

# Share Your Thoughts



## Merrimack WWTF and Pump Stations Upgrade – Phase III

*David Cockburn, PE – Wright-Pierce*

The Town of Merrimack welcomes you to celebrate the NHWPCA's Winter Meeting at their Wastewater Treatment Facility on December 6, 2024. Merrimack owns, operates, and maintains nine remote wastewater pump stations and a 5 million gallon per day (MGD) wastewater treatment facility (WWTF). These facilities convey and treat flow from a variety of commercial, residential and industrial sources. The two largest remote pump stations –Thornton's Ferry Pump Station and Souhegan Pump Station – and the WWTF were brought online in 1972, and the WWTF Compost Facility was brought online in 1994.

The Town completed an evaluation of upgrade needs at the Compost Facility in 2007 and at the WWTF, Thornton's Ferry Pump Station and Souhegan Pump Station in 2011. Both evaluations recommended significant upgrades at all facilities. The WWTF and pump station evaluation grouped the recommended upgrades into a Phase II Upgrade and a Phase III Upgrade. Wright-Pierce assisted the Town with the completion of the Phase II Upgrade, along with upgrades to the Compost Facility, in 2015. Other significant upgrades in the past 20 years that occurred before or concurrently with the above-mentioned evaluations are as follows: Chlorination Upgrade (1999), Electrical Service Upgrade (1999), WWTF Improvements and Odor Control Facilities (2000), Phase I WWTF Upgrade (2007), the HVAC Upgrade (2009), and the Dewatering Upgrade (2010).

The three main goals for this project (Phase III) included replacing equipment that was well beyond its useful and recommended life, addressing safety concerns, and

*Continued on Page 3*

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**Editor's Words**



Stephanie,  
Somersworth WWTF

Wow, I'm writing for the WINTER edition of the newsletter! It's technically still autumn as I write, but I'm looking ahead to all that I need to do to get ready for winter. My most important chore for home was hiring a new plow guy for the season. When I had children at home, I didn't need a plow guy. I'm a mean mother and I made them shovel the driveway – after all, school was cancelled so they may as well keep busy, right? I found my first plow guy by accident. He was plowing a driveway in my neighborhood and backed up into my kids and took off a side mirror from their car. He offered to pay for the repair but I felt that it was the fault of the teenage driver not paying attention. By the next winter, that teenage driver was stationed at Little Creek in Virginia Beach for her MOS school and her passenger was living on-campus at the University of New Hampshire so I had nobody to shovel and needed a plow guy. This time around I used my neighborhood's private Facebook group to ask for recommendations and have hired the guy that plows most of the people on the street behind me.

There's a lot of great content in this newsletter so grab your favorite beverage, sit back, and enjoy. If you don't agree that there's a lot of great content, please reach out and join the committee so that you can help improve the newsletter. Or, if that's too big of a commitment, just reach out to any of the committee members with ideas. Our motto remains...SHARE YOUR THOUGHTS!

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**Upcoming Events**

Go to [www.nhwPCA.org](http://www.nhwPCA.org) for live links to online registration

*Save the Dates*

- Dec. 6 - Winter Meeting
- Mar. 6 - Legislative Breakfast
- Apr. 10 - Spring Trade Fair

**NEWSLETTER COMMITTEE**

Stephanie Rochefort, Mary Jane Meier, Dylan Delisle, Anthony Drouin, **YOUR NAME HERE.**  
 We welcome additional members. We are looking for meaningful articles for the Wastewater Operator in a timely fashion. Send submission articles for *THE COLLECTOR* to: Stephanie Rochefort via email at [srochefort@somersworth.com](mailto:srochefort@somersworth.com).

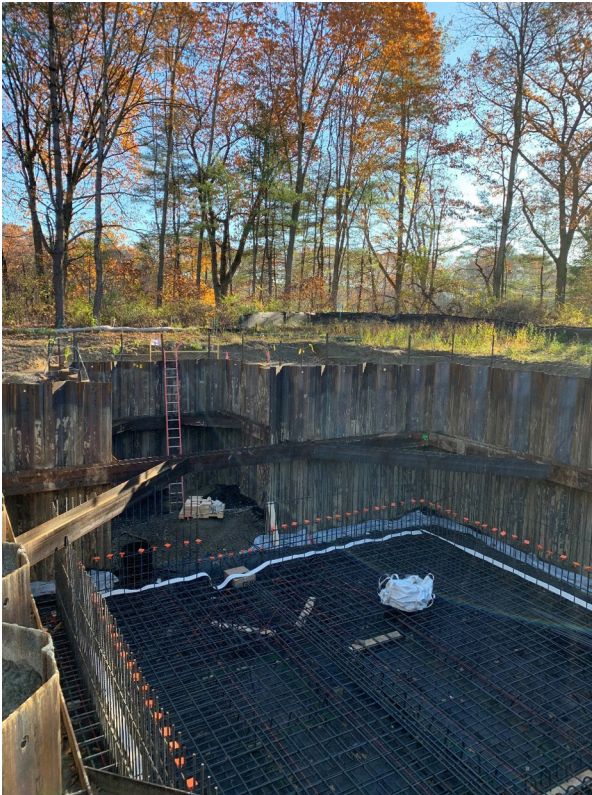
Editor: Stephanie Rochefort

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addressing code-related deficiencies. The major work includes:

- A new Screenings Building with a new climber style mechanical screen and wash press;
- New dry-well pumps, piping/valves, and upgrades to the building, control and electrical systems at Thornton's Ferry Pump Station, Souhegan Pump Station and the WWTF Main Pump Station;
- Renovations to the Headworks Building including new piping and valves in primary sludge pump room; architectural and HVAC improvements to offices, conference room, locker rooms and laboratory; and new standby generators and switchgear;
- New mechanisms and site piping for Primary and Secondary Clarifiers;
- Renovations to Sludge Holding Tanks including new course bubble diffusers and air piping;
- Renovations to the Chlorination Building including new Return Activated Sludge (RAS) pumps and associated piping and valves; and new electrical service and MCCs;
- New biofilter exhaust fans and select ductwork at the Compost Facility.



*Screenings - Before*



*Screenings - After*

The project reached substantial completion in July of this year with a few additional change order items remaining. Methuen Construction was the general contractor for the project, working closely with Wright-Pierce and Town personnel effectively to make this project a success.

The Town of Merrimack would like to welcome all visitors to tour the Wastewater Treatment Facility, 36 Mast Road, to see the new improvements and equipment in operation. The Town, engineers, equipment vendors, and contractors will provide tours and share project contributions. Breakfast and coffee will be provided by Wright-Pierce. Following the facility tours, guests are invited to join us at The Double Tree by Hilton, 2 Somerset Parkway, Nashua, NH for lunch and a presentation on the upgrades.

