ENVIRONMENTAL NEWS

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Newsletter of the New Hampshire Department of Environmental Services January-February 2019

COMMISSIONER'S COLUMN

The path to PFAS drinking water standards

This January, as directed by the legislature, NHDES will release initial proposed rules for establishing maximum contaminant levels (MCLs), or public drinking water standards, for four per- and polyfluoroalkyl substances (PFAS) – perfluorooctanesulfonic acid (PFOS), perfluorooctanoic acid (PFOA), perfluorononanoic acid (PFNA), and perfluorohexanesulfonic acid (PFHxS). To set these standards, state law requires NHDES to first consider the extent to which the contaminant is found in New Hampshire, the ability to detect the contaminant in public water systems, the ability to remove the contaminant from drinking water, and the costs and benefits to affected parties that will result from establishing the standard, and then develop a MCL for each compound that is acceptable in water for human consumption.

As those who have been following this issue know, NHDES has been investigating PFAS contamination of drinking water sources for several years. PFAS chemicals are part of a large class of chemicals that have been used for decades in commercial, industrial, and household products and applications, including production of water resistant materials, fire suppression foams, non-stick cookware, stain removers, etc. All four compounds (PFOA, PFOS, PFNA and PFHxS) have been detected in New Hampshire's groundwater and surface waters. Because of their widespread use and

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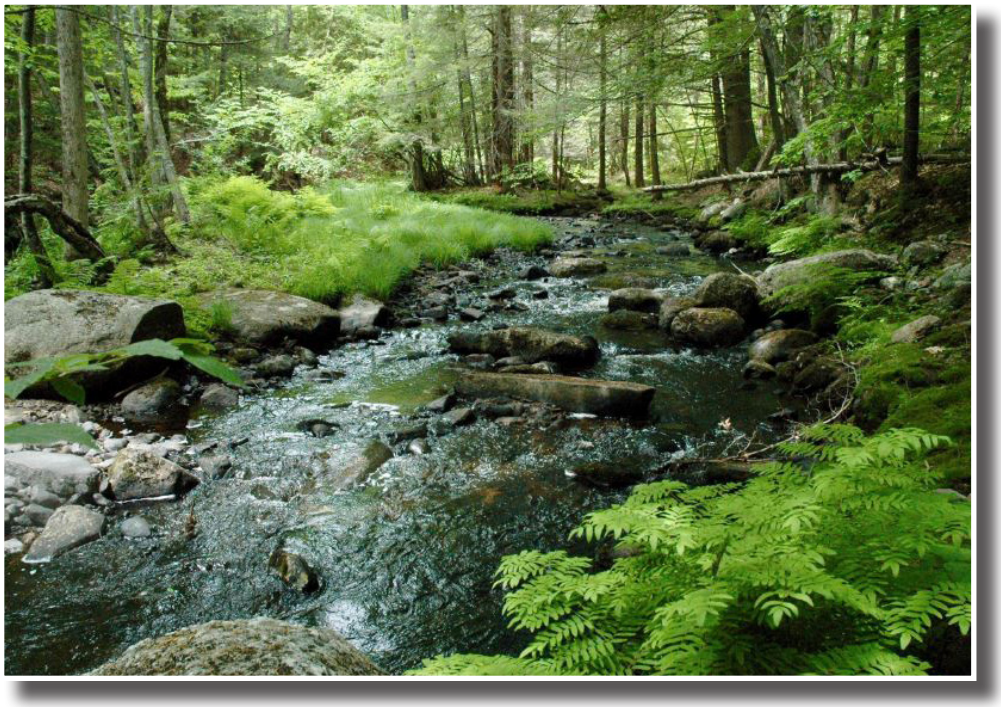
NHDES awards nearly $4.3 million in wetlands protection grants

The NHDES Aquatic Resource Mitigation (ARM) Program has awarded funding from the Aquatic Resource Mitigation Fund for 26 projects across the state, totaling $4,288,402.75. The projects cover the following towns: Albany, Auburn, Bath, Canterbury, Concord, Croydon, Durham, Epping, Francestown, Fremont, Goffstown, Grantham, Hanover, Haverhill, Jaffrey, Milford, New Durham, Newmarket, Newport, Northfield, Rindge, Stoddard, Surry, Tuftonboro, Weare and Winchester.

