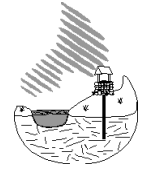


SUPPLY LINES WITH THE SOURCE



Newsletter of the NHDES Drinking Water & Groundwater Bureau
on the web at www.des.nh.gov

Fall 2018

SB247: Prevention of Childhood Lead Poisoning from Paint and Water Act

New Hampshire Senate Bill 247 was signed into law on February 8, 2018, launching a wide range of actions from state agencies to schools, private child care facilities and landlords, aimed at testing, reducing, mitigating and preventing children's exposure to lead from paint and water.

For water purveyors, the goal is to prevent any additional lead exposure from drinking water. In this regard, SB247 requires the State to test lead in drinking water at private homes where childhood lead poisoning is identified at or above blood lead levels of 7.5 micrograms per deciliter (mcg/dL) starting July 1, 2019 and eventually at 5 mcg/dL starting on July 1, 2021. It also requires lead testing at all private and public schools and licensed child care facilities where "water is available for consumption by children."

To meet this directive, in July 2018, NHDES' Drinking Water and Groundwater Bureau coordinated with New Hampshire Departments of Health and Human Services and Education to issue water sampling and remediation requirements to approximately 630 private and public schools, and about 800 licensed child care facilities, which apply whether the facilities use town water or their own well water. The first round of testing must be completed between now and July 1, 2019. Sampling shall be conducted every five years. If results are below the 15 ppb (parts per billion) action level for three consecutive rounds, testing will no longer be required.

Many schools in larger municipalities conducted testing when NHDES issued voluntary guidelines in 2016. Any

lead results collected from 2016 to the present may be used toward the first round of testing. Test results must be communicated to parents and guardians within five days of receipt from the laboratory. Any facilities

testing at 15 ppb lead or higher must immediately provide alternate, safe water and must be remediated per a NHDES approved plan within 30 days, or as specified by NHDES.

The complete guidance, which includes the letter to schools and child care facilities, and additional information on lead, are posted on the NHDES [Lead in Drinking Water](http://www.des.nh.gov) page at www.des.nh.gov, A to Z Topics, "Lead in Drinking Water".

Questions may be directed to DWGBInfo@des.nh.gov or (603) 271-2513. ♦



Coming Soon!



PROTECT YOUR TAP
10 minute lead test

NHDES has partnered with the US Environmental Protection Agency (EPA) to create a web-based guidance document for homeowners to help them determine whether they have lead pipes and show them how they can reduce lead in their drinking water. The guide is in pilot testing and almost ready to be released to the public. The intent is for plumbers to assist with distribution but we are also exploring a variety of ways to offer the guide. If you are interested in offering this online resource to your customers, please contact Amy Rousseau at (603) 271-0893 or amy.rousseau@des.nh.gov. ♦

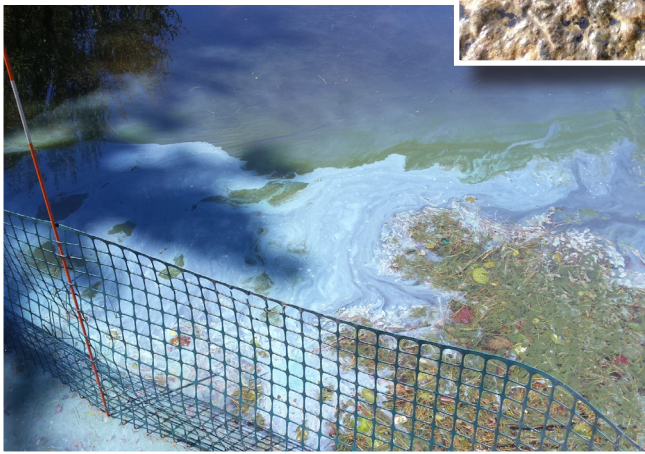
Funds Available for Cyanobacteria Monitoring

Cyanobacteria (formerly referred to as blue-green algae) blooms are an increasing global and national concern. These sudden, rapid increases of cyanobacteria populations within a waterbody can have negative implications for aesthetics, recreation and drinking water. Recent “cyanoHABs” (harmful blooms of cyanobacteria) in Oregon and Ohio, among other locations, have impacted drinking water utilities and resulted in the disruption of safe drinking water to consumers.