## **Blurbs, Blurbs, & More Blurbs**

### **Member Applications**

NHWPCA is now accepting member applications for 2025! Whether you're renewing your membership or becoming a new member, NHWPCA offers different

membership options to choose from and great member benefits.

**Membership Types:**

- Individual - A yearly membership is only \$55 per individual, or \$45 for retirees or NHWPCA committee members.
- Group - Membership for two or more people from the same facility/company with a sliding scale payment structure based on the number of individuals who join from one organization.
- Affiliate - Membership for companies that provide products and services is only \$500 per year and includes additional benefits, such as inclusion of Affiliate’s logo, company name, and contact information in NHWPCA’s Collector newsletter; Affiliate booth price at NHWPCA Trade Show; and company logo on NHWPCA site with link.

Membership with NHWPCA offers a wide variety of benefits, including:

- Learning and practicing leadership by serving on the NHWPCA Board of Directors and Committees
- Enjoying networking opportunities with other environmental professionals
- Keeping current on technical and regulatory developments
- Enhancing relationships with regulatory agencies
- Opportunities for professional growth and advanced education

Visit NHWPCA’s site to learn more and renew today (<https://nhwpca.org/join>), and contact [info.nhwpca@gmail.com](mailto:info.nhwpca@gmail.com) with any questions.

**NEWEA 2025 Annual Conference**

Registration is now open for New England Water Environment Association’s (NEWEA) 2025 Annual Conference. This conference will take place January 26-29, 2025 at the Boston Marriott Copley Place.

This year’s program features 41 technical sessions on a variety of water quality topics, over 200 exhibitors showcasing their technologies and services, the Student Poster Competition, a Plenary Session on the future of water, and much more.

NH operators are encouraged to attend Operator’s Day on Tuesday, January 28. In addition to morning and afternoon sessions on Plant Operations,

operators are invited to attend the Operation’s Reception at lunchtime to network with other operations professionals.

View the preliminary program ([https://annualconference.newea.org/wp-content/uploads/sites/2/2024/10/AC25\\_Pre-Program.pdf](https://annualconference.newea.org/wp-content/uploads/sites/2/2024/10/AC25_Pre-Program.pdf)) to learn more and register on NEWEA’s site: <https://2025-annual-conference-exhibit.events.newea.org/>



**Registration is now open for New England Water 2025 Clean Water Week Poster Contest**

Now Accepting Poster Submissions!

NH Students Grades 1-3 and 4-6 are invited to submit a poster for NHWPCA and NHDES’ 2025 Clean Water Week Poster Contest!

This year’s content theme is “Water Conservation Tips”. Students are tasked with creating a poster describing what this theme means to them.

National Clean Water Week is celebrated every year in June to remind everyone of the importance of protecting our water resources. Members of the NHWPCA dedicate their careers to keeping our waters clean in NH by operating wastewater treatment plants, which help to eliminate pollution in our rivers, lakes, and streams. The Poster Contest was established to help spread the word about the need to keep our waters clean and unpolluted.

Winning entries receive:

- A cash prize
- A chance to meet the Governor

Entries must be postmarked by March 1, 2025. Early entries are encouraged and can be sent at any time.

**From the Newsletter Committee**

As we approach the end of another year, we wish to give thanks and best wishes to all our dedicated contributors. We all work together to keep our Association members informed, celebrated, entertained, and amused. So raise a glass and give thanks with us to all our faithful contributors! We truly appreciate your time, energy, interest and

especially on-time deliveries!!!

## Save the Dates!

### Legislative Breakfast

**March 6, 2025**

Be on the look-out for more information coming soon!

### Spring Trade Fair

**April 10, 2025**

Be on the look-out for more information coming soon!



## Safety Corner

### Winter is coming...How will you stay safe and warm?

*Republished Courtesy of the NEWEA Safety Committee*

Methamphetamine, or meth, is a highly addictive drug. The onset of winter in New Hampshire will bring very cold temperatures, ice, snow, sleet, freezing rain, and high winds – all of which add to the hazards associated with our daily routines, both on and off the job. To help minimize winter hazards, consider the following additional risks when planning and executing your daily activities in the colder weather:

- Cold weather illnesses like frostbite and hypothermia occur in winter due to cold, wet, and windy conditions. Try to plan work around, or allow for extra warm-up breaks during, extreme winter weather. Train employees to recognize the symptoms of frostbite and hypothermia in both coworkers and them, and to know how to administer first-aid for these illnesses.
- Snow, ice, mud, wastewater, and sludge covering walkways, stairs, grates, platforms, ladders, scaffolds, and other work areas can increase the risk of slip, trip, and fall accidents. Clear wet or frozen debris, and spread melting aids if appropriate, to improve traction.
- Stability of trenches and other excavations can be affected by freeze-thaw cycles. Ensure that

shoring is adequate and keep tools, equipment, and material away from trench edges.

- Loose or bulky winter clothing is easier to catch in rotating equipment, and insulating layers and folds can increase the risk that chemicals or sparks on clothing may go initially unnoticed, increasing the potential for severe burns. Be sure employees use extra caution to prevent chemical or combustion burns.
- When driving a vehicle during winter conditions, clear all snow and ice from windows before driving; allow additional travel time; increase distances between your vehicle and others for stopping and other maneuvers; maintain proper tire pressure and washer fluid levels; decrease the risk of carbon monoxide poisoning by avoiding idling with windows closed, exhaust pipe blocked, or in enclosed spaces; and practice defensive driving - always, but even more in winter.
- Snowpack and icicles on building roofs can dislodge and fall causing severe injury. Remove snow and ice accumulations or barricade the areas beneath such hazards.
- Debris left on the ground – such as scrap lumber with nails or sheets of plastic – can become a serious hazard when covered with a layer of snow. Floors wet by snow-covered footwear increase slip hazards. Ensure that special attention is paid to good housekeeping during winter weather.



- Solid or liquid fuel salamanders and other temporary heaters can create serious fire and fume hazards. Be sure that work areas have adequate ventilation, and that heaters have sufficient clearance to combustible materials and are properly equipped with required automatic shutoffs and other safety features.
- Most if not all of these factors one might think as “common sense”. However, there is a reason why these points are listed! Why, because an individual or individuals did not heed the safety warnings these presented. Just a simple tailgate meeting at the start of the day or at the start of a project could pay dividends later in lost time prevention, serious injury or death.

Winter in New England can be beautiful - work safely so that you can enjoy it.

*This article was brought to you by the NHWPCA Safety Committee, courtesy of a prior NEWEA Safety Committee article.*

*If you have questions or requests for other safety articles or training you would like the Safety Committee present, please reach out to Committee Chair, John Hart at [jhart@r-r-inc.com](mailto:jhart@r-r-inc.com) or 207-747-8597.*



*By Stephanie Rochefort, City of Somersworth WWTF*

“Use it up, wear it out, make it do or do without” is a mantra that many of us grew up with. That quote embodies the idea of Yankee thriftiness. Some might call it being cheap...you think? In the WWTF lab, there’s some places to practice Yankee thriftiness and some places where it absolutely doesn’t belong!

