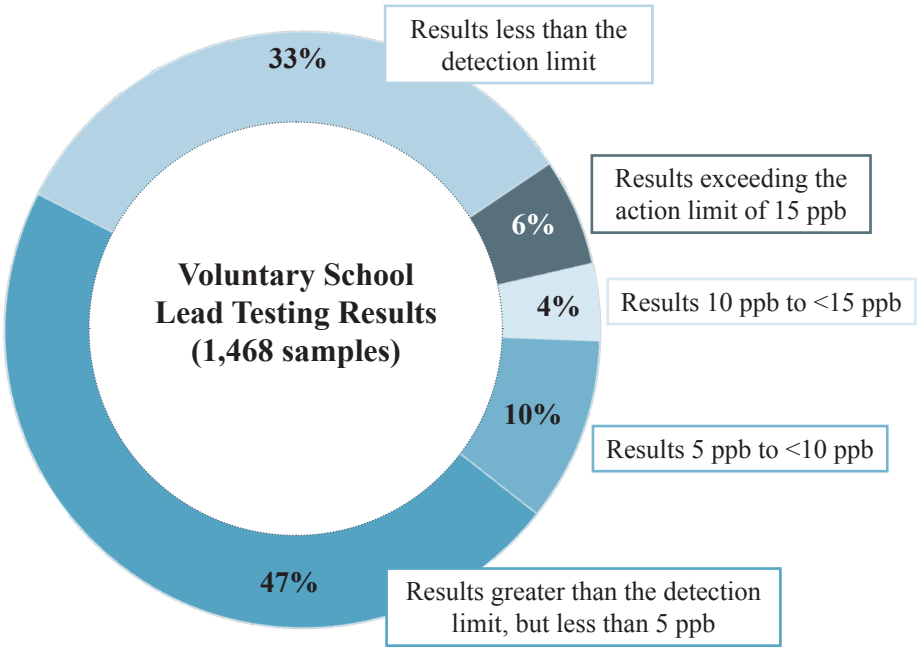
The DWP contacted schools with lead results of 15 ppb or greater to identify and document corrective actions taken by the schools, offer technical assistance, and direct the schools to lead education material on the DWP website. The public water systems that serve these schools were also contacted as a courtesy, as some schools relied upon the public water system to take their water samples. Public water systems and schools worked collaboratively on many aspects of the sampling and fixture replacement. Several public water systems aided schools through technical assistance and the collection of confirmatory samples after corrective actions were completed. School responses to these partnerships with public water systems were very positive.



The initial results of the voluntary sampling program led several schools to upgrade antiquated plumbing, replace drinking fountains with filtered bottle filling stations, and conduct school district-wide planning for further lead testing. Several schools asked if additional funding was available to assist with defraying the costs of expanding testing to additional schools within the school district. In response to that question, the DWP will continue the voluntary school lead sampling program throughout 2018. Schools interested in voluntary testing for lead in drinking water as part of this initiative should contact the Drinking Water Program at 287-2070.

DWSRF Dollars at Work - Tank Groundbreaking in Limestone

Bill Dawson and Sophia Scott

May 18 was a good day for Limestone community members who are served public drinking water. The Limestone Water and Sewer District broke ground on its new water tank project. The project will provide a much-needed improvement to the Town's current pre-1930s water tank. The new tank will provide many benefits, including improved water quality and a storage increase of over 100,000 gallons. The $1.08 million tank project is funded by the Drinking Water State Revolving Fund (DWSRF) in the form of a low interest loan, which includes principal forgiveness (grant).

The Limestone Water and Sewer District is just one of the many water systems that has benefited from the DWSRF. Since 1997, the DWSRF has provided over $281 million to public water systems through low interest loans and principal forgiveness to address their infrastructure needs.

DWP's Bill Dawson (fourth from right) and Larry Girvan (third from right) at the Limestone Water and Sewer Water District's tank project groundbreaking. Photo credit: Christopher Bouchard, The County.

If you are interested in learning more about the DWSRF, visit www.medwp.com/pws/srf.shtml or contact Bill Dawson at william.dawson@maine.gov or 287-6196.

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