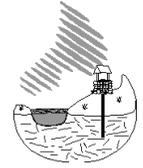




SUPPLY LINES WITH THE SOURCE



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

Fall 2020

Southern New Hampshire Regional Water Project Update

The Southern New Hampshire Regional Water Project is the state's largest regional water distribution system interconnection. Once complete, it will supply up to one million gallons of water per day from Manchester Water Works through the Town of Derry to the Towns of Windham, Plaistow, Salem and the Hampstead Area Water Company, Inc. (HAWC), which serves customers in the Towns of Hampstead and Atkinson. These communities are in need of additional water because of reduction in supply capacity due to contaminated local wells and the region's growing population.

Since August 2020, Salem and HAWC have been connected to the project. Water is expected to be available to users in Windham in late 2020 and to the Town of Plaistow as early as spring 2021.

The New Hampshire Drinking Water and Groundwater Advisory Commission has approved \$29.4 million in grant funds from the New Hampshire Drinking Water and Groundwater Trust Fund for design and construction of the project. These funds, in combination with funds from the partner water systems and other funding sources, have supported 13 construction contracts throughout the project starting in September 2019.

New Hampshire State Senator Chuck Morse, chair of the Commission, stated, "I am proud of the critical role the Commission played in financing this project and of the hard work done by my fellow Commission members. This project is truly groundbreaking, with five communities

and a water utility servicing two additional communities all coming together to solve a problem in a way where

everyone benefits. We have truly 'written the book' on how to do this, and I hope this project serves as a model for other communities across the state and encourages thinking about water not just on a town or water precinct level, but a regional level. Without all the hard work done by countless individuals at the Department of Environmental Services, and the commitment by all communities involved, this project would not have been possible."

NHDES wishes to thank the many individuals and organizations that have contributed and are contributing to the ongoing success of the project. 💧



20-inch ductile iron water main installation along Route 28, Windham

New NHDES Website Coming Soon!

The NHDES website is being redesigned. The new site will be organized by environmental topics with a more robust search function and will work well on cell phones, making access even easier.

Hotlinks in this issue link to the old website. If a link is broken, type the key words into the search box on the new site.

More Protective Arsenic Standard Will Reduce Risk for Many

New Hampshire's new maximum contaminant level (MCL) of 5 parts per billion (ppb) for arsenic in public water systems will take effect July 1, 2021. In May 2020, NHDES began contacting individual public water systems (PWSs) likely to be affected. New Hampshire is the second state, after New Jersey, to adopt an arsenic MCL that is more protective than the federal MCL of 10 ppb. NHDES has also adopted the same 5 ppb limit as an enforceable Ambient Groundwater Quality Standard (AGQS).

The change in the standards was far from sudden. The federal MCL of 10 ppb was controversial when USEPA adopted it in 2001, and the standard has been under review since 2003. In 2018, New Hampshire House Bill (HB) 1592 directed NHDES to conduct a review of the arsenic MCL and AGQS. After NHDES recommended lowering the standards to 5 ppb, the Legislature enacted HB 261 in 2019 directing NHDES to adopt the more protective standards.

Naturally occurring arsenic contamination is widespread in New Hampshire groundwater. Over a third of our public water systems have arsenic in their untreated water and an estimated 25-30% of private residential wells have arsenic at 5 ppb or higher. With nearly half of New Hampshire residents using private wells at home, NHDES estimates that 116,000 private well users are drinking water with more than 5 ppb arsenic.

New Hampshire residents pay a heavy price for having arsenic in their water supplies. Arsenic is associated with increased risks of bladder, lung, and skin cancers, and New Hampshire ranks first in the nation for bladder cancer incidence. More recent research, some of it conducted at Dartmouth College and involving New Hampshire residents, has implicated arsenic – even below 10 ppb – in adverse birth outcomes, health problems during infancy, reduced childhood IQ, and increased death rates from cardiovascular disease.

The cost of complying with the new standards is also significant. NHDES estimates that approximately 310 PWSs (community and non-transient) will have to add or upgrade their treatment in order to comply, at a total capital cost of about one million dollars. The new AGQS will result in about twice that amount in capital costs for compliance at facilities with groundwater discharge permits.

Most of the affected water systems will need to add an adsorption system or replace the treatment media more frequently if they already use adsorption, while others will use iron-arsenic (greensand) filtration or anion exchange. Technical assistance with identifying and evaluating treatment alternatives is available from DWGB by contacting Cindy Klevens at cynthia.klevens@des.nh.gov.