The NHDES ARM Fund, established by law, accepts payment as a mitigation option for certain projects that impact wetlands and are not able to provide other forms of mitigation. An ARM Fund Site Selection Committee is charged with selecting high priority projects that most effectively compensate for the loss of wetlands functions and values caused by the projects that paid into the Fund. According to the law, the chosen projects are subject to approval by the US Army Corps of Engineers and the New Hampshire Wetlands Council. ■



The Francestown Land Trust will protect 2,000 feet along the South Branch of the Piscataquog River and its tributaries; this will provide significant benefits to local wildlife and fisheries, with resident Wild Eastern Brook Trout in this section of the river.

Commissioner's Column *continued from page 1*

persistence in the environment, these compounds have been detected in blood serum in humans and animals worldwide, and scientists have studied their toxicity and health effects.

It is important to note that New Hampshire, like most other states, has always relied on EPA to set MCLs. EPA and the few states that set drinking water standards employ a variety of experts who derive protective health-based standards (e.g., toxicologists and health risk assessors), economists trained in cost-benefit analysis, and chemists and engineers who can determine lab and treatment capabilities. The new law that instructed NHDES to establish the MCLs provided our agency with funding for a toxicologist and health risk assessor, both of whom were recently hired. They have been a terrific addition to NHDES and were asked to hit the ground running to undertake this time-sensitive effort. NHDES was also able to engage the services of an outside expert to provide some additional assistance in the review of the toxicological information, but generally lacks the resources to evaluate the costs and benefits piece of such a rulemaking effort. As a result, work to date has primarily focused on deriving the individual health-based standards for PFOA, PFOS, PFNA and PFHxS. NHDES expects that additional work in such areas as benefit analysis will continue during the rulemaking process. This will be in tandem with considering public comments received on the initial rule proposals.

By adopting through rulemaking MCLs for PFOA, PFOS, PFNA and PFHxS, NHDES will be concurrently establishing an ambient groundwater quality standard (AGQS) for each of the compounds. An AGQS is the standard used to require remedial action and the provision of alternative drinking water at a contaminated site. It also dictates the conditions under which treated and untreated wastewater may be discharged to groundwater.

To date, a series of technical input meetings and public engagement sessions have enabled NHDES to benefit from the expertise of New Hampshire's citizens and businesses, and we thank everyone for their assistance. Public hearings on the proposed MCLs will occur in southern New Hampshire, at Pease Tradeport and in Concord, in early March, which will provide the public more than a month to review the proposal and companion report, soon to be available on the NHDES website. Depending on the comments received, I anticipate that the final proposals will be filed by summer, with the effective date of the new rules yet to be determined.

NHDES has been given a tremendous challenge to create appropriate health-based drinking water standards in the absence of commensurate federal standards. We appreciate the support we have been given by the New Hampshire Legislature and our citizens. We will look forward to receiving public comment and a constructive public process once the proposed rules have been published. ■

ENVIRONMENTAL NEWS

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New Environmental Health Section staff to assist with establishing PFAS standards

Senate Bill 309 (SB 309) was passed during the 2018 Legislative Session and recently went into effect. The bill authorizes NHDES to regulate groundwater pollution caused by air emissions of polyfluoroalkyl substances (PFAS), and established requirements to commence rulemaking for water standards for certain PFAS and their related precursor compounds by January 1, 2019. Recognizing the aggressive schedule and specialized technical resources needed to set these standards, SB 309 authorized General Funds for NHDES to hire a toxicologist and a health risk assessor. NHDES is pleased to report that two very well-regarded scientists, Jonathan Ali, Ph.D. and Mary Butow, M.S., recently started in these roles in the Environmental Health Section within the Air Resources Division.

Dr. Ali comes to NHDES from the University of Nebraska, where much of his graduate and post-doctorate work focused on aquatic toxicology. He holds a Bachelor of Science degree in Biology from Wright State University and a Doctorate in Environmental Toxicology from the University of Nebraska. Dr. Ali's experience with evaluating the toxicity of contaminated water/sediments on the environment, and his work with emerging contaminants, has already proven to be extremely helpful.