Let’s start with pH analysis. Never, ever re-use pH buffers. That’s absolutely BAD lab practice. You can be thrifty by only using as much as you need. You can be mindful and shop around for the best price for pH buffers. But, don’t buy such a big amount that the buffers will expire before you use it all. And if you do buy those 10-liter cubitainers because you found a good price and a supplier with great expiration dates, please don’t store them above eye-

level. That’s just not safe.

pH electrodes can be expensive. If you treat your electrode correctly, you’re likely to get more life out of it than is guaranteed, but don’t be cheap and put off replacing it. That would be more BAD lab practice. Hopefully you saved the information that came with your electrode and know the recommended cleaning procedures and frequencies and how to troubleshoot. Oh, wait, it’s 2024 – you can just find that information online.

The HVAC in my lab has some \*issues\* so I had been storing my pH buffers in my BOD incubator to keep them at a steady temperature. I really didn’t love opening the BOD incubator door extra times every day, especially since the sun would shine in that direction. Since the BOD incubator looks like a refrigerator, Nonna’s voice would SHOUT in my head to close the refrigerator door to keep the sunshine out! (I could fill up this whole newsletter with stories about Nonna’s refrigerators...) That BOD incubator was recently replaced because it was showing its age and we like to keep the lab equipment up-to-date. I used my Yankee thriftiness to re-purpose the old BOD incubator for pH buffer storage.

And that brings me to another example of Yankee thriftiness. BOD and TSS samples must be held in the refrigerator and need to be warmed up for analysis. I would forget to pull the samples out of the refrigerator and rush to warm them up by running the sample bottles under hot water and then they’d end up too warm. But, when I switched from the membrane filtration method with mTec media for e-coli analysis to the IDEXX method, I had a water-bath that I was no longer using. I reprogrammed the water bath to 20 degrees C and now it’s super easy to bring my samples up to temperature quickly and without over-shooting.

Years ago, at a previous job, I learned about JIT ordering. That stands for Just-In-Time. It was a good idea at the time to order only what was needed so that it would arrive when it was needed. It felt pretty thrifty. However, in the world we live in now, we can’t always rely on prompt availability and delivery of what is needed in the lab. Now, I keep a month’s worth of stock of everything that is needed to perform my daily and weekly NPDES tests. Two of my daily tests are pH and TRC with immediate hold times, so it’s critical to have the proper reagents to run these tests in-house. In a pinch, I could send

other tests out to a NH-accredited commercial lab. Yup, that's more expensive than running the tests in-house, but in the world of wastewater, money is number three after safety and compliance. I'm pretty sure that our Yankee forefathers would want us to be safe and in compliance. But, y'all know that we'd get some pretty stern lectures if we ran out of a critical reagent and had to pay for overnight shipping!



## Residuals Report

### New Hampshire's Other 603

*By Wade Pelham, Water Division – Wastewater Engineering Bureau, NHDES*

The wastewater field experiences a great deal of change on a year-to-year basis, with new technologies emerging, new regulations being implemented and new faces joining the profession. Unfortunately, we also see colleagues depart the field, through retirements and the pursuit of new career opportunities. Today we recognize one of the latter instances as we offer news that Anthony Drouin, recently of the NH Department of Environmental Services, has made the decision to reenter the private sector, and has joined a local New Hampshire firm as a branch manager. Anthony joined NHDES in 2018 and brought an abundance of energy and enthusiasm to the Residuals Managements Section of the NHDES Wastewater Engineering Bureau, eventually rising to supervisor of that section. He grew up in Maine and graduated from the University of Maine at Orono. He joined NHDES with an extensive private sector resume and brought with him a love of music, the Grateful Dead and the New York Giants football team. Anthony quickly expanded his wastewater connections throughout the state, and the region, developing relationships with residuals managers, clean water utilities, and officials throughout the northeast, and beyond. Anthony was also a board member of the NH Water Pollution Control Association. At his final NHWPCA board meeting he expressed his great admiration for the hardworking folks in the profession and his appreciation for his time spent working cooperatively with them to protect public health and the environment. "I will always cherish

my time being a member of the NHWPCA", he said. Anthony also said that he expects to remain local, so maybe your paths will cross again, perhaps professionally or maybe you'll run into him at a concert in the Concord area.

## Pretreatment Tales

### Ninja Turtles

*Zach Lorch, P.E., Pretreatment Engineer, NHDES – Wastewater Engineering Bureau*

Although I've always been involved with waste in one way or another in my career, 2024 marked my first year in the industrial pretreatment role at NHDES. I've got to meet some of the wonderful pretreatment coordinators in the state and look forward to meeting more. As a community you accept and share the common vision of protecting our water, infrastructure, crime fighting reptiles and community.

One way to protect all four is through the municipality's sewer use ordinance. Env-Wq 305.04 lays out the foundation for a sewer use ordinance to uphold the industrial pretreatment program in that community. These rules help set the foundation of the ordinance, then from there, the community can



sculpt the ordinance to reflect their needs.

Env-Wq 305.08 requires that all sewer use ordinances go through NHDES for approval. In my short time in the program, I've already seen many types of sewer use ordinances: ones where drinking water and sewer are combined, ones where the industrial portion was mostly an appendix, and others where they haven't been touched in twenty years or more. Sewer use ordinances help lay the foundation so that dischargers know what the base level expectations are. The industrial discharge permit can then be the next level to help ensure expectations are clear.

Local limits and screening levels can seem like daunting tasks to tackle. Where do you even start? Often consultants will be engaged in this endeavor, but it is incredibly important that the numbers are easily understood and are able to be derived again when needed. When doing local limits, it's important to keep the big picture in mind, "How do I balance the pollutants I receive with what I can discharge?" When undertaking this exercise, you want to think about what your industrial contributions are, what your domestic contributions are, what your inhibition conditions are in the treatment plant, removal efficiency, any regulatory requirements, how sludge generated onsite is managed, what the NPDES permit requirements are and what the surface water quality standards are. By getting a grasp of these things in coordination with EPA's Local Limit Development Guidance, you should feel like you have the tools to at least start the journey down this road.

If you're reading this and still wondering about the title, I appreciate you making it this far. As a kid, if I remembered two things from Ninja Turtles it was that they lived in the sewers and liked pizza. So, I will leave you with this, if you know where in your sewer use ordinance it prohibits Donatello's Bō Staff from entering the sewer, order yourself a pizza to celebrate. If you don't, still order a pizza and review your Sewer Use Ordinance. \*Hint\* Derived from Env-Wq 305.06(b).