PROTECT YOUR TAP 10 minute lead test

EPA and NHDES created the Protect Your Tap: 10-minute lead test, an online guide that walks homeowners through a series of steps to see if they have lead pipes bringing water into their home, how to reduce their exposure to lead and how to get their water tested.

If you would like to share the guide with your community, please contact Cynthia Klevens at (603) 271-3108 or cynthia.klevens@des.nh.gov for more information. Check out the [Protect Your Tap website](#).

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PFAS Updates

NHDES is pleased to announce that Amy Rousseau has been selected as NHDES' first PFAS Response Administrator. This position is intended to oversee, help develop and implement agency-wide study, investigation, testing, and treatment associated with PFAS contamination. Amy previously worked in the Engineering Section for the Drinking Water and Groundwater Bureau. For more information, contact Amy Rousseau at amy.rousseau@des.nh.gov.

On July 23, 2020, House Bill 1264 was signed into law. The bill establishes maximum contaminant levels (MCLs) for four PFAS compounds (PFOA – 12 ng/L, PFOS-15 ng/L, PFNA-11 ng/L and PFHxS-18 ng/L) in state law. The MCLs were previously established in agency rules in 2019, but a legal challenge halted the implementation of the MCLs in December 2019. Litigation has since been resolved and the implementation of the PFAS MCLs is ongoing with water systems resuming compliance sampling in the fourth quarter of this year (October 1 – December 31). HB 1264 also established the statutory framework for developing a new \$50 million low-interest loan fund that can be used by community water systems and non-profit, non-transient public water systems that have a source of water that exceeds a state MCL for PFAS. The loan fund can also be used by qualifying wastewater treatment facilities to address PFAS issues. The bill requires that NHDES develop rules to implement the program and this work is currently ongoing. Lastly, HB 1264 requires health insurance companies to provide coverage for PFAS blood testing. 💧

DWGB Calendar of Events & Deadlines: November 2020 – April 2021

Various dates:	Risk assessment and emergency planning deadlines; reference the AWIA deadlines box on page 4 or see EPA's America's Water Infrastructure Act: Risk Assessments and Emergency Response Plans website
November 2	Local Source Water Protection grant applications due (subject to availability of funds); contact Bess Morrison at bess.morrison@des.nh.gov or (603) 271-2950
December 31	Certification for Risk and Resilience Assessment for Community Water Systems serving 50,000-99,999 people due to EPA; contact Stephanie Nistico at stephanie.nistico@des.nh.gov or (603) 271-0867
January 10	Disinfection Byproducts and Chlorine Residual report for Quarter 4 – 2020 due; contact Kimberly Durgin at dwmonitoring@des.nh.gov or (603) 271-2516
March 31	Deadline for ALL Community Water Systems to submit an updated emergency plan. Plans are due every six years to DWGB regardless of system size; contact stephanie.nistico@des.nh.gov or (603) 271-0867
April 10	Disinfection Byproducts and Chlorine Residual report for Quarter 1 – 2021 due; contact Kimberly Durgin at dwmonitoring@des.nh.gov or (603) 271-2516
Anytime	Cyanobacteria Monitoring and Training grant applications accepted (subject to availability of funds); contact Liz Pelonzi at ann.pelonzi@des.nh.gov or (603) 271-3906
Anytime	Tank Inspection grant applications accepted (subject to availability of funds); contact Luis Adorno at luis.adorno@des.nh.gov or (603) 271-2472

To see event calendars for additional opportunities, please visit:

[Granite State Rural Water Association](#)
[New Hampshire Water Works Association](#)
[New England Water Works Association](#)

Risk Assessments and Emergency Plans for Community Water Systems Due Next Year



By June 30, 2021, community water systems (CWSs) serving more than 3,300 people must prepare a risk and resilience assessment (RRA) and an emergency response plan (ERP) under America’s Water Infrastructure Act (AWIA). This is the first year a CWS will need to implement the new requirements and this process will require re-certification every five years. Meeting AWIA requirements is a two-step process. A CWS needs to certify to EPA that (1) a RRA was conducted; and within six months after that, (2) certify that an ERP was updated based on findings of the RRA.

Visit the [EPA website](#) for a list of items to include in your RRA and ERP. EPA does not require water systems to use any designated standard, method or tool but there are resources available to assist in meeting these requirements including the [Vulnerability Self-Assessment Tool](#) and the [Small System Risk and Resilience Assessment Checklist](#). After conducting and certifying completion of the RRA, a water system must develop or update an ERP based on the findings of the risk assessment and [certify that this work has been completed](#).