Mary Butow comes to NHDES from the Toxics Use Reduction Institute (TURI) at the University of Massachusetts, Lowell (UML). At TURI, Mary served as the Research and Reference Specialist and managed the TURI library. She holds a Bachelor of Arts degree in Chemistry (and Music!) from Lehigh University and a Master of Science degree in Occupational Epidemiology from UML. She also recently completed a Graduate Certificate from UML in Clinical Pathology. Mary's recent experience researching the health and environmental effects of perfluorinated substances for the Massachusetts Toxics Use Reduction Act Science Advisory Board has been very valuable to NHDES.

NHDES is pleased to welcome Jonathan and Mary to the agency as key assets for advancing its mission of protecting and preserving the environment and public health of New Hampshire. ■

New Hampshire Water and Watershed Conference

The 2019 conference will cover a wide range of topics, such as non-point source pollution, water quality and quantity issues, asset management and infrastructure, use of GIS and technology in water monitoring and management, outreach and social media, and aquatic ecological monitoring and assessment.

Conference registration will open in February, 2019.

Questions? Email nhwwc2019@gmail.com.

Stone wall mapper coming soon

In January, New Hampshire Geological Survey (NHGS) will launch a new interactive "New Hampshire Stone Wall Mapper," which will enable web-based mapping of the state's landscape of historic stone walls using Light Detection and Ranging (LiDAR). This crowd-sourcing map is made possible through a $14,487 grant from the New Hampshire Charitable Foundation and will help further NHGS' mission to provide the public with authoritative information on the state's landforms and to promote earth science education. ■

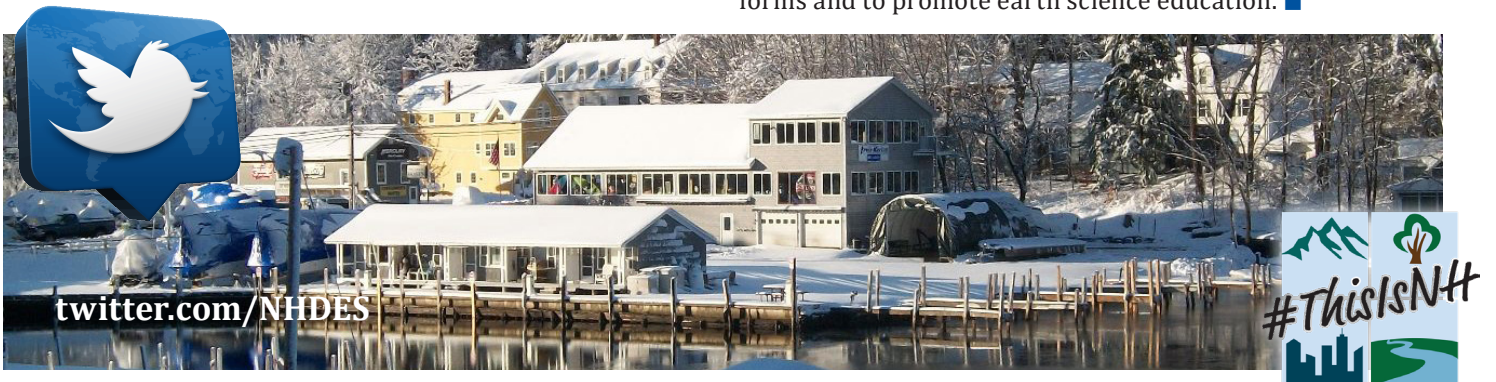

Image of Alton Bay from #ThisIsNH Storymap

2018 Employee of the Year – Johnna McKenna

Johnna McKenna's career at NHDES has been characterized by working hard, taking initiative and bringing people together to find solutions. She has been a "go to" person when new challenges arise and has led diverse efforts such as water system security after 9/11, emergency response to natural disasters, and managing the Drinking Water and Groundwater Bureau's financial assistance programs, including the multi-million-dollar Drinking Water State Revolving Loan Fund.

In the last year or so, she has willingly and effectively turned her many skills toward helping the $237 million Drinking Water and Groundwater Trust Fund, led by a legislatively-formed commission, to become a functioning entity that is providing critical financial assistance to public water systems and other eligible entities statewide. This could not have happened without Johnna's quiet leadership.