To promote proactive monitoring for indicators of cyanoHABs by public water systems (PWS) in the state, NHDES has made Cyanotoxin Monitoring Equipment and Training Grants

In 2017, two PWSs took advantage of the funding source and secured a total of \$12,126 to jump-start their monitoring programs. The grantees utilized the funds to purchase handheld fluorometers to analyze water samples

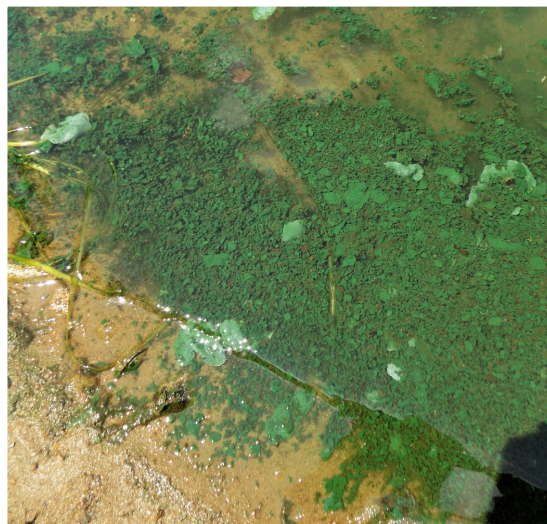
for pigments (phycocyanin and chlorophyll) associated with cyanobacteria, a microscope camera to aid in the identification and enumeration of cyanobacteria in water samples, and water sampling equipment. Grant funds were also used to contract the development of a monitor-



ing plan tailored to their watershed.

Cyanotoxin Monitoring Equipment and Training Grant applications will be accepted at any time and qualifying applications will be funded on a first-come, first-served basis. More information regarding this funding opportunity, including an application, can be found at <https://www.des.nh.gov/organization/divisions/water/dwgb/cyano-response-training.htm>. 

available. The grants offer up to \$10,000 to PWSs utilizing a surface source of water and are available to reimburse the system for the cost of equipment and/or training to develop and implement a cyanobacteria monitoring program. Eligible items under this grant include, but are not limited to, instruments used to measure indicators of cyanobacteria, training related to cyanobacteria monitoring, and the development of a system-specific monitoring plan.



Three cyanobacteria blooms in New Hampshire

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Goffstown Selectmen Adopt Private Well Testing Ordinance

Last March the Goffstown Board of Selectmen exercised their authority under RSA 147:1 (Local Regulations) and RSA 41:14b (Adoption and Amendment of Town Codes and Ordinances) to adopt an ordinance requiring private well testing, entitled the “Certificate of Occupancy Requirements – Water Quality.” The ordinance requires water testing for wells installed as part of any new construction. Testing requirements in the ordinance closely align with NHDES’ recommendations regarding private well testing, referred to as the “Standard Analysis.”

When any person or company seeks a certificate of occupancy (CO), the ordinance requires that the applicant submit a lab report from an accredited lab demonstrating the well water meets water quality standards, i.e., is below maximum contaminant levels (MCLs) for the contaminants listed in the ordinance. If the well water doesn’t meet those standards, the town could require a water treatment system or deny the CO.

For those purchasing newly constructed homes in Goffstown, the new ordinance will result in greater confidence in the quality of their well water. To read the ordinance online, visit the Town of Goffstown’s website at <http://www.goffstown.com/images/documents/ordinances/town-property/CertificateOfOccupancyWaterQuality.pdf>. ♦

DWGB Calendar of Events & Deadlines: November 2018 – April 2019

- November 1 Local Source Water Protection grant applications due, contact Andrew Madison at andrew.madison@des.nh.gov or (603) 271-2950, or see https://www.des.nh.gov/organization/divisions/water/dwgb/dwspp/lswp_grants.htm
- December 1 Asset Management Program grant applications due, contact Luis Adorno at luis.adorno@des.nh.gov or (603) 271-2472, or see <https://www.des.nh.gov/organization/divisions/water/dwgb/asset-management/index.htm>
- January 10 Disinfection Byproducts and Chlorine Residual report for Quarter 4 – 2018 due, contact Jackie Howarth at jacqueline.howarth@des.nh.gov or (603) 271-0672
- April 10 Disinfection Byproducts and Chlorine Residual report for Quarter 1 – 2019 due, contact Jackie Howarth at jacqueline.howarth@des.nh.gov or (603) 271-0672
- April 19 State Revolving Fund and Drinking Water and Groundwater Trust Fund Workshop, contact Emily Nichols at emily.nichols@des.nh.gov or (603) 271-8320
- Anytime Cyanobacteria Monitoring and Training grant applications accepted, contact Tyler Davidson at tyler.davidson@des.nh.gov or (603) 271-3906, or see <https://www.des.nh.gov/organization/divisions/water/dwgb/cyano-response-training.htm>
- Anytime Record Drawing grant applications accepted, contact Johnna McKenna at johnna.mckenna@des.nh.gov or (603) 271-7017, or see <https://www.des.nh.gov/organization/divisions/water/dwgb/documents/record-drawing-grant-app.doc>
- Anytime Tank Inspection grant applications accepted, contact Luis Adorno at luis.adorno@des.nh.gov or (603) 271-2472, or see <https://www.des.nh.gov/organization/divisions/water/dwgb/asset-management/index.htm>

