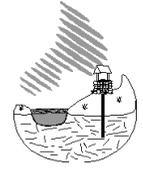




SUPPLY LINES WITH THE SOURCE



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

Summer 2020



ADMINISTRATOR'S COLUMN

Sarah Pillsbury, Drinking Water and Groundwater Bureau

Parting Thoughts

I love water: to be out on, to swim through, to shower with and, maybe most importantly, to drink. So, all these years working with fellow water devotees has been my great privilege. Among those I admire most are the men and women who operate water systems. They are 24-7 heroes that deliver water through thick and thin, currently through a pandemic that sent most people to the safety of their living rooms. Since I am soon to step down as the Administrator of the Drinking Water and Groundwater Bureau, I would like to dedicate this column to water operators and the water works community I am so fortunate to be a part of.

In many ways I stumbled into drinking water. I had the good fortune to grow up in New Hampshire and spend summers at a camp my folks built on one of our refreshing, spring-fed lakes. That experience led me to the early conclusion that I lived in a beautiful place and wanted to work to keep it that way. Hence, a few years after college I started with NHDES, whose mission it is to protect the environment.

Early on came the opportunity to develop New Hampshire's approach to source water protection. It was then that I began get to know the operators, fellow regulators, consultants, academics, drinking water associations, local officials, water commissioners and vendors that all play a role in providing safe and reliable drinking water.

While it takes the efforts of many, it is the water system operators who are the heart of public drinking water. They are the ones on the front line of delivering water to most of New Hampshire's communities. While always a job that requires public service and 24-hour on-call duty, the challenges for public water systems are greater than ever. These include ageing infrastructure and an increasing concern about affordability; a changing climate that has brought more intense storms, flooding and power outages as well as the potential for more droughts; the increased ability to detect contaminants at lower levels; and increased consumer scrutiny, and access to information and misinformation about drinking water quality.

What is so impressive about water operators is their capacity to meet any challenge that presents itself. At a recent hearing on the new PFAS standards, a water operator calmly explained that while everyone needs to consider that drinking water must remain affordable for New Hampshire families, it was a water system's job to meet standards that protect people's health. "It's what we do," he said.

The response to COVID-19 is another example of the adaptable, can-do approach of water operators, from implementation of preparedness measures to



Sarah Pillsbury, outgoing DWGB Administrator



Concord Water Treatment Plant Mask Loading Crew L-R John Cochran, Ian Chase and Randy McLane



Kathy Beliveau, City of Keene

(Parting, continued on pg 2)

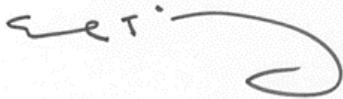
(Parting, continued from pg 1)

finding completely new ways to isolate shifts so that there would always be healthy staff to “make the water.” In addition, water systems in different parts of the state, including Dover, Concord, Keene, Plymouth, North Conway and Winnepesaukee River Basin, eagerly stepped up in May to receive thousands of protective masks for distribution to their fellow operators.

Unfortunately, most days, drinking water operators are unsung and under-valued heroes. My hope is, through the continued efforts of public water systems, NHDES, and the great drinking water organizations that operate in New Hampshire (NHWWA, NEWWA, GSRWA, and RCAP), more citizens will come to recognize the importance and value of having safe tap water delivered at an affordable price each and every day.

Finally, beyond water operators, I want to recognize and thank all of you who support safe drinking water. In New Hampshire, that includes the incredibly dedicated staff that I have had the pleasure to work with throughout my time at NHDES. I am so proud of the great achievements we have made together in partnering for safe drinking water and grateful to all of you who have made them possible.

Thank you all,



NHDES Website is Getting a Makeover

Coming soon! The NHDES website is being redesigned. The new site will be organized by environmental topics with a more robust search function. The site 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.

DWGB Guidelines for Startup and Flushing Procedures for Reopening Facilities

At the time of the writing of this article, the NHDES’ office building and many other facilities have either temporarily closed or had significant reduction in water use due to COVID-19. It appears that may continue for some time.

Operators of water systems at locations that have been closed temporarily, or that have a significant reduction in water use, should follow proper startup and flushing procedures.