In addition, the NHDES Drinking Water and Groundwater Bureau requires an updated emergency plan from CWSs of all sizes every six years.

AWIA and Env-Dw 503.21 Deadlines

CWS Population Served	Risk Assessment Certification Due to EPA	Emergency Plan Certification to EPA	Emergency Plan Submittal to NHDES
100,000+ people	3/31/2020	9/30/2020	3/31/2021
50,000 – 99,999	12/31/2020	6/30/2021	3/31/2021
3,301 – 49,999	6/30/2021	12/30/2021	3/31/2021
3,300 or less	n/a	n/a	3/31/2021

The next deadline is March 31, 2021. For more information about these requirements, please contact Stephanie Nistico at (603) 271-0867 or stephanie.nistico@des.nh.gov.

New Drinking Water and Groundwater Bureau Administrator

Brandon Kernan took the reins as the new administrator of NHDES’ Drinking Water and Groundwater Bureau (DWGB) in August. Brandon is already well known to water system managers and operators as the supervisor of DWGB’s Hydrology and Conservation section, which includes the permitting programs for new community water systems wells, large groundwater withdrawals, and discharges to groundwater; the State’s water use and conservation program; as well as the Water Well Board program. Brandon has been heavily involved in NHDES’ statewide investigation into the prevalence of per- and polyfluoroalkyl substances (PFAS) contamination, coordinated the state Drought Management Task Force, supported the state Groundwater Commission for several years, played a key role in the state’s case against oil companies responsible for widespread MtBE contamination, and coordinated work



Brandon Kernan

(Administrator, continued on pg 5)

(Administrator, continued from pg 4)

with a broad group of stakeholders to divert pharmaceuticals from the waste stream to prevent groundwater contamination. He has also worked with managers of water systems to improve cooperation in the regional management of water resources and to improve water conservation. Colleagues recognize Brandon as a tireless researcher and a collaborator with stakeholders in shaping the State's policies aimed at protecting groundwater and drinking water.

Brandon worked for water systems and consulting firms in the southwest and northeast prior to joining NHDES in 2000. He has a Bachelor of Science degree in Hydrology and Water Resources from the University of Arizona and a Master of Science degree in Civil and Environmental Engineering from Tufts University.

As the new administrator, Brandon notes "New Hampshire's water resources have been well managed and protected over the last several decades thanks to the efforts of partner organizations and water systems throughout the state. We are also extremely grateful to Sarah Pillsbury, who retired as the administrator at the end of July, for her many decades of leadership and support that have ensured that the citizens of New Hampshire have safe drinking water. Sarah's work to improve the management of the quality and quantity of water, in addition to permanently protecting thousands of acres of land in critical source water protection areas has been extraordinary. I look forward to continuing her great work as well as working with our partners over the next several months to identify, prioritize and address existing and future challenges facing the industry." 💧

Operator Training

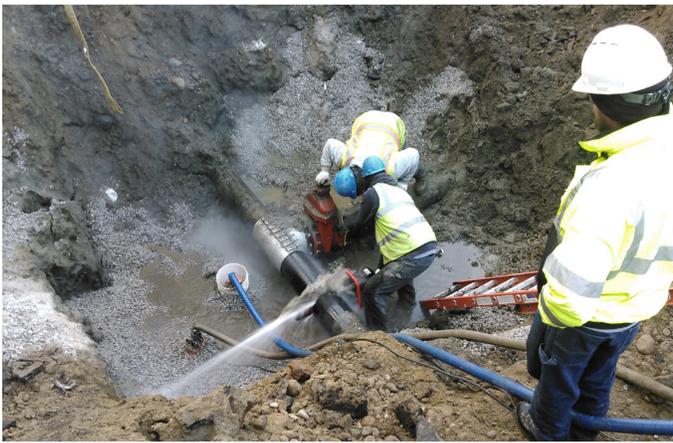
Due to COVID-19, NHDES has not been able to offer drinking water exams as in the past. Thankfully, for individuals needing to take a certification exam, grade 1-4 exams can be accessed through a different process, one allowing increased examinee safety.

For details, please contact Wade Pelham at (603) 271-2410 or wade.pelham@nh.des.gov.