To see event calendars for additional opportunities, please visit:

Granite State Rural Water Association at www.granitestatewater.org

New Hampshire Water Works Association at www.nhwwa.org

New England Water Works Association at <http://newwa.org>

Arsenic and PFAS Drinking Water Standards

The New Hampshire Legislature passed three bills this session that may result in new drinking water standards for public water systems (Maximum Contaminant Levels or MCLs) and groundwater clean-up standards (Ambient Groundwater Quality Standards or AGQS) for arsenic and per- and polyfluoroalkyl substances (PFAS). The “PFAS bills” also require that NHDES develop a plan to establish a surface water standard. With the exception of a MCL for the gasoline additive MtBE, New Hampshire, like most states, has relied on the EPA to set MCLs after considering occurrence data, the ability to treat and detect the contaminant, and the cost and benefit associated with complying with the standard. These bills direct NHDES to set or recommend MCLs and AGQSs, and one of the bills provides funding for a toxicologist and a health risk assessor to assist with setting these standards. The bills are explained further below:

Arsenic in Drinking Water

The current arsenic MCL is 10 parts per billion (ppb). This standard was lowered from 50 ppb in 2001. At 10 ppb, the risk of developing cancer from long-term consumption is 1 in 300 persons. This is a considerably higher risk than is normal for a drinking water

contaminant but reflects the cost of implementing the standard and the ability to reliably treat arsenic at lower levels. A 2014 study by Dartmouth College estimated that elevated arsenic concentrations in private wells in New Hampshire were responsible for 830 bladder and lung cancer cases. More recently, a CDC study noted that New Hampshire has the highest rate of bladder cancer cases in the country (36 percent higher than the national average). The leading cause of bladder cancer is arsenic

consumption. Accordingly, [House Bill 1592](#) requires NHDES to review the groundwater standard for arsenic to determine whether it should be lowered, given new science and potential advancement in treatment and analysis. NHDES is also reviewing the MCL for arsenic, since any reduction in the groundwater standard would effectively lower the MCL. As is done across the nation and in the few states that set MCLs at the state level, NHDES will take into consideration the extent to which arsenic is found, the ability to detect it, the ability to remove it, its impact on public health, and the costs and benefits to affected entities. By January 1, 2019, NHDES will submit a report of this review to the House and Senate. If a change is proposed, the General Court must first approve it.

PFAS in Drinking Water

PFAS are a large group of manufactured chemicals that have been found in New Hampshire’s groundwater, particularly at the former Pease Air Force Base and in southern New Hampshire. These ubiquitous chemicals are used in many commercial products, including

water-repellent commercial products, industrial and manufacturing processes, and certain types of fire-fighting foam. They occur in groundwater via direct discharges to the ground and through air deposition from industrial stacks. In 2016, NHDES established a groundwater quality standard for two PFAS chemicals (PFOA

and PFOS) of 70 parts per trillion (ppt) for each of the chemicals separately or in combination. This standard was based largely on an EPA Health Advisory Level. This is not a drinking water standard but rather an enforceable cleanup standard when contaminants are found in the environment. [Senate Bill 309](#) and [House Bill 1101](#), passed this session. They are essentially the same and require NHDES, in consultation with other interested parties, to review pertinent information and determine criteria



New Hampshire capital building

Billy Hathorn

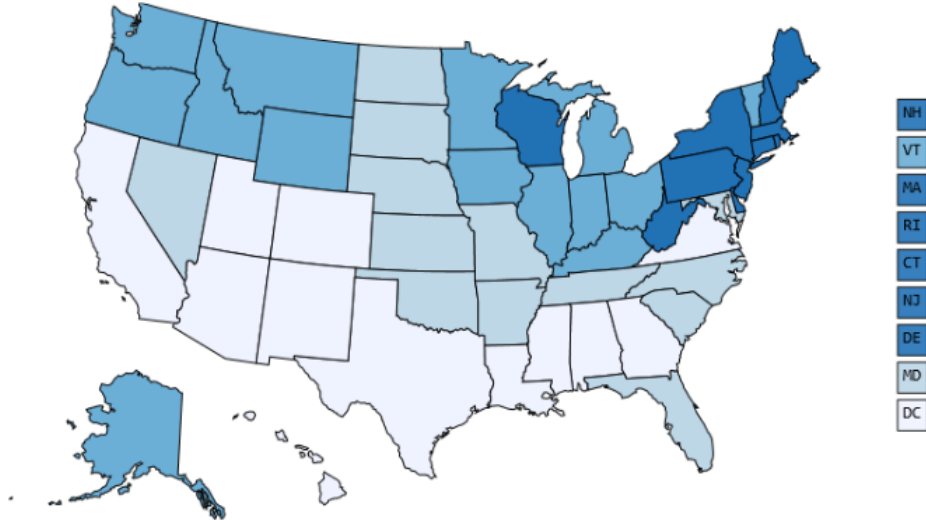
(Arsenic and PFAS, continued on pg 5)



Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

Rate of New Cancers in the United States

Urinary Bladder, All Ages, All Races/Ethnicities, Male and Female Rate per 100,000 people, 2011-2015



Rate per 100,000 people

13.7 - 19.0

19.2 - 21.4

21.5 - 22.8

23.0 - 27.7

U.S. Cancer Statistics Working Group. U.S. Cancer Statistics Data Visualizations Tool, based on November 2017 submission data (1999-2015): U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; www.cdc.gov/cancer/dataviz, June 2018

for setting air, surface water, groundwater and public drinking water quality standards for PFAS chemicals. More specifically, by January 1, 2019, NHDES is directed to initiate rulemaking to adopt MCLs and AGQs for two new PFAS chemicals without current standards (PFNA and PFHxS) and to report whether current research warrants revising the 70 ppt standard for PFOA and PFOS. More PFAS facts, including treatment options, are available at: <https://www4.des.state.nh.us/nh-pfas-investigation>.

NHDES welcomes participation of stakeholders in development of all of these standards and will solicit input from all interested and affected parties. As this newsletter goes to press, obtaining necessary expertise and performing research is well underway and a plan for stakeholder involvement and communication is still being developed. More information is available at the links contained in this article or by contacting Sarah Pillsbury at sarah.pillsbury@des.nh.gov or (603) 271-1168. 💧

State-of-the-Art Groundwater Treatment System at Pease

In April, a new water treatment plant began operation at Pease Tradeport, at the site of the former Firefighting Training Area of the former Pease Air Force Base in Portsmouth.

The pump and treat system is cleaning up highly contaminated groundwater at the site and helping to prevent water contaminated with per- and polyfluoroalkyl substances (PFAS) from migrating to residential wells in Newington and to the City of Portsmouth's drinking water wells.

The plant, the first of its kind in the United States, uses

(State-of-the-Art, continued on pg 6)

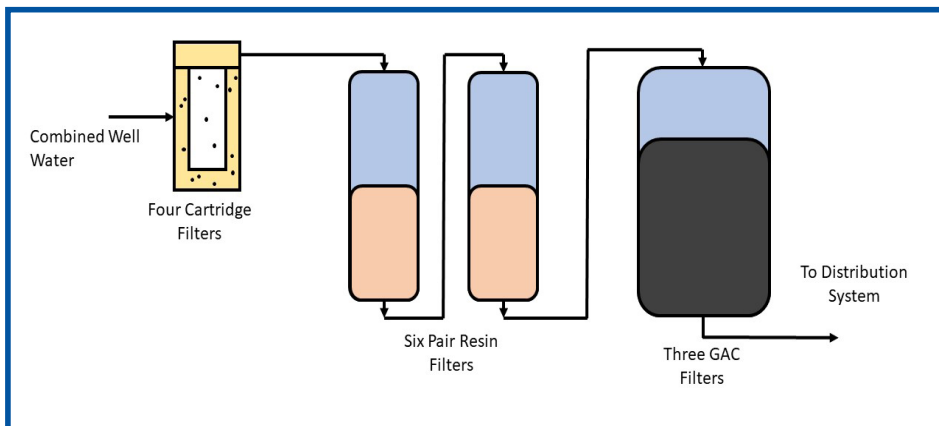
Recently Approved DWGB Rules



The Joint Legislative Committee on Administrative Rules (JLCAR) recently approved the following rules managed by DWGB. If you have questions on a specific recently approved rule, please contact the staff person listed below. If you are interested in receiving emails when proposed DWGB rules are in the rulemaking process, please email Debra Sonderegger at debra.sonderegger@des.nh.gov.