Startup and Flushing Procedures for Facilities Served by Municipal and Large Water Systems: Facilities such as restaurants, schools and businesses served by a municipal or large water system may be temporarily closed or have substantially reduced their water consumption due to the social distancing requirements. All public water systems have continued to monitor water quality in accordance with their water sampling plans including bacteria and all regulated water parameters. However, if water remains stagnant in the piping, it can cause conditions that may increase the risk for growth of bacteria, including Legionella, and create unsafe levels of lead and/or copper. To ensure that water is safe to drink when the facility is returned to normal service, it is recommended that all hot and cold taps be flushed through all points (faucets, showers, ice machines, dishwashers) to reintroduce fresh water throughout the building. Hot water taps should be flushed until it reaches its maximum temperature, and cold water taps should be flushed until water runs cold, indicating fresh water from the main.

(Flushing, continued on pg 3)

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DWGB Calendar of Events & Deadlines: August 2020 – January 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](#)
- September 10 Drinking Water and Groundwater Trust Fund (DWGTF) Source Water Protection funding application due for projects that have been determined to be eligible; contact Sandy Crystall at sandra.crystall@des.nh.gov or (603) 271-2862. Check [DWG Trust Fund SWP grant website](#) for updates.
- September 10 DWGTF Annual Drinking Water Infrastructure funding application due; contact Erin Holmes at erin.holmes@des.nh.gov or (603) 271-8321. Check [DWG Trust Fund construction projects website](#) for updates.
- September 30 [Certification for Emergency Response Plans for Community Water Systems](#) serving more than 3,000 people due to EPA; contact Stephanie Nistico at stephanie.nistico@des.nh.gov or (603) 271-0867
- 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 15 Source Water Protection Conference; registration will be through the American Ground Water Trust, visit <https://agwt.org>
- 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
- 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](#)

(Flushing, continued from pg 2)

Startup and Flushing Procedures for Non-seasonal, Stand-alone Water Systems: Small public water systems that have been temporarily closed such as schools, daycares, restaurants or small businesses should continue all scheduled water quality sampling as directed by DWGB to maintain your readiness to reopen when permitted to do so. All hot and cold taps should be flushed as described above. Once thorough flushing is completed, continue your scheduled water quality sampling.

Seasonal systems that depressurize their piping must follow the seasonal startup procedures and submit certification to the state.

Additional Guidance: For additional guidance to ensure the safety of the building's water system and devices after a prolonged shutdown, please see the CDC's [Guidance for Building Water Systems](#) or EPA's [Information on Maintaining or Restoring Water Quality in Buildings with Low or No Use](#).

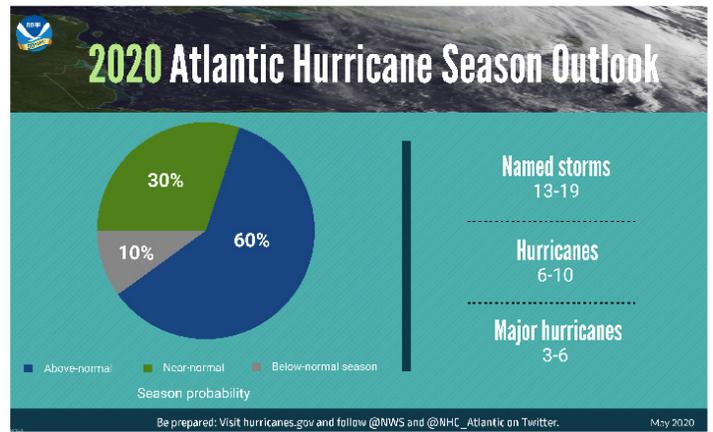
For more information on startup and flushing procedures, please see the DWGB [Startup and Flushing Procedures for Facilities Temporarily Closed](#) located on our website. 💧

Hurricane Season – Are You Ready?

The National Hurricane Center is predicting an above-average Atlantic hurricane season in 2020. This prediction is based on key factors including increased sea surface temperatures in the tropical and subtropical Atlantic and the likely absence of El Niño at the peak of the hurricane season. The Atlantic hurricane season runs from June 1 through November 30.

