SERVICE CONNECTION

The Maine Drinking Water Program Newsletter

Working Together for Safe Drinking Water Winter 2017-18 ○ Volume 25, Issue 4

DWP Conducts PFAS Study

Elevated levels found in some public water supplies

Jessie Meeks

In November, the Drinking Water Program (DWP) sampled select community and non-transient, non-community public water systems for per- and polyfluoroalkyl substances (PFAS). PFASs are a class of chemical compounds that have been manufactured since the 1950s and are found in everyday consumer products. They are chemically very stable and do not break down easily in nature or in the human body. Because of new information about the potential health effects of these chemicals, the Environmental Protection Agency (EPA) recently lowered the health advisory level for two PFAS chemicals: PFOA (perfluorooctanic acid) and/or PFOS (perfluorooctane sulfonic acid) to 70 parts per trillion (ppt). Given the prevalence and persistence of these substances, the DWP conducted this initial sampling round to better understand the potential impacts of the chemicals on Maine's water resources. System selection was primarily based on proximity to potential PFAS sources that were identified by the EPA. Results from the DWP sampling showed elevated levels of PFAS in two of the tested systems. All water systems with a population of 10,000 or greater already test for PFAS under the Unregulated Contaminant Monitoring Rule 3 (UCMR3). UCMR3 testing identified one system with detectable levels of PFAS. In this case, PFAS levels were below the health advisory limit. However, the system chose to take the well offline.

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It's Not Too Soon - What You Need to Know for Starting Up Your Seasonal System

Mike Plaziak

It sure may not feel like it now, but spring is just around the corner. That means it's time to start thinking about opening your seasonal public water system (PWS). Seasonal PWS such as campgrounds, restaurants, hotels, and sporting camps will soon be gearing up for public use. In the off season, these systems depressurize and drain their water system. Systems that close for the winter may experience poor water quality due to stagnant well water. Tanks and system piping left open during the off season can also allow contamination into the system.

If you operate a seasonal public water system you can prepare for the upcoming season by following a few precautions before serving water to the public.

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Photo: Richard Walker

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2018 Grant Period Now Open

Capacity Development, Source Water Protection, and Wellhead Protection grant applications are available to download on our website, www.medwp.com

Applications are due March 30th.

Maine Center for Disease Control and Prevention

An Office of the Department of Health and Human Services

Paul R. LePage, Governor Ricker Hamilton, Commissioner

Director's Corner

A Fond Farewell

Roger Crouse, Program Manager

Eighteen years ago, I walked into the office of the Drinking Water Program to start as the supervisor of the Field Inspection Team. At the time, I had very little idea of the journey before me. By the time this article is published, I will have started a new adventure as the General Manager of the Kennebec Water District in Waterville.

I have been richly blessed to work and associate with some incredibly wonderful and dedicated people over the past 18 years; including those at the Drinking Water Program, Maine CDC, US EPA, public water systems, and numerous others in the drinking water community.

My time at the Drinking Water Program has been filled with constant learning and growth. As many of you know, I have made mistakes along the way, but this has helped me gain valuable experience that has shaped me as a leader. I appreciate your patience as I have worked to overcome these challenges

Over the past 18 years, many good things have happened in the Drinking Water Program. I do not take credit for the success. I know our improvements have come through the efforts of numerous individuals, teams, groups, and organizations working together for safe drinking water. I leave the Drinking Water Program in the hands of my very capable and hardworking staff. They will continue to support you in your efforts to meet the regulatory requirements and protect the health of your customers.

Safe drinking water is an essential component of public health protection. Our lives and the lives of our families are improved because of the numerous efforts to improve public health. As you continue your work to either directly supply safe drinking water or support those that do, I hope you can see your role in the larger public health picture. Our work reduces the risk of illness and helps Mainers enjoy longer and healthier lives.