Water Operators and the Pandemic

Throughout the COVID-19 pandemic, essential workers have provided vital services to keep their communities safe. Among New Hampshire's essential workers are public water system operators whose responsibility it is to protect public health by providing access to clean water. Now more than ever, operators have a heightened responsibility to meet customer expectations to minimize the spread of COVID-19 by providing access to safe water for drinking, cleaning and handwashing. THANK YOU to our water system operators for your service and resiliency through these unprecedented times.

Operators have been quick to implement safety protocols based on the Centers for Disease Control (CDC) guidelines and State emergency orders to continue operation at their utilities. This has included identifying critical employees and functions, altering staff schedules, and practicing flexibility where possible, in order to prevent exposure to and the spread of COVID-19.



Operators cutting 1950's cast iron water main to repair broken pipe under tapping sleeve at main feed to high pressure zone.

However, maintaining full system operations has not been without its challenges. Operators have faced revenue impacts, challenges to collecting required samples, delays in flushing schedules, and the need for more personal protective equipment (PPE), among other disruptions.

The pandemic has highlighted the importance of emergency planning beyond how to respond to a typical water main break or boil order. Emergency plans are being put to the test as we continue to respond to this ongoing event. While emergency plans include necessary information, we saw the need for a backup continuity of operations plan (COOP) to help maintain chemical inventory when supplies were at risk, PPE,

(Water Operators, continued on pg 6)

Recently Approved DWGB Rules

Arsenic MCL Effective July 1, 2021

The rules within Env-Dw 704 establish maximum contaminant levels (MCLs) and maximum contaminant level goals (MCLGs) for regulated inorganic contaminants. Env-Dw 704.02 has been amended to reduce the MCL for Arsenic from 0.010 mg/L to 0.0050 mg/L effective July 1, 2021.

For questions related to water system compliance, please contact Harrison “Chip” Mackey, at (603) 271-0655 or by email at harrison.mackey@des.nh.gov. If you have questions related to treatment, please contact Cynthia Klevens, P.E., at (603) 271-3108 or cynthia.klevens@des.nh.gov.

If you are interested in receiving emails when rulemaking is initiated for a DWGB rule, please email Holly Green at holly.green@des.nh.gov.



(Water Operators, continued from pg 5)

and backup staff, especially for small systems that may have limited resources to perform day-to-day functions.

Communication with customers, state and local officials, and other water utilities, to help and learn from one another has been pivotal. At the State level, NHDES DWGB held weekly conference calls to address operators' concerns and identify solutions. Each week, important information was sent out to water system staff in the form of a FAQ document, which incorporated the latest information from the calls. We appreciate the participation and feedback we received to help operators navigate through these trying times.



Today and every day, NHDES DWGB extends our appreciation to our water system operators for treating and distributing safe water to our faucets. Although you are working behind-the-scenes, your efforts do not go unnoticed. 💧

Operator vactoring the submersible station influent wetwell.

2020 Drought: Behind the Scenes

NHDES had been carefully tracking the development of drought conditions since the spring. Due to a low snowpack and below normal precipitation, by the end of May, abnormally dry conditions developed across the state. Dry conditions persisted and a month later, approximately 70% of the state was experiencing moderate drought conditions—the first of four stages of drought (D1-D4) classified by the U.S. Drought Monitor. Over the summer, drought has persisted or intensified in some regions of the state, while in other regions localized storms relieved drought conditions, but only temporarily as more hot and dry weather followed. At “press” time, the entire state was categorized as experiencing drought, 73% of the state was categorized as experiencing “severe drought” (D2) and 19% of the state was categorized as experiencing “extreme drought” (D3). Some relief appeared to be in sight, with rain forecast over the next few days and the 8- to 14-day precipitation outlook favoring above normal precipitation. In comparison to the conditions of the 2016 drought during the same time period and at its peak intensity, the current drought is more severe and widespread. In 2016, heavy rains at the end of October helped to improve drought conditions, but the majority of the state transitioned into winter in a drought. The U.S. Seasonal Drought Outlook predicts drought conditions to decrease in intensity, but like in 2016, persist across the majority of the state into winter.

While drought impacts became more apparent in September, with stream flows down to a trickle in many areas, res-

(2020 Drought, continued on pg 8)

Operator Profiles: Justin Hanscom

Justin Hanscom is the Deputy Director of Municipal Services for the City of Franklin, New Hampshire. He holds Grade 2 New Hampshire Water Works Operator Treatment and Distribution certifications.

Please tell us about your water system. The City of Franklin's system is fairly complex for its size. We have three gravel packed wells that run through an iron and manganese filter plant. The other source is a 52 well point vacuum system that pumps to three main tanks. There are also two other pressure zones, each fed from booster pump stations. The total of five tanks hold a supply of approximately 3.25 million gallons. There are about 52 miles of water main and about 2,400 service connections.