Hurricanes and tropical storms have the potential to cause damage to drinking water and wastewater utilities. During this time, COVID-19 may impact the disaster preparedness plans you have in place. It is important to review your emergency plan with those considerations in mind.

The USEPA has created a [Hurricane Checklist](#) to help utilities plan for, respond to, and recover from hurricanes. Additional resources may be found at the [NOAA](#) and [USEPA](#) websites. For more information, please contact Stephanie Nistico at stephanie.nistico@des.nh.gov or (603) 271-0867. 💧



<https://www.noaa.gov/media-release/busy-atlantic-hurricane-season-predicted-for-2020>

Risk Assessment and Emergency Plan Deadlines for Community Water Systems

America’s Water Infrastructure Act (AWIA) of 2018 requires community water systems (CWS) serving more than 3,300 people to complete a risk and resilience assessment and to develop an emergency response plan every five years. Additionally, all community water systems are required to submit an updated emergency plan to NHDES DWGB under Env-Dw 503.21 every six years. For more information please contact Stephanie Nistico at stephanie.nistico@des.nh.gov or (603) 271-0867. 💧

AWIA and Env-Dw 503.21 Deadlines

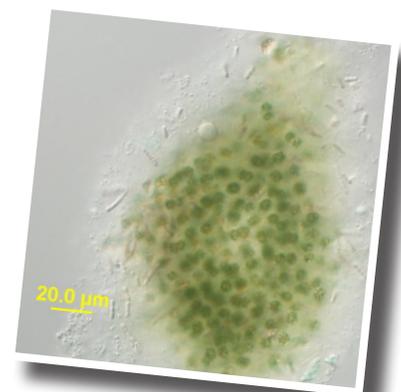
| CWS Population Served | Risk Assessment Certification Due to EPA | Emergency Plan Certification to EPA | Emergency Plan Submittal to DES |
|-----------------------|--|-------------------------------------|---------------------------------|
| 100,000+ people | 3/31/2020 (deadline passed) | 9/30/2020 | 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 |

Additionally, all community water systems are required to submit an updated emergency plan to NHDES DWGB under Env-Dw 503.21 every six years. For more information please contact Stephanie Nistico at stephanie.nistico@des.nh.gov or (603) 271-0867. 💧

Cyanotoxin Monitoring Equipment and Training Grants

As warmer weather is upon us, the time has come to be more vigilant in monitoring for cyanobacteria in your source water. Daily visual observations of your surface source (reservoir or lake) and fluorometer readings are important to keep apprised of water quality changes associated with cyanobacteria blooms. Some cyanobacteria have the potential to create taste and odor issues and produce harmful toxins.

A great way to start is to apply for a NHDES Cyanotoxin Monitoring Equipment and Training grant. The grant assists public water systems, lake and watershed associations and municipalities to develop monitoring plans, obtain training and purchase



Microcystis aeruginosa

(Cyanotoxin, continued on pg 5)

(Cyanotoxin, continued from pg 4)

eligible monitoring equipment. Don't be caught off guard by sudden, potentially harmful cyanobacteria blooms. Complete the [Cyanotoxin Monitoring Equipment and Training application](#) and submit it according to the instructions on the form. Applications will be processed subject to availability of funds. Please contact Liz Pelonzi at ann.pelonzi@des.nh.gov or (603) 271-3906 if you have questions or need assistance. 💧

This Old Tank

Hydropneumatic tanks are bladderless pressure vessels typically operating below 75 psi (pounds per square inch). Hundreds of aging public water systems in New Hampshire depend on these tanks for pressure and storage; and most hydro-pneumatic tanks are either of unknown age or older than their estimated design life of 30 years. Many have not been recently inspected, cleaned, or otherwise maintained. When these tanks fail, they usually fail by leaking through highly corroded bottoms – meaning that systems are paying electrical bills to pump the water directly back into the ground, never reaching consumers. Very rarely, hydro-pneumatic tanks fail by explosion. This happened in Stonington, Connecticut in 2015 (see “before” and “after” photographs at right).