Yours for safe drinking water,
Roger

Roger

Roger and DWP staff, December 2017

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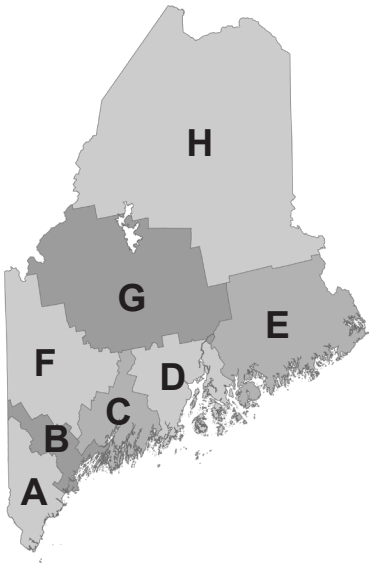

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Seasonal System Start-up

- **Inspect your well:** If you do not have a sanitary sealed well cap, or if the well cap is loose, take off the well cap and check to see if there is debris inside. Bugs and other critters can introduce bacteria into the water system. Use a shop vacuum to remove any unwanted material. If your well cap does not seal, replace it with a new one. Remember, the Ground Water Rule says that you must have a sample tap before your pressure tank, so you can collect source samples if your water tests positive for coliform.

- **Disinfect the system:** Water in your pipes and in your well sits over the winter and stagnates. If you've drained the system, there's a good chance that bacteria have moved in. You can kill bacteria by adding bleach to your well. You must use bleach that has been approved for disinfecting drinking water (e.g. Clorox®). Guidance for disinfection can be found on our website (www.medwp.com) under the Seasonal Water System section of our Public Water System webpage. Many systems break apart sections of water lines in the fall to ensure they are drained. You can help speed up disinfection by adding bleach directly into the water pipes before re-connecting.

- **Run your well to fill the system:** Turn on faucets at the ends of the system to push chlorinated water into all of the pipes. When you smell chlorine coming out of the taps, shut off the water and let it sit overnight. Chlorine works best if it is allowed to stay in contact with contaminated materials overnight.

- **Flush the chlorine out:** After you have let your water sit overnight, open the faucets and allow the chlorinated water out of the system. Use a hose to direct the chlorinated water to places where it won't damage vegetation or come in contact with surface water. Don't flush chlorinated water into your septic system because the chlorine can kill the 'good' bacteria in your septic system.

- **Flush your tanks:** Be sure to drain and refill your water storage tanks to remove rusty water and ensure that the valves still work. Continue flushing until the water is no longer discolored.

- **Walk your pipes:** If you have lines that run over the ground, take a walk around to make sure that they are not leaking. Leaking lines may result in bacteria entering the system and can increase your power costs,

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as more water will be pumped than is needed. It can also run your well dry when you least want it.

- **Wait a week before taking bacterial samples:** We strongly encourage collecting an Operations and Maintenance (O&M) total coliform bacteria sample to ensure your efforts to prepare for the season have been successful. O&M samples do not count toward annual testing requirements.

- **Collect your initial compliance samples within 30 days** of opening as required by the Maine Rules Relating to Drinking Water. You can find information about required water tests and testing frequency in the Annual Testing Requirements letter that was mailed to your system.

REMEMBER: Seasonal water systems must perform a State-approved startup procedure before serving water to the public. Seasonal water systems must also provide certification to the DWP that they have completed a State-approved startup procedure. This form must be completed and submitted to the DWP before serving water to the public.

If you have any questions regarding the compliance requirements for your system, call your Public Water System Inspector at 287-2070.

Don't Get Caught Unprepared, Sign the MEWARN Agreement Today!