Her constant focus on the importance of protecting the state's groundwater and drinking water, combined with her attention to the tasks necessary to support the commission and get money out the door, served to lead all involved to find workable solutions. She also deserves great credit for developing an approach that protects the long-term, existing federally-funded revolving loan program.

To say that Johnna rolled up her sleeves this past year to meet what others might characterize as unrealistic deadlines would be an understatement. She did whatever was needed whenever it was needed, both in terms of creating options and approaches to assist the Trust Fund Commission as well as in getting loans and grants through the administrative process.

There are many accomplishments in her career at NHDES that would have qualified her for this award. Over the past year, however, no one could have asked someone to do more to advance a NHDES and legislative priority. She did so with grace, a sense of humor, and sheer determination and is well deserving of this special award.

The Employee of the Year Award is part of the NHDES Rewards & Recognition program and highlights the outstanding work performed by NHDES staff throughout the year. Nominations for this award all come from entries submitted by NHDES employees. The criteria for the Employee of the Year Award include:

- Significant impact or innovation within NHDES or the state.
- Initiative leadership.
- Improved efficiency.
- Improved interagency cooperation. ■

Longevity Awards, Retirements

The following NHDES employees celebrated a milestone in years of service to the State of NH in 2018. Congratulations!

45 YEARS
Rene Pelletier, WD

40 YEARS
Susan Carlson, CO
Pamela Hoyt-Denison, WMD

35 YEARS
Tim Drew, CO

30 YEARS
Scott Ashley, WD
Holly Green, WD
Gretchen Hamel, CO
Brenda Hayward, WD
Mike Juranty, WMD
Kenneth Noyes, WD
Judy Small, WMD
Andrew Stout, WD
Rick Treiss, WD
Melanie Wheelock, WMD
Craig Wright, ARD

25 YEARS
Steve Cullinane, ARD
Joe Fontaine, ARD
George Hall, WD
Wayne Ives, WD
Mitch Locker, WD
Mark Stevens, WD

20 YEARS
Greg Barker, CO
Sandy Crystall, WD
Mike Fitzgerald, ARD
Peg Foss, WD
Linda Magoon, ARD
Dan Mattaini, WD
Mike McCluskey, WMB
Deb McDonnell, WD
Tom Livingston, WMD
Becky Ohler, ARD
Tim Prospert, WMD
Teresa Ptak, WD
Kathryn Sanders, WD

20 YEARS , cont.
Robert Stockman, WMD
Craig Thoroughgood, ARD

15 YEARS
Gary Grant, WD
Alan Kjellander, WD
Mary Jane Meier, WD
Wade Pelham, WD
Brett Rand, WMD
Alex Rastorguyeff, WD
Kenneth Richards, WMD
Bill Thomas, WD
Josh Whipple, WMD
Tim Wilson, WD

10 YEARS
Jay Aube, WD
Paul Gildersleeve, WMD
Tom Guertin, ARD
Dave Kelly, WD
Ken Kessler, WD
Sharon McMillin, WD
Emily Nichols, WD
Chris Skoglund, CO
John Spadafore, WD

RETIREMENTS
Tim Nowack
Brian Hilliard
Carroll Brown
Becky Towle
Peter Beblowski
Jeff Andrews
Worthen Muzzey
Sharon Perkins
Barbara McMillan
David Reid
Gary Lynn
Joan Fitsimmons
Val David
Michele Roberge
Liz Knowland
Jacquie Beaule-Harnish

David S. Chase Award for Extraordinary Achievements in Science – Catherine Beahm

For the past two-plus years, Cathy has been the point person for the Air Resources Division on the Southern NH PFAS investigation. A particularly challenging issue has been the significant lack of data on specific types of PFAS and precursors currently being emitted into the air. While this has caused many states to wait until other federal agencies (such as EPA) are able to gather more information, Cathy recognized the urgency of the potential implications to public health and undertook an effort to increase her knowledge.

She reached out to partners in other states, and also engaged the EPA Office of Research and Development (ORD) and established a very effective partnership, which has helped NHDES with laboratory expertise, and increased the knowledge base of both agencies. Cathy's work culminated in her organizion of a two-day NHDES/ORD meeting that was incredibly beneficial to both agencies' understanding of PFAS in the environment. Due to her extraordinary efforts, she has quickly become an authority on PFAS and continues to be an invaluable resource both to NHDES and other environmental and public health agencies.