What was your first ever job? My first job was as a carpenter mainly installing doors, windows and siding.

How long have you been in the profession? I started by taking a course through NHDES on my own in January of

2010 and started in the water industry in August of 2010 with the Pembroke Water Works.

What is your favorite part about being a water works operator? The problem solving you encounter in either distribution or treatment. There is always something that you need to work through. Also the history behind each water system. Why and how they were started and the changes that have taken place for them to develop into the public water systems you have today.

What have you learned that you wish you'd known when you first started in the industry? How to shovel in a wet and muddy hole. You really work a lot harder with little result while learning how to get down to a leak.

What advice do you have for new operators? Write stuff down and keep good notes

and records. While each scenario is different you might be able to find the solution in past problems or info that could help. There will be people after you that rely on what you have left behind for information. 💧



Justin Hanscom

2020 Annual Source Water Protection Conference Cancelled

NHDES' annual Drinking Water Source Protection conference, rescheduled from last May to December 15, 2020, has been cancelled due to on-going health concerns related to the COVID-19 pandemic.

Next year's conference is expected to be held at the Grappone Center in May 2021.

Hope to see you there!

The Merrimack: River at Risk

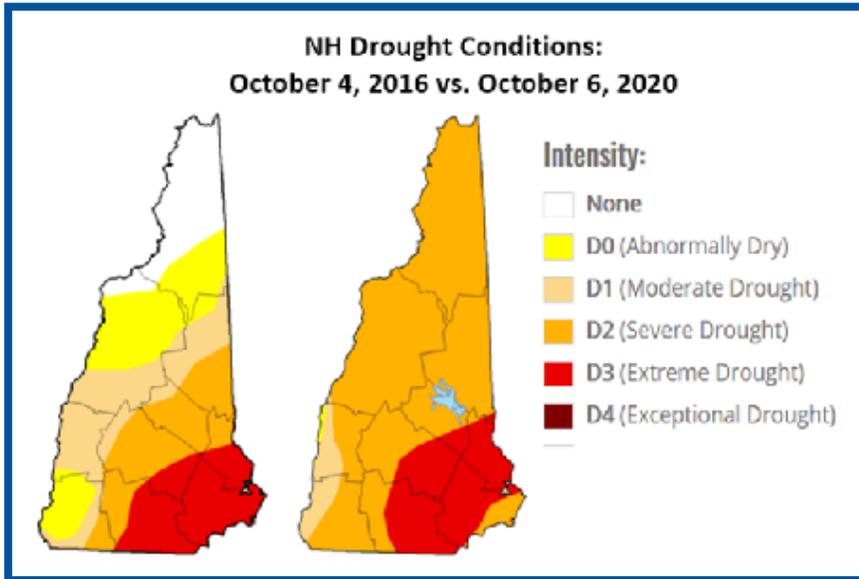
The story of the Merrimack River, one of the most threatened watersheds in the U.S., and the towns and cities that have relied on it throughout history.

To watch

The Merrimack: River at Risk visit <https://nhpbs.org/merrimackriver/>

(2020 Drought, continued from pg 6)

ervoirs levels below normal, and reports of private well shortages, NHDES staff from across the Water Division and NH Geological Survey worked steadily behind the scenes to manage impacts on drinking water supplies, recreation and aquatic life. To minimize impacts on lake levels through the summer, the NHDES dam operations team held back more water earlier in the season when drought was looming. When portions of the Lamprey and Souhegan Rivers incurred particularly low flows, the Instream Flow Program coordinated with water users in those watersheds to implement management plans to protect flows, including a release of water from dams on the Lamprey River to provide relief to aquatic organisms. When drought conditions emerged and the majority of the 31 monitoring wells across the state began to drop below normal, NHDES held Large Groundwater Withdrawal Permit holders to permit conditions related



Source: U.S. Drought Monitor

to reducing withdrawals during drought and urged community water systems and municipalities to implement outdoor water use restrictions. To date, 166 community water systems and seven municipalities have implemented restrictions. NHDES has also been leading the state's Drought Management Team and if more severe impacts arise, NHDES will work with partners on the team to coordinate additional actions including an emergency response if needed. For the latest information on drought conditions and management in New Hampshire, go to www.des.nh.gov and search for "Drought" to navigate to the "Drought Management" webpage. 💧



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