Sara Flanagan

The Maine Water/Wastewater Agency Response Network (MEWARN) Agreement allows water and wastewater utilities in Maine to receive rapid mutual aid and assistance from other water and wastewater utilities across the State to restore services damaged by natural or man-made incidents. When utilities sign the MEWARN Agreement, it allows them to share personnel and equipment with any other water or wastewater utility in Maine that has also signed the MEWARN Agreement. There is no fee to join, and assistance is provided on a voluntary basis only - there is no requirement to respond or provide resources. Visit www.mewarn.org for more information or to download the MEWARN Agreement.

Maine Water/Wastewater Agency Response Network
MEWARN
Utilities Helping Utilities

Collaboration - Working Together Toward Shared Goals

Sophia Scott

Protecting land around drinking water sources is one of the best ways to ensure clean and safe water for consumers.
Photo: Maine Department of Environmental Protection

Protection of the land surrounding our drinking water sources is the most effective tool to ensure clean and safe drinking water for Maine people. While water systems may see themselves alone in efforts to protect their drinking water sources, many groups across the State are working toward similar goals. For example, one of the main objectives of land conservation organizations is to preserve land for future generations. This can overlap with a water system's work in protecting their drinking water source if the conservation land lies within their source watershed or wellhead protection area. By working collaboratively toward shared goals, water systems and land conservation groups may be able to leverage their individual resources to make a bigger impact in source protection. This past November, three land conservation groups and three water systems came together in a focus group to discuss the potential benefits and the major obstacles in source protection collaboration. Outcomes will be shared with a larger audience of both water systems and land conservation groups to gather additional feedback, suggestions, and concerns. The overarching goal of this effort is to develop a 'toolkit' that will help water systems and neighboring land conservation groups work together toward the shared goal of drinking water source protection.

Are you interested in collaborating with land conservation groups? Do you know which groups are conserving land in your source water protection area? You can search for neighboring land conservation groups by county on the Maine Land Trust network website: http://www.mltn.org/search-county.php. Contact Sophia Scott at 485-4058 or sophia.scott@maine.gov with any questions about this source protection collaboration initiative.

What is the WIIN Act and How Will it Impact My Water System?

Holly Hockertlotz

The Water Infrastructure Improvements for the Nation (WIIN) Act passed by Congress in December 2016 modified the Safe Drinking Water Act as it relates to individual household exceedances of the lead action level. The changes impact the Environmental Protection Agency (EPA), state, and public water systems that serve affected household(s). Most public water systems already work diligently with the Maine CDC Drinking Water Program to meet notification requirements for samples collected under the Lead and Copper Rule. The need for the WIIN Act rises from cases when the EPA receives notification of a lead level above 15 parts per billion from a source that is not public water system or state. This could include samples collected by citizens served by public water systems or samples collected by EPA as part of research or special projects.

When EPA is notified of a drinking water lead result for a household served by a public water system, a series of steps must be taken to meet the new requirements under the WIIN Act. Specifically, the changes will impact how the affected household(s) will receive proper notification on (1) the potential adverse effects of lead on human health, (2) the steps that the public water system is taking to mitigate the concentration of lead, and (3) the necessity of seeking alternative water supplies until the concentration of lead is mitigated.

The EPA will forward sampling data to public water systems and the state. The public water system must then share lead education information with the impacted household(s). The EPA has developed templates to deliver all the required lead education materials. These templates can be found on the EPA website at: www.tinyurl.com/WIINAct (see Appendix B) or on the DWP website (www.medwp.com). Should you need assistance determining which lead education materials must be provided to your consumers, please contact Sophia Scott (485-4058 or sophia.scott@maine.gov).