Hydropneumatic tank before and after failure, Stonington, Connecticut, 2015. Connecticut Department of Public Health <https://youtu.be/k1V-ckIsW9M>.



for rehabilitation. Applications will be processed subject to availability of funds. Please contact Luis Adorno at luis.adorno@des.nh.gov or search the NHDES website for [Asset Management for Drinking Water and Wastewater](#).

Alternatively, the annual Drinking Water State Revolving Loan Fund offers community and non-transient, non-profit public water systems low-interest loans for proactive tank replacements, typically when coupled with upgrades of other system infrastructure. Pre-applications are due annually on June 15. For more information, please search the NHDES website for [Drinking Water State Revolving Fund](#).

Finally, DWGB Sanitary Survey inspectors will be citing Significant Deficiencies for poorly maintained or significantly corroded storage tanks of any type as part of our regular Sanitary Survey visits or Site Inspections. Tanks are one of the most critical assets within a water system. Properly maintaining them should be a top priority. Contact Luis Adorno (above) for more information about tanks and maintenance. 💧

Although the hydro-pneumatic tank was externally maintained and under normal operating pressure, forensic investigation found that the explosion was caused by internal corrosion and a manufacturing technique using only one-sided welds around the face of the tank.

NHDES strongly recommends that owners and managers of aged tanks contract with certified, professional tank inspectors to comprehensively evaluate their tanks' interiors and exteriors – perhaps even consider a tank replacement.

NHDES offers community public water systems a 50% Tank Inspection grant up to \$4,000 per atmospheric and hydro-pneumatic tank, with a maximum of \$10,000 per water system, to evaluate tank structure and potential



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](#).

Recently Approved DWGB Rules

The existing rules in 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.

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.



Drought Management and RSA 41:11-d

State law (RSA 41:11-d) enables municipalities, including village districts, to adopt regulations to restrict the use of water from private wells or public water systems for lawn watering at residences, institutions and commercial facilities when the state or federal government declares a drought condition for that region of the state. Public water systems have even broader authority (per RSA 38:26) to limit customer water use.

See [NHDES' Drought Management webpage](#) for more information and model regulations.

Local Source Water Protection Grant Program

NHDES offers grants to water systems, municipalities, planning commissions, county conservation districts, watershed associations, educational institutions and non-profits to protect lakes, rivers and aquifers used as sources of drinking water. Among other things, grants can be used to identify areas to protect, inventory and assess contamination risks, pay for land conservation transaction costs, and improve security systems (e.g., fencing, alarms, lighting) for public water supply sources.

Local Source Water Protection (LSWP) grants can play an important role in protecting valued drinking water sources. In 2019, the Stony Brook Cooperative in Rochester, New Hampshire received a LSWP grant to address the risks presented by aging residential heating oil tanks at a 50-and-older community, serving a population of 167 with 127 service connections. The objective was to protect wellhead areas from potential contamination due to failing fuel tanks at a system that could not afford to do so on its own. Working with Granite State Rural Water Association (GSRWA) they identified tanks with issues (e.g., in poor condition or lacking concrete slabs), ranked them as high or low risk, and addressed the high-risk tanks. The project assessed (Local Source, continued on pg 8)



*Out with the old tank,
in with the new!
Thanks to a LSWP grant.*

Operator Profiles:

Arik Jones

Arik Jones is the Superintendent of the Rye Water District. He holds Grade 2 NH Water Works Operator Treatment and Distribution certifications and is a NEW-WA-certified backflow tester.

Please tell us about your water system. The Rye Water District (RWD) is a Grade 2 Distribution, Grade 1 Treatment system with demand ranging from 0.3 MGD to 1.0 MGD (million gallons per day). The system is operated by four employees: one business manager, one superintendent and two operators. Water comes from three well sources. One 49' gravel pack with 525 gpm (gallons per minute) estimated production potential was developed in the mid-seventies as the first source water for RWD. Two bedrock wells, both 500' deep, were drilled in the late 1980s, with one producing 315 gpm and the other 365 gpm, both with iron and manganese issues. The system is non-chlorinated except when flushing in spring and fall, which makes us very vigilant addressing issues that may pose a risk of contaminating our system.