Fun Fact: In Dover, NH a decorative manhole cover was placed on Union Street, where TMNT creators Kevin Eastman and Peter Laird lived when they created the comic book in November 1983!

If you would like to talk about your sewer use ordinance, feel free to reach out to me at my contact

information below.

Zach Lorch, P.E., Pretreatment Engineer  
Tel. (603) 271-2052, zachary.d.lorch@des.nh.gov



## Retiree Rave

### Glenn "Mickey" McDonald



Glenn "Mickey" McDonald retired recently from the North Conway Water Precinct with over 25 years of service in the wastewater field. Glenn holds the honor as being the first person featured in the Operator Profile article series, published in the Spring 2022 Collector. He is a Grade 4 certified NH Wastewater Treatment Plant Operator and most recently served as the Chief Operator for North Conway.

Glenn's education and work experience began with the US Navy and included time stationed on the Aircraft Carrier USS America. He worked with purifying, pumping, and supplying aviation fuel to fighter jets, helicopters, and transport planes and received high honors for his achievements. His work in the wastewater treatment field was a successful transition at the North Conway facility. He considered himself fortunate to have been present for the construction and startup of the plant. He enjoyed working with contractors and co-workers,

breaking in new equipment, and attending classes. He embraced new technology in the field of computer software, SCADA controls and improved energy technologies.

In his own words, his advice to newcomers entering the wastewater field: "always look at the big picture; work closely with everyone when given the opportunity; we can learn so much from each other; educate the public in a way so they can understand; be considerate to your co-workers; use all your senses as they are all helpful; and most importantly, be mindful of everyone's safety so that at the end of the day they all go home to their families." It's hard to find better advice than that!

Best wishes to you Glenn for a long and fulfilling retirement. Thank you for your dedicated Service and in the years to come.

*Over the last few years, many of our members and co-workers have retired. We are sharing a bit of information about wastewater and drinking water operators and administrators who are now enjoying retirement. Our Newsletter committee would appreciate hearing from our readers to expand this list so we can recognize our loyal, hardworking associates and friends. Perhaps we could develop Association activities based on the retiree interests, too. Let's stay in touch! Please email your ideas and information to info.nhwpc@gmail.com and use these words in the Subject line 'Retiree Rave Information'.*

## FUN FACT

Before the invention of modern day toilet paper, the human race used some pretty interesting things to do the job. Ancient Romans used a sponge on a stick that sat in saltwater. Let me be more clear... Everyone used the SAME SPONGE. Of course, leaves, rocks, and corn cobs were popular. Wealthy people used wool or lace. Americans were fond of using the Farmers Almanac pages. Thankfully, commercially mass produced toilet paper in the relatively inexpensive rolls we use today were made available in 1871.



## RMI's 30th Anniversary

*by: Devon Pasco, Resource Management Inc.*

Resource Management, Inc (RMI) of Holderness, NH observed its thirty-year anniversary on Saturday, September 21st, with a revival of the company's beloved pig roast celebration where friends of RMI gathered alongside staff for a day full of hearty food and lively entertainment. The event was an opportunity for RMI to show their appreciation for the customers, partners, and the invaluable relationships that made the 30th anniversary possible.

Founded in 1994 by President Shelagh Connelly, Vice President Marty Riehs, and Senior Project Manager Charley Hanson, RMI was created to provide innovative, sustainable recycling solutions to the generators of organic residuals. Today, the company is the Northeast's leader in the industry and recycles over 300,000 cubic yards of wood ash, paper fiber, and biosolids annually.

Shelagh remarked, "I feel fortunate to have stumbled into this recycling world in my first job out of college as a soil sampler. I got to visit farm fields all across New Hampshire and meet some of the hardest working farmers in places that are incredibly rural and beautiful. This led to many years of learning the science and policy behind recycling these fertilizer products, and now 36 years later to be running RMI

and employing 25 people who are all passionate about their jobs and committed to being outstanding in our field!"



Many of the attendees at the 30th anniversary pig roast were individuals that had been a part of RMI's story since the very beginning. As Charley shared, "our first customer was Bridgewater Power Company just down the road, and we still work with this crew today. We are fortunate to partner with companies that are like-minded in their commitment to the environment and doing the right thing."

Despite the changes and challenges over the years, RMI has never lost sight of its mission or core values, and continually strives to do right by those it serves. The team attributes their success to strong relationships built within the local farming and land management communities, as well as a commitment to excellence that is shared by each and every employee.

Marty concluded, "I am quite proud that we have been successful for thirty years but none of those successes or years would have been possible without

the trust of our customers or the guidance of our government regulators who have weathered many a storm from the sway of public opinion in which we operate, and they continue to hold us to such high standards. But the scope and breadth of our success would not be possible without the hard-working team of equipment operators, field staff, compliance and office personnel, and salespeople who have excelled at their jobs to keep RMI the success we are. Thank you all!"

RMI is the premier organic residuals recycling service provider for New England and Eastern New York. They partner with Paper Mills, Biomass Plants, Wastewater Treatment Facilities, and other producers of organic residuals where they beneficially reuse 100% of the materials that they recycle for these industries. These materials are repurposed as effective and environmentally sound soil amendments used by farmers, landscapers, topsoil manufacturers, composting operations, and other land-centered businesses to improve soil health and increase crop yields. RMI is proud to be a leader in Northeast recycling efforts and in making the world a little greener every day.

## What would be helpful for a new operator embarking on the journey to certification?

*Marcus Turner, City of Concord Wastewater Treatment Facility*

After recently getting certified as a newcomer to the wastewater field, I can look back and see the things that helped me prepare the most. Giving myself enough time to study and feel prepared was the most helpful thing I could do. Studying a little bit every day helped me prepare for the test. Working in the field before being licensed helped me a lot, too.

Every day, I worked with a coworker and was encouraged to ask all the questions I could think of. This was a big help because I could get an explanation, and when it was possible, I was shown the answer. An example is when I had a question about how our secondary clarifiers worked. That day, my coworker brought me to one of our offline tanks and explained what each part of the clarifier does. Seeing the equipment offline helped make a lot of information in the books make more sense, and also clarified many of the questions I had.

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Another coworker helped me a lot with the math, taking time out of his day whenever I had a question about a problem. The math section of the test was what was worrying me the most, so I found this to be extremely helpful. I was given a book of wastewater math questions that I could go over until I felt ready to see them on the test.

If I could give someone advice for preparing to get licensed, my biggest point would be to do some research on other types of plants. The test has a variety of questions that could be specific to a different type of plant than the one you work at. That is what I found to be most challenging about the test. Giving yourself the most time you can to study is important. And finally, use all the resources available to you, whether that is coworkers, books, or websites. I think by doing this, you can set yourself up for success when it comes to getting licensed.