<u>Rule</u>	<u>Date Approved</u>	<u>DWGB Rule Contact</u>
<ul style="list-style-type: none"> Disinfection Residuals, Byproducts, and Byproducts Precursors (Env-Dw 715) 	June 1, 2018	Richard Skarinka, (603) 271-2948 or richard.skarinka@des.nh.gov
<ul style="list-style-type: none"> Filtration, Disinfection, and Waste Recycling Treatment (Env-Dw 716) 	June 1, 2018	Richard Skarinka, (603) 271-2948 or richard.skarinka@des.nh.gov
<ul style="list-style-type: none"> Date of Incorporated Federal Regulations (Env-Dw 101.04) 	July 21, 2018	Holly Green, (603) 271-3114 or holly.green@des.nh.gov
<ul style="list-style-type: none"> Privately Owned Redistribution Systems (Env-Dw 1200) 	July 24, 2018	Richard Skarinka, (603) 271-2948 or richard.skarinka@des.nh.gov
<ul style="list-style-type: none"> Groundwater Discharges of Wastewater Containing 1,4-Dioxane and the Required Response to Exceedances of Ambient Groundwater Quality Standards (Env-Wq 402 amendments) 	September 1, 2018	Stephen Roy, (603) 271-3918 or stephen.roy@des.nh.gov

(State-of-the-Art, continued from pg 5)



Schematic for the Pease Tradeport PFAS treatment system

a special resin and granulated activated carbon to remove PFAS from the water. The water enters the plant at ~50,000 parts per trillion (ppt) for PFAS. The treated water is injected back into the ground with no detectable PFAS. It is expected to take five to ten years of operation before the PFAS levels in the groundwater at the site to begin to drop.

The treatment facility is expected serve as a model for long-term cleanup at other PFAS-contaminated sites nationwide. 💧

Operator Profiles:

Timothy Duval

Timothy Duval is a water treatment plant operator with Manchester Water Works and is one of the youngest grade IV certified treatment operators in the state of New Hampshire.

Please tell us about your water system. Manchester Water Works (MWW) was established in 1871 and now serves a population of about 160,000 in the greater Manchester area. The 50 MGD conventional treatment facility was first commissioned in 1974 and significantly upgraded in 2006. MWW employs eleven full-time operators to run a highly complex, state-of-the-art treatment facility 24/7/365 on three daily 8-hour shifts.

Well before the 2006 facility upgrade, MWW became a charter member of the Partnership for Safe Water. "The Partnership's mission is to improve the quality of water delivered to customers by optimizing water system operations. The Partnership offers self-assessment and optimization programs so that operators, managers and administrators have the tools to improve performance above and beyond even proposed regulatory levels." In early 2012, MWW was recognized as only the eleventh utility in the nation to achieve the challenging Partnership for Safe Water award for "Excellence in Water Treatment." In 2017, MWW was further recognized at the American Water Works Association Annual Conference in Philadelphia, PA for maintaining optimized performance for five consecutive years and is among a very small group of optimized water treatment facilities nationwide.

These significant accomplishments would not be possible without the tireless dedication of MWW operators

and other department employees who demonstrate and maintain a quality-first culture on a daily basis. The bottom line: MWW provides sustained optimized treatment along with one of the lowest customer water rates in the region.

What was your first job? My first job was actually at the water works. In 2001, I was hired as a seasonal laborer at the treatment plant just after I graduated high school. The chief operator at the time was impressed with my work ethic and helped get me into the water works meter department where I was a meter reader for about

a year before returning to the plant in 2003 where I've been ever since.

What is your favorite part about being a water works operator?

My favorite part of being a water treatment plant operator is the variety of jobs we perform.

What have you learned which you wish you'd known when you first started in the industry? Because I worked at the plant as seasonal help, I had a pretty

good idea of what I was in for as an operator but I think it's very important for anyone getting into the field to realize that this job is a lifestyle. We work 24/7 weekends, nights, holidays, snow storms and hurricanes; we're always open and running.

What advice do you have for new operators? The best advice I could give new operators is the same I received when I had just started in the business: stay humble but be confident. Get involved, observe and ask questions. Some of the best untapped resources are the operators that came before you. I was very fortunate to have had many people around me at the beginning, and still to this day, who were always glad to share their wisdom and experience. 💧



Timothy Duval

DWGB Personnel News

We are pleased to welcome Michael (Mike) Unger, P.E., who is providing engineering reviews and technical assistance for the Drinking Water and Groundwater Trust Fund. Mike has extensive experience in design and construction of public water systems throughout New Hampshire and most recently was a senior project engineer with Underwood Engineers.

We also want to thank retiring staff member Joan Fitzsimmons, DWGB Lead and Copper Program, for her many years of service and contributions to the agency. Joan retired on August 31, 2018 after 20+ years of work for the State of New Hampshire. 💧



Michael Unger

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