Regular treatment includes direct injection of caustic potash (KOH) at Garland gravel pack well to control pH, as the raw water averages about 6.3-6.4 pH. There are two pressure zones, and a booster station. The lower pressure zone has two tanks at 40' high with a combined storage capacity of 1.2 million gallons. The high pressure zone has one tank at 100' and storage capacity of 1.2 million gallons. We are also interconnected with the City of Portsmouth that allows us to deliver water in either direction at our office, which is also the original pump station for RWD. We buy bulk water from City of Portsmouth to supply residents in the most northern part of our system and maintain those mains. We sell bulk water to the City of Portsmouth at the southerly end of our system to supply some of their Greenland residents. In the past seven years we have installed a SCADA system and also installed two auto-switched propane generators to keep it all flowing without interruptions. RWD has 39 miles of pipe ranging from 2" to 12" consisting of cast iron, ductile iron and HDPE, 295 fire hydrants, 1,600 service connections and growing serving 4,000



Arik Jones

customers. At this time, we have approximately 90 testable back flow devices in our system with more coming as residential and commercial growth increase.

What was your first job? My first full-time job at age 16 was servicing motorcycles at a local shop. I worked on motorcycles spring through fall, then in the winter I would work for the used car dealer at the other end of the building where we serviced British sports cars like TVRs, Triumphs, MGs. I took a short break from New England and moved to Florida working as a flat rate mechanic, then returned. I finished my automotive career as an ASSE certified Mastertech with L1 & L2 certifications.

How long have you been in the profession? I've been in this profession for over 12 years. I started as an operator and worked my way up to become the superintendent this past January.

What is your favorite part about being a water works operator? The diversity is one of my favorite parts. One minute you can be having a meeting on top of a 100' tank only to find yourself later 16' below grade replacing a failed mechanical joint due to saltwater corrosion. Also creating new by-laws and working with state officials

to resolve issues. A big part of this job is learning how to communicate with the public at a level they can understand and feel comfortable with.

What have you learned that you wish you'd known when you first started in the industry? I wish I had known how wet and cold I would get at times in the beginning. I would have invested in better protective gear. Relocating 70' of 12" ductile iron pipe in -5° F weather is not one of my fondest memories.

What advice do you have for new operators? Recently I hired a new person without prior experience at the district. I tell him almost daily to keep your eyes open and be aware of what is going on around you at all times, the most minor thing can lead to a very significant change. Be polite, speak clearly and when you don't know, don't pretend like you do. Always be honest and create good working relationships with all customers and people that you work with. 💧

(Local Source, continued from pg 6)

18 sites, replaced 13 tanks with new double-walled Roth tanks with weather hoods and tie-down cables, and installed 13 concrete slabs. The community was also educated about best management practices resulting in the implementation of an annual tank inspection day.

LSWP grants can also help increase the level of protection for sources that are already protected. The City of Keene used a grant to improve security for a wellfield and pump house. The wellfield was accessible to the public and on several occasions over the past two years, staff observed unauthorized vehicles and evidence of illicit dumping in the vicinity of the wells. By constructing a security fence at main access points and gating the entrance drive, the City reduced ease of entrance to the property and potential contamination at the wells.

The 2021 application form is available online at <http://www.des.nh.gov>; search for [Local Source Water Protection Grants](#). The deadline for submitting applications is November 2, 2020. Applications will be processed subject to availability of funds. For more information contact Bess Morrison at bess.morrison@des.nh.gov or (603) 271-2950. ♦

Welcome to DWGB

Sandy Crystall recently joined DWGB's Planning, Protection and Assistance section after 22 years of working in the NHDES Wetlands and Watershed Management Bureaus on wetland permitting, outreach and training, wetland bioassessment and grant management. Sandy is administering the source water protection land conservation grant program under the Drinking Water and Groundwater Trust Fund and managing the Chemical Monitoring Waiver Program. Sandy has a bachelor's degree in Biology and has done post-graduate work in regional planning, natural resources and GIS. ♦



Sandy Crystall



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