This award is named in honor of David S. Chase, the NHDES Radon Program Manager who passed away very unexpectedly in November, 2008. Dave served as the Radon Program Manager at NHDES and the Department of Health and Human Services for 16 years. Dave was extremely dedicated and devoted to the radon program and, under his guidance, New Hampshire's radon program received national recognition by the Conference of Radiation Control Program Directors in 1994. Recognition of such scientific achievements continues today and has been institutionalized as the annual David S. Chase Award for Extraordinary Achievements in Science. ■

Humanitarian Award – Rick Treiss

New this year, NHDES awarded Rick Treiss a Humanitarian Services Award. Rick regularly spends his vacation time volunteering all around the world with Team Rubicon, a disaster relief organization that unites the skills of military veterans with first responders. He assisted with earthquake relief efforts in Nepal, hurricane relief in Houston and Puerto Rico, and has just returned from a two week effort aiding the people of the Northern Mariana islands of Saipan and Tinian, recently hit by "super typhoon" Yutu. ■

NHDES Snapshot: MtBE Remediation Bureau

NHDES staff can't fulfill the agency's mission only from our desks. To protect environmental quality and public health in New Hampshire, we are out in the field every day: testing water quality in our ponds and lakes, sampling private well water, monitoring air emissions, assessing storm damage, responding to oil and chemical spills, training water works and solid waste operators, and so much more. "NHDES Snapshot" is an occasional series that takes a quick look inside the day of one of those employees.

Jen Brady and Steph Nistico pull into the driveway of a private residence in Derry, New Hampshire, grab their bucket filled with sampling supplies and their clipboard, and ring the front doorbell. A friendly homeowner opens the door and welcomes the pair inside, points them toward the water tank, and Jen and Steph get to work. Today, Jen and Steph will be taking water samples for private well users in Derry to test for MtBE and other contaminants.

Jen and Steph work for the NHDES MtBE (Methyl tertiary-Butyl Ether) Remediation Bureau, funded by the MtBE settlement fund. This fund was established in 2014, following a case which pitted the State of New Hampshire against major gasoline corporations after it was discovered that gasoline from a multitude of sources, including underground storage tanks, was polluting groundwater with MtBE. MtBE is a persistent, highly water-soluble, man-made contaminant that falls into the family of chemicals known as volatile organic compounds (VOCs).

The money from the settlement fund was used to establish the MtBE Remediation Bureau, which, among other responsibilities, provides free private well testing to New Hampshire residents in areas that may have been impacted by MtBE. Residents in these areas receive a letter in the mail, offering free well testing. If they accept the offer, NHDES will send employees like Jen and Steph to sample their water for over 70 different VOCs, including MtBE, free of charge. Jen emphasizes that the free service, "is really what makes our bureau accessible to everyone."

For a small fee, residents also have the option of having additional samples collected, which test for naturally occurring well water contaminants like radon, arsenic and uranium.

Today, Jen and Steph have three appointments on the calendar. They will be taking VOC/MtBE samples from one private home, and will be taking VOC/MtBE samples in addition to standard and radiological samples from two other homes.

In the first house, Steph begins by inspecting the water tank and associated plumbing to identify any treatment systems or other plumbing components that may impact the analytical results. After this inspection, the pair head upstairs to the home's bathroom sink. Steph removes the faucet aerators, because VOCs react with air, and runs the water for 10 minutes to flush the system and "ensure that the water is coming from the well itself and not the water tank." She then fills the glass testing vials to the top with water, ensuring that there is no air in the vials. She places the vials in the cooler so the samples remain under or around 4 degrees Celsius.