## The Value of Professional Exchange Programs in Wastewater Treatment Careers

*John McLaughlin, Operator II City of Bridgeport, CT WPCA Operated by Inframark*

The New England Water Environment Association (NEWEA) and its affiliates, such as the New Hampshire Water Pollution Control Association (NHWPCA), have long been recognized for their commitment to advancing water quality management. One of the key initiatives that exemplify this commitment is the Operator Exchange Program. This program offers a unique opportunity for wastewater treatment operators to gain hands-on experience, share knowledge, and learn best practices from participating treatment plants across New England.

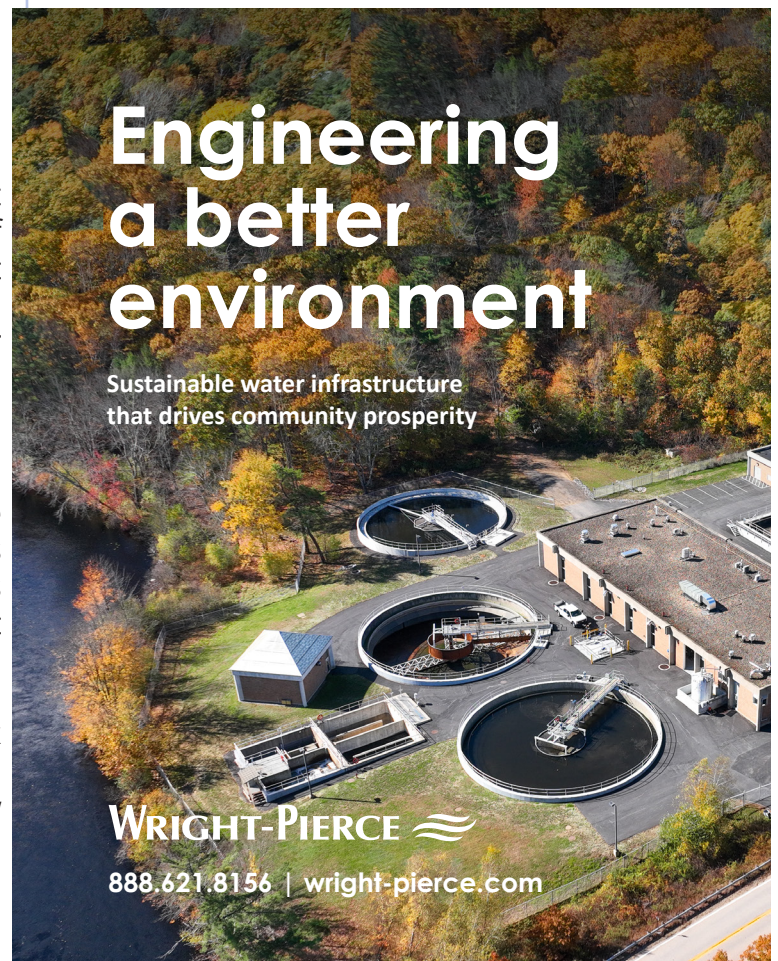
Recently, I had the unique opportunity to participate in the Northeast Water Environment Association's (NEWEA) Operator Exchange Program. This initiative brings together operators from different states, allowing them to learn from each other, share experiences, and gain fresh perspectives on wastewater treatment operations. My exchange took me from Connecticut (CTWEA) to New Hampshire, where I toured various facilities under the New Hampshire Water Pollution Control Association (NHWPCA).

### The City of Concord- My host Facility

My journey began at the Concord Wastewater Treatment Facility, where I was hosted and welcomed by Dan Driscoll and his team. Here is where I met my liaison, David Webber. Touring this plant gave me a deeper appreciation for how municipalities handle their wastewater treatment challenges while staying closely connected to the local residents. The facility was well-managed, and the staff's dedication to ensuring optimal operation was evident throughout my visit.

### Manchester, NH – A Tour of Innovation

One of the highlights of my trip was the visit to Manchester's wastewater treatment plant, one of New Hampshire's largest facilities. During my time there, I met Robert Robinson and his lead operator, Dave, both of whom were instrumental in showcasing the plant's operations. Robert and Dave's deep knowledge and passion for wastewater management were evident as they guided me through Manchester's processes. The sheer size of the operation was awe-inspiring, and the level of automation and technology in use was remarkable.



Robert and Dave demonstrated how they manage the high inflow of wastewater from surrounding communities, while maintaining strict environmental compliance and implementing advanced treatment processes to ensure the water they release back into the environment is of the highest quality.

### The City of Dover – Longevity and Efficiency

My visit to the Dover Wastewater Treatment Facility was another standout moment. I had the pleasure of meeting Raymond Vermette and his lead operator, Tim, two meticulous and dedicated professionals who oversee the facility. Raymond is known for being very particular when it comes to selecting equipment—his focus is on longevity, ensuring a good return on the taxpayer’s dollar, and maximizing plant efficiency. Touring Dover’s facility, I was amazed at how spotless and well-maintained it was. The attention to detail was impressive, and the plant truly exemplified what a clean, efficient wastewater facility should look like.

### Pierce Island – Sustainable Solutions

At Pierce Island, Kevin, a fantastic wealth of knowledge gave me “The Tour”. I encountered another impressive facility focused on sustainability and environmental impact reduction. The plant utilizes what’s known as a BAF system for their process, a completely new and unknown process to me. I had the opportunity to discuss their strategies for nutrient recovery, areas that have

become increasingly important in modern water treatment. I have to mention the beautiful view from their laboratory overlooking the Piscataqua River to have as a reminder of why they do what they do.

### Newington, NH – A Tight-Knit Operation

My visit to the Newington plant rounded out the tour. I had the chance to meet Ariel Wright, the plant’s superintendent and others, whose leadership was clearly reflected in the smooth operations of the facility. Although smaller in size compared to some of the other facilities I visited, Newington stood out for its teamwork and the close-knit group of operators who worked seamlessly together. Ariel and her team were exemplary in maintaining high standards of operation and embracing new technologies, showcasing how smaller plants can still make a significant impact with the right team and approach.

Participating in the NEWEA Operator Exchange Program was an enriching experience that not only broadened my technical knowledge but also allowed me to connect with professionals who share a passion for water treatment. Each plant I toured had its unique challenges and innovations, from Raymond Vermette’s meticulously clean Dover facility to Robert Robinson and Dave’s efficient and advanced operation in Manchester, and Ariel Wright’s well-run plant in Newington. I left New Hampshire with a renewed appreciation for the hard work that goes into every aspect of wastewater treatment, and I look forward to applying some of the insights I gained to my work back in Connecticut

The recent acknowledgment of the NHWPCA’s hospitality and the invaluable learning experience it provides serves as a testament to the program’s success. My participation in the 2024 exchange program was an informative journey that not only benefited my current role but also helped shape the future trajectory of my career. The program is designed to cater to operators at all levels of expertise, from novices to seasoned professionals, ensuring that the knowledge transfer is both comprehensive and beneficial to all involved.