PFAS Study

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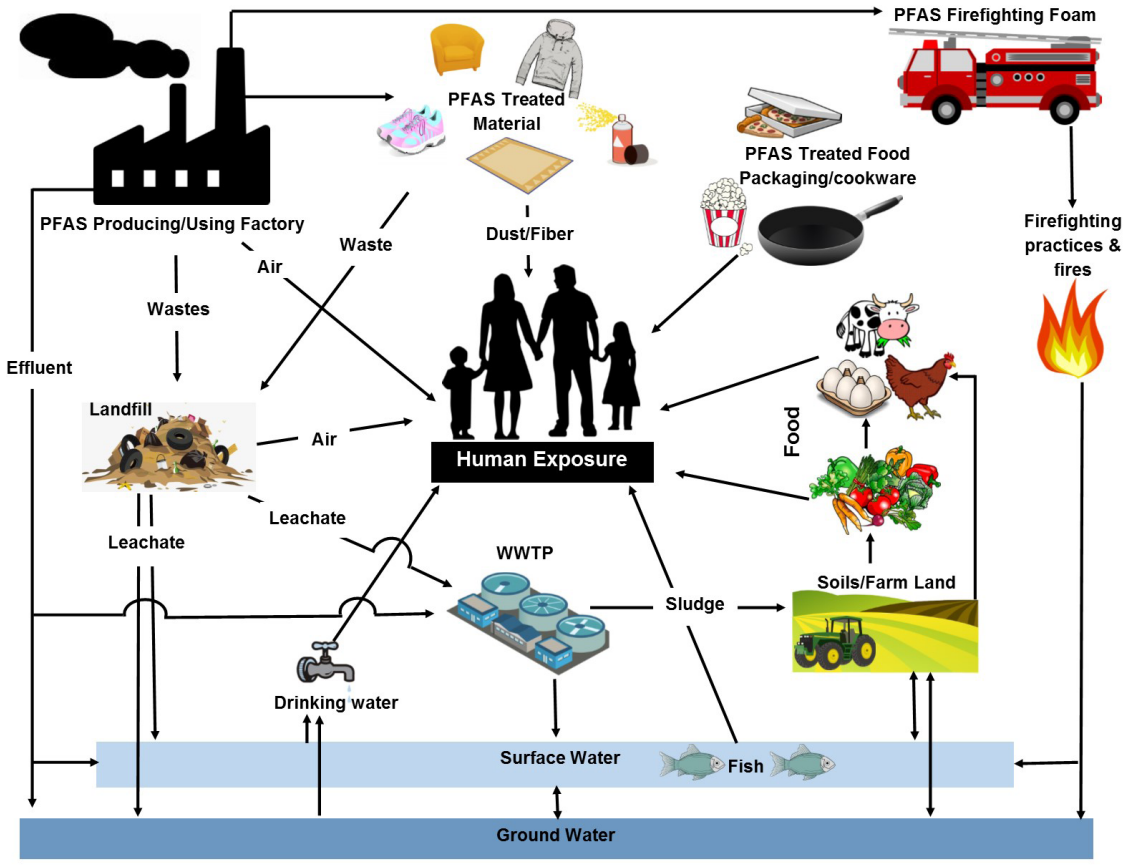
Where do PFAS come from? These chemicals are used in fabrics for furniture, paper packaging for food, and other materials such as non-stick cookware and sticky notes. They are also used in fire suppression foam. They are widely used because they are resistant to water, grease, and stains. Because of this widespread use, most people have been exposed to PFAS and have these chemicals in their blood from non-drinking water sources. Drinking water can be an additional source of PFAS in places where these chemicals have entered water supplies. Although these chemicals have been largely phased out of production in the U.S., they are still being imported and they can remain in the environment and in the human body for years.

What are the health effects of PFAS? Studies on laboratory animals have shown that elevated levels of PFOS and PFOA can cause reproductive, liver, kidney, and immune system effects. Both chemicals have caused cancer in animal studies. Other research highlights a consistent linkage between elevated PFOA and PFAS exposure and increased cholesterol levels in humans. These human studies have also shown that exposure to high levels of these chemicals is related to low infant birth weights, effects on the immune system, cancer (for PFOA only), and thyroid hormone effects (for PFOS). Additional information on PFOA and PFOS can be found on the EPA's website, www.epa.gov/pfas.

What should I do if my water does have PFASs?

- DO NOT boil your water. Boiling water will not remove these chemicals.
- Reduce your risk of exposure to these chemicals by using bottled water.
- Use water from a safe source for drinking and infant formula preparation.
- Bathing: routine bathing and showering are not a major source of exposure to PFAS. As a precaution, you may consider shorter showers or baths, especially for children who may swallow water while playing in the bath.
- Washing Dishes and Clothing: Doing laundry or washing dishes are also not considered major sources of exposure to PFOA or PFOS
- Using a Humidifier: If you use a humidifier, only use water from a safe source.



Human Exposure and sources of PFAS
Image: DWP, adapted from Oliaei et al. 2013.

A Financial Comparison of Sampling Schedules - Monthly vs. Quarterly

Teresa Trott

Many public water systems serving a population of 1,000 or fewer are allowed to monitor their water quality for total coliform (TC) bacteria only once each quarter.[1] While quarterly TC bacteria sampling may seem the obvious choice, in some cases, systems may find advantages to increasing their TC bacteria monitoring frequency to monthly. Some of these advantages include:

1. Systems on quarterly sampling must collect three samples in the month following a sample result that is positive for TC bacteria. Systems on a monthly sampling frequency will only be required to collect one sample (the routine monthly sample) in the month following a TC bacteria positive. This saves the system the cost of at least two TC bacteria samples.
2. If any samples collected in the following month are TC bacteria positive, three repeat TC bacteria samples are required (three samples for each TC positive). A system on quarterly monitoring that takes three samples the following month could be required to collect up to nine repeat samples if all three samples are TC positive. A system on monthly sampling would only be required to collect a maximum of three TC bacteria samples if the one monthly sample was TC positive. This saves the system the cost of up to six TC bacteria samples.
3. A system on quarterly monitoring, with multiple TC positive bacteria samples in a year, will likely be required to change to monthly sampling. A voluntary shift to monthly may get you to the same result at a lower cost.
4. There is no more wondering if this is the right month to take a bacteria sample. Systems on monthly sampling must collect a bacteria sample once each month, for every month they are in operation.

If you are currently on quarterly monitoring, and you are confident in the quality of the water you are delivering to your customers, then a voluntary change to monthly monitoring may not be warranted. However, if you have had any history of water quality issues, you may want to consider switching your TC bacteria monitoring to monthly now rather than waiting until after you have spent much more money on TC bacteria sampling. If you have questions, please contact your public water system inspector.

[1] The default TC bacteria sampling requirement for community and seasonal non-community systems is monthly. However, these systems may be placed on quarterly monitoring if the requirements for reduced monitoring are met. Year-round non-community systems are generally on quarterly monitoring schedules. However, these systems may be placed on monthly sampling because of water quality or other system conditions warrant.

DWP Welcomes New Staff

William (Bill) Dawson joins the Drinking Water Program as the Chief Engineer and the Engineering and Water Resources Team leader. Bill comes to us from the engineering consulting world, where he has spent the last 35 years of his career working with water and wastewater utilities. A graduate of the University of Maine in Orono and a licensed professional engineer in Maine, Bill has worked with dozens of water utilities throughout Maine and the New England on supply, treatment, hydraulics, storage and other infrastructure projects. Outside of work, he enjoys woodworking, boating, biking, hiking, traveling, and spending time with his family. (Phone 287-6196, or email william.dawson@maine.gov.)

Tina (L) and Bill (R) braving the chilly weather along the Kennebec.

Tina Lemieux joins the Drinking Water Program as the new Licensing Clerk. Tina was in the Army for 10 years and deployed twice to Iraq as a cook, medic, and then as a nurse. She is currently attending Kaplan University to complete a Bachelor of Science degree in Healthcare Administration. Outside of work, she enjoys cooking, water sports, cross country skiing, and traveling. (Phone 287-5699, or email tina.lemieux@maine.gov.)

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