Following the water sample, the pair head back outside to check the wellhead to ensure that the well cap is on tight, look for potential concerns around the wellhead, collect GPS coordinates, and fill out the necessary paperwork. The two go out to the next two appointments, and then back to NHDES Headquarters in Concord, where the samples are

Snapshot, cont. page 7

Annual holiday food drive

NHDES employees once again helped the Capital Region Food Program's Holiday Food Basket Project by collecting over 500 food items and donations in the amount of $1,690.67. Bob Scott, NHDES Commissioner, is pictured here with Maria Manus Panichaud and Steve Panichaud of the Capital Region Food Program, at the State Armory on December 17. ■

Operation Santa Claus

The NHDES Operation Santa Claus (OSC) Team works diligently each year to help address the needs of less fortunate children (and their families) during the holiday season and beyond. The OSC campaign is sponsored by the State Employees Association of New Hampshire (SEIU Local 1984). As a result of generous donations, NHDES was able to provide 101 children with Christmas presents in 2018. In addition, over $6,655 was raised from a yard sale, silent auction, basket raffles, a bake sale, 50/50 drawings and the annual Chili/Chowder Bowl contest.

NHDES finds comfort in knowing that many wonderful children across New Hampshire, who may be living in challenging conditions through no fault of their own, will be smiling during the holidays. ■

Snap Shot *continued from page 6*

placed into cold storage and ultimately relinquished to a certified lab for testing.

Complete lab reports with testing results are sent to each homeowner. If MtBE levels are confirmed to be above the state standard of 13 ppb (parts per billion), NHDES will provide free bottled water to the homeowners until a more appropriate long-term solution is implemented. This may be in the form of a treatment system to remove MtBE, or, in the event of a more widespread problem, it could be through a waterline extension. For example, the town of Derry where Jen and Steph are working today, has already received funding from the NHDES MtBE Remediation Bureau to extend public water lines to dozens of impacted homes.

When asked about her job as a water tester, Steph responds, "Our job allows us to meet people who remind us that our work matters. We are looking out for their health and making sure that everyone has access to clean and safe water." ■

WRBP wins Wastewater Plant of the Year Award

The New Hampshire Water Pollution Control Association (NHWPCA) has awarded the Winnipesaukee River Basin Program (WRBP), operated by NHDES, with the Plant of the Year (POTY) award. The award was presented at the NHWPCA Winter meeting on December 14, 2018, in Keene. The annual POTY award is given each year to a wastewater treatment and collection (sewer) system based on competitive ranking for specific criteria: regulatory compliance, safety, employee education, professional participation and public outreach. Other nominees for this award included the Nashua, Plymouth and Rochester wastewater systems. WRBP was ranked first based on its outstanding accomplishments for the entire calendar year of 2017.

WRBP is the state-owned and operated wastewater collection and treatment system serving 10 Lakes Region communities including portions of Center Harbor, Moultonborough, Gilford, Meredith, Laconia, Belmont, Sanbornton, Northfield, Tilton and Franklin. Those communities are represented by an Advisory Board, which unanimously commended WRBP staff for their accomplishments leading to receiving this prestigious award. The WRBP system was built over 40 years ago and has been managed by NHDES since its inception. NHDES staff continues to operate and maintain the system on behalf of the communities benefiting from the facilities. ■

Image of Kreb's farm, Sanbornton, from **#ThisIsNH** *Storymap*

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Hybrid diesel-electric buses to hit the road in Nashua

The Nashua Transit System (NTS) will be replacing two diesel-powered trolleys with a pair of hybrid diesel-electric buses. Earlier this year, NTS pursued a competitive grant through the Federal Transit Administration (FTA) Low or No Emission Vehicle Program. NHDES and Granite State Clean Cities Coalition (GSCCC) provided letters of support towards their application to the FTA and NTS was chosen to receive a grant of $1.1 million. They will be partnering with GSCCC stakeholder, BAE Systems, to procure the buses.

In May, 2018, GSCCC Stakeholders attended a demo of a 2017 Gillig Electric Hybrid Transit Bus (pictured at left) that was equipped with BAE Systems' HybriDrive Electric Propulsion System. NTS hosted the demo, which was facilitated by John Hroncich and Greg Marx of BAE Systems.

The two hybrid vehicles, which are expected to arrive in late 2019-early 2020, will be joining NTS' fleet of buses that run on compressed natural gas. Diversification is a key element of fleet sustainability and efficiency, and opportunities to ride in or drive alternative fuel and advanced technology vehicles firsthand can be the catalyst in finding the right fit for the technology. If you are interested in learning more about alternative fuel and advanced technology vehicles, connect with GraniteStateCleanCities.NH.gov.