The encouragement for operators to apply for the exchange program reflects the industry’s support for continuous professional development. By participating, like myself, operators can expand their technical skills, network with peers, and



gain a broader perspective on the challenges and innovations in wastewater treatment.

Moreover, the call for supervisors, managers, and superintendents to support their operators in this endeavor highlights the program’s collaborative nature. The investment in professional growth is minimal compared to the substantial returns in terms of enhanced operational efficiency, improved water quality, and the personal and professional growth as operators.

The Operator Exchange Program is more than just a training opportunity; it is a platform for fostering a community of practice among wastewater treatment professionals. It encourages the sharing of experiences, challenges, and successes, thereby strengthening the industry. The program’s impact extends beyond individual participants, influencing the quality of wastewater treatment practices throughout New England.

I want to thank David Webber, my liaison through NHWPCA, who played a pivotal role in ensuring that information flowed smoothly between the Connecticut Water Environment Association (CTWEA) and the New England Water Environment Association (NHWPCA). David Webber contributed a vast amount of his time and effort with me. These associations are essential for knowledge sharing, professional development, and maintaining high standards in water and wastewater management.

In conclusion, the NEWEA’s Operator Exchange Program stands as a shining example of how targeted professional development initiatives can yield significant benefits for individuals and the wastewater industry. It underscores the importance of investing in human capital and supports the notion that such investments are indeed priceless. As more operators and their supervisors embrace this opportunity, the future of wastewater treatment and management looks ever more promising.

## New Hampshire’s Operator Exchange with Connecticut

*Nathan Limric, Utilities Maintenance Technician I, Peterborough WWTF*

This October I had the amazing opportunity to participate in New Hampshire’s Operator Exchange with Connecticut. I spent three days meeting great

people, having some delicious meals and touring 6 plants run by professional and skilled operators. Special thanks to Rob Butler for being a kind and welcoming ambassador and for ferrying me around for most of my trip. Gratitude is also due to Ray Weaver and Ted Donoghue for their roles as my ambassadors as well. Day one started off with a tour of Vernon WPCF led by Rob Grasis. Vernon is a regional treatment facility serving several surrounding towns. They recently underwent a significant upgrade which included the addition of IFAS (Integrated Fixed Activated Sludge) to their treatment process. The operators at Vernon are learning how to optimize their process with the addition of this new technology, but so far things have been running well. Vernon’s discharge makes up over 80% of the flow of the Hockanum river, this statistic impacts their permit criteria significantly. Along with the IFAS addition, Vernon added rotating filters to capture phosphorus before discharge. These filters are 18-micron filters that strain out phosphorus that has been precipitated by the addition of ferric chloride. After filtration the effluent receives one last aeration treatment before being released to the river. The team at Vernon made excellent use of their assorted buildings left over from older processes, including converting old trickling filter basins to storage and maintenance buildings. Rob gave an excellent and thorough tour, his pride and involvement in operations was evident at each stage of treatment. We said our farewells and headed down the road to the Manchester WPCF.

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*Vernon, CT*

Manchester WPCF utilizes an activated sludge process with the addition of glycerin to facilitate biological phosphorus removal. Ray Weaver worked at Manchester for decades and I had the fortune to have him lead our tour. The plant had numerous examples of redundancy in operational controls in case of equipment failure. The influent pumps alone could be controlled by four different means depending on what failures occurred. Manchester clearly had a focus on mitigating or preventing operational difficulties as much as possible. The team was undergoing a CISA evaluation while I was visiting to further strengthen their ability to prevent disaster situations. Manchester also discharges to the Hockanum river and so faces a strict phosphorus limit as well. To meet their discharge limit Manchester utilizes a system that combines ferric chloride and sand with the treated wastewater in a mixing basin. The sand and ferric bind the phosphorus into particles dense enough to settle out, and the final product flows to the river after step aeration. The Manchester tour was an excellent opportunity to see processes unlike anything I'd seen in New Hampshire.

Rob, Ray and I stopped off for lunch before heading to our final tour of the day, MDC in Hartford. MDC is an enormous plant compared to the volumes that I work with in Peterborough. MDC is a 60 MGD plant serving all of Hartford and several surrounding communities through satellite plants. Jeff Bowers led our tour through the facility which sprawled across 85 acres. MDC receives sludge from communities across CT and surrounding states. The sludge is thickened and utilized in an incinerator to make

energy for the plant. MDC can generate about 30% of the plant's energy needs through this process. The process is a conventional activated sludge process, scaled up to meet the flows. The facility faces the challenge of experiencing a huge increase in flows during rain events due to the combined system underneath Hartford. The flows can increase to 200 MGD at times. Operators at MDC have learned how and when to make changes to operations to best handle these high flow events. I was surprised by how much of a team environment was present in a facility of such a large size.

Day two started off with breakfast served at the venue of the CTWEA fall meeting. Presentations were given by CT DEEP regarding new regulatory updates including reporting events, FOG, and Biosolids. The last presentation of the event was given by Tom Tyler of MDC highlighting the need for workforce development in our industry. The need for a collaborative effort to bring in younger professionals was a touchstone of the presentation. I am interested in seeing how this effort comes together in the coming years.

After the fall meeting I had an afternoon tour at Meriden WPCF. Thank you to Ted Donoghue for being my ambassador for day two. Meriden is an 11 MGD facility that also recently completed an upgrade. Their upgrade included the addition of sand filters to remove phosphorus with the addition of ferric chloride. Staff at Meriden have made operational changes to decrease the workload on operators and decrease operational costs. One example of this is taking their grit removal system offline for the time being as it needed near constant attention and was operating at a significant cost. The Meriden team was great and very resourceful. Meriden was my last stop on day two.

## FUN FACT

While New York City's sewer system is extensive and well-known, the largest sewer system in the United States is indeed in Los Angeles. Los Angeles operates the largest unified sewer system in the country, covering over 6,700 miles of sewer lines and serving approximately 4 million residents.



*South Windsor, CT*

Day three concluded my CT trip. We started off with a tour of South Windsor WPCF led by Rob Butler. South Windsor had a great team environment, exemplified by leadership who made every effort to help their guys move forward and meet DEEP requirements for advancing to higher license grades. The plant was clean, neatly landscaped and organized. South Windsor lost a pasta manufacturer recently, and so had to adjust to a decrease in BOD in their influent. They were able to make process changes to handle the difference and maintain their effluent quality. There is a neighborhood close by that was regularly making odor complaints. To address this South Windsor added activated carbon filters to their odor control system. Since the addition of the filters the complaints have stopped. Unlike other plants I visited, South Windsor does not have a phosphorus limit because they discharge to the Connecticut river, and operators at S. Windsor are grateful to not have to treat for phosphorus.

My final tour of the trip was Suffield WPCF. Suffield is a 1 MGD oxidation ditch facility. The process is controlled not by the D.O. concentration in the basins, but by the ammonia levels measured at 2 strategic places. Operators at Suffield appreciate the relatively simple operation of the oxidation ditch compared to other processes. Suffield's influent is often higher than average in ammonia due to contributions from the Hood dairy facility up the road. This can sometimes pose operational challenges but the crew at Suffield are not fazed by the ammonia loading and trust their process to handle the changes.



*Suffield, CT*



*Suffield, CT*

I was treated to one last lunch before saying my goodbyes. I could not have asked for a better experience in Connecticut. Everyone I met was friendly, knowledgeable, and enthusiastic about the work that they do. I was able to see processes I have only heard about in classes and see some processes I'd never heard of at all. Meeting so many great people really bolstered my pride in working in this industry alongside so many amazing folks. I would strongly encourage anyone who is interested to reach out to NHWPCA and get on the list for the next operator exchange. There is truly nothing else like it and you will not be disappointed. I would like to end this article by giving thanks to the organizations who made this event possible. Thank you to the administration of the Town of Peterborough for allowing me to take time off for

this trip. Thank you to NHWPCA for their role in organizing this exchange. And finally thank you to Connecticut Water Environmental Association for their organizational and financial contributions to my trip.

## A message from the NHWPCA President

*By Michael R. Theriault, PE, Wright-Pierce*

It's been a pleasure to serve as the Association President and build upon the many relationships I've formed in the industry over the past 20 years. The Association has encountered a number of challenges and made significant progress that I was glad to participate in since joining the Board in 2019. As my participation with the Association began well before joining the Board, there are numerous fond memories that I'd like to highlight from over the years.



We've all endured numerous challenges as an Association and it's been equally satisfying to me to be involved as we go through them together. Nutrient removal has been constantly evolving throughout my career as many of the treatment plants have been transformed into state-of-the-art facilities for the betterment of a cleaner environment. PFAS has created a recent hurdle in the industry particularly with dynamic regulatory changes and solids disposal options and will continue to pose challenges in the future. In 2021 it was educational to be part of our Board that initiated efforts to revise legislation to cap permitting fees for municipalities on Shoreland Protection permits. In recent years, I've had the pleasure of serving as the NHWPCA liaison for a consortium of clean water associations including

NHWWA, GSRWA, NHMA, and NHDES where we primarily discuss upcoming legislation that affects all our industries. This has also resulted in these organizations taking an active role and participating in the Annual Legislative Breakfast, supporting the 'One Water' initiative.

I've been privileged to be included in multiple opportunities to showcase some amazing treatment facilities. Newmarket's and Exeter's brand new four-stage Bardenpho wastewater treatment facilities significantly enhanced total nitrogen (TN) removal for Great Bay. Concord finally opened the gates for the 2018 Fall meeting, a plant which many Association members had not yet seen. I was a part of the team involved in the solids handling upgrade in Hanover in 2011. These experiences extended even further with many of my peers, coworkers, and clients sharing their own success stories on facility upgrades for other Association events including Somersworth, Dover, Newington, North Conway, Durham, Manchester, Hampton, and Nashua.



Summer Meetings – My first involvement in the Association began with volunteering to help setup, cleanup, and cook at the Annual Summer Meeting. The meeting would sometimes include themes like Hawaiian luaus, malt shop 50s Doo Wops, or elaborate Lobster bake with Don Chesebrough leading the charge operating those military grade cooking stoves with liquid fuel. After cleanups were done and most of the folks gone, we'd kick back and enjoy some leftover frosty beverages with George Neill, Mario LeClerc, and many others amongst great stories. In 2011, I was fortunate to take over as Activities Committee Chair from Rick Seymour's long tenure.



The 50th Anniversary Celebration was a year filled with memorable moments. Ray Vermette left big shoes to fill during his presidency for the Association's 40th anniversary featuring a spotlight for the Association and industry on New Hampshire Chronicle. I was up for the task so in 2017 we formed several subcommittees to help make the 50th Anniversary a grand celebration.

- Ray Gordon and Nancy Lesieur led the charge for tchotchkes and apparel. Shirts, water bottles, bags, flashlights, and all kinds of souvenirs were handed out at major events. NHDES celebrated their 30th anniversary the same year so we teamed up for a multi-anniversary coffee mug, many of which are still scattered throughout my home and office.
- Mary Jane Meier and Kristen Noel with some help from a few others developed biographies of all the past NHWPCA presidents which became featured throughout the year in each of the Collector newsletters and on large Posters displayed during events. The outreach and collaboration led to the NHWPCA hosting a celebration dinner at Brown's in Seabrook with 22 past presidents attending and a keynote speech by Chuck Conway.
- Historical Collector articles that had been meticulously preserved by Todd Gianotti or already archived by Stephanie Rochefort were reposted throughout 2017 Collector newsletters. Todd even developed a unique 50th Anniversary logo for the Association.
- The Anniversary event at the Hampton Beach Pavillion was a wonderful celebration of networking, great food, games, and people. It was highlighted by Tom Burack's presentation

outlining and illustrating the progress on clean water and the environment over the decades, which had been diligently assembled by Ted Diers. We were almost able to get Governor Chris Sununu to attend the event, baiting him using old articles of his father, John Sununu, being a keynote speaker for the NHWPCA 30th Anniversary.

Throughout the years, I've been fortunate to meet many people from the Association that were at the forefront of our industry when the Clean Water Act was passed. Many of them had a wealth of knowledge and experience which allowed me to absorb as much information as possible. Many of these operators, engineers, equipment salespeople, and regulators were adjusting to life toward the end of their careers and many entering retirement. These opportunities resulted in building lifelong relationships between younger and older Association members and served as a bridge to convey legacy information and lessons learned.



The transformation of the Association's management and technology has been fantastic. We have graduated from having a part-time paid administrative assistant and a PO Box to utilizing a professional association management firm with electronic databases, a website, and a variety of communication platforms. There were a few years of growing pains with some firms that may not have served the Association as we would have preferred. The current alignment with NEWEA for association management has been extremely effective as our two organizations share similar goals. It has also allowed us to improve collaboration with other New England clean water associations and event planning.

Association members have historically been requesting a means for annual sponsorship and group membership which were organized and finally rolled out from 2022 to 2024. Vendors and

exhibitors no longer need to be solicited for each individual event and can instead sign up once for the majority of the events at once. Of course, companies can still sponsor a single event a-la-carte, but the roll out provides a single sign up for a year of events. Some municipalities and organizations have several members and can receive a discount on membership costs when registering a larger group.



As the years have progressed and our Association goals evolved, member participation has changed, and it became clear that several of the committees needed some refreshing for better engagement.

Many of the committees needed to have goals freshened up, new members recruited for participation, and new committees formed in some cases.

- The Activities Committee has grown to include new events aside from the Summer Meeting and Golf Tournament. Since 2009, the NHWPCA holds an annual ski day with MEWEA that alternates between Maine and New Hampshire ski resorts. In 2022, the NHWPCA and NHHWA began competing in an annual summer softball game.
- The Education Committee was redefined and broadened to develop a pathway for water and wastewater operations as curriculums at trade and technical schools and community colleges. A syllabus was developed and the program gained significant interest toward a Fall 2024 program roll out, but has encountered a few obstacles that will require additional coordination. The intent is for graduates of the program to gain the knowledge necessary to test for their operators license and, with minimum onsite experience, be eligible for operator certification. The NH Department of Education has expressed interest in the initiative and members of the Board and the Education Committee are working to keep the positive momentum going. The Association will be rolling out a 'Wastewater 101' course in 2025 which may serve as a steppingstone toward a larger curriculum with a participating trade or technical school.
- The new Youth Outreach Committee reaches out to pre-secondary education students planting the importance of clean water and clean drinking water into young minds through a variety of fun events such as the 4th Grade Drinking Water Festival and Science Fair, Wild NH Day, Construction Career Day, Clean Water Week Poster Contest, and others. Some of these kids have the potential to be the future of our industry so we all need to support starting the influence early.
- The new Social Media Committee takes over some of the old goals of the former Communications Committee and helps to communicate with the target audiences of both the Education and Youth Outreach committees. New social media accounts on a variety of platforms aligned with

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current trends of younger minds will be able to convey educational, humorous, and informative content. With the scan of a QR code, you can take a tour of Portsmouth's Pierce Island WWTF or watch Sean McDonald of NH Chronicle performing 'Dirty Jobs' at Concord's Hall Street plant. The committee is also facilitating a new NH WWTF Operators forum on the NHWPCA website for collaboration and information sharing.

- The Safety Committee was redefined and gained new members to remind the Association members the ever importance of safety. In the Fall 2024 the committee coordinated a successful training seminar with the NH Department of Labor. The committee will continue to be proactive on education and safety topics including awareness, preparedness, documentation, and practice.

As I depart the Board to focus on the next 20 years of my career, I task the current Board, future Board members, and Association members to keep up the momentum of critically important initiatives to see through their success.

1. We must invest time and energy into our younger generations to engage in our industry for our succession. There is no field of idle skilled workers that immediately want to join the water and wastewater field so we need to collectively support the Youth Outreach and Education committees to foster the growth of new members from these impressionable minds.
2. All of our committees are looking for volunteers to help with our many goals and events. If you or your employees are not already on one, please check out the list of committees on the website which includes an information submission field to sign up for one. Our Association would not be a success if past generations didn't encourage us to participate, so we must lay the foundation for succession by getting the next generations to engage. Supervisors and administration need to support staff engaging in Association participation and events.
3. We need to continue to work together to navigate the ever-changing regulatory field. Regulations become more stringent, our infrastructure is aging, and New Hampshire continues to see population growth throughout the state.

This is particularly the case for solutions to the biosolids treatment and disposal options impacting us all. The key to this will include continuing to work together to bridge the gap for public education and outreach to our policy makers and system constituents by leveraging the 'One Water' initiative to create a louder voice and outreach amongst our industries.

## 2024 NHWPCA (Green) Vs NHWWA (Blue) Softball Game & Joint Fisher Cats Outing

*By Rebecca Saucier, PE, Wright-Pierce*

We lucked out with a beautiful summer day to play the 2024 NHWPCA (Green) vs NHWWA (Blue) softball game! We had a great showing for this year's Green Team with 14 players including representatives from Town of Newmarket, City of Manchester, Hookset Sewer Commission, NHDES, Carlsen Systems, Wright-Pierce, CDM Smith, and Hazen and Sawyer!

There were so many highlights of this year's game, a few of which included Sean Greig and his crew representing the Town of Newmarket providing great hits and fielding, the City of Manchester's Fred McNeil and his amazing third base coverage, and Wright-Pierce's Jake Rosenberg throwing fantastic pitches throughout all nine innings! Ultimately, the NHWPCA team lost by just one run in the last inning for final score of 20-19. It was a great game from beginning to end! Thank you to all the softball players in attendance. The Sprit Award went out to Hooksett Sewer Commission's Leo Levin's son, Leo, who supported the Green Team by always having our bats at hand, and Jake Rosenberg as Green Team MVP for his pitching skills! If you're a softball player and interested in playing in the 2025 Green vs. Blue softball game, please reach out to Kevin Garvey at [Kevin.Garvey@Wright-Pierce.com](mailto:Kevin.Garvey@Wright-Pierce.com).

Following the softball game, players from both teams, other association members, and their families met at the Fisher Cats Pavilion for food, refreshments and to watch the Fisher Cats take on the Hartford Yard Goats.

The NHWPCA and NHWWA extends much gratitude to the many volunteers who worked hard to make the event so successful and a special thank you to

everyone for showing up and playing a very fun and competitive game! The associations would like to recognize the following sponsors whose generosity help made the softball game and Fisher Cats affordable for all to enjoy.

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- Wright-Pierce

## Env-Wq 304 - NHDES Wastewater Treatment Plant Operator Rules: Friendly Reminders

*Richard "Dick" Emberley, Wastewater Operations Technical Advisor, NHDES Water Division, Wastewater Engineering Bureau*

### 1. Certification Renewal Requirements (**Every two years**).

- a. Renew certification by completing and submitting a renewal application, no later than one state business day before expiration (certifications expire every other year on either June 30 or December 31) at: <https://onlineforms.nh.gov/?formtag=NHDES-W-09-004> (check box – certification renewal)



- b. Completed renewal application requires:
  - i. Submission of certificates of attendance equaling at least 20 hours of Continuing Education (TCHs) with >50% directly related to WW treatment processes or maintenance of those processes, and the

remaining in a relevant field.

- ii. Payment of \$100 renewal fee.
- iii. Digitally signed application (attestation of submittal).

### 2. Certified Operator Notification and Reporting Responsibilities.

- a. **Maintain current** contact information by completing and submitting: <https://onlineforms.nh.gov/?formtag=NHDES-W-09-004> (check box – update contact information)



- b. Notify the department in writing (email: [des.wwe.operations@des.nh.gov](mailto:des.wwe.operations@des.nh.gov)) **upon** being designated as an Operator-In-Responsible-Charge (OIRC), Back-Up, or upon termination from such a position.

- c. The OIRC shall **annually** complete and submit electronically **by February 15**, the "Operator-In-Responsible-Charge Verification Form": <https://onlineforms.nh.gov/?formtag=NHDES-W-09-055>



### 3. Multi-Plant Certified Operator Endorsement.

- a. Any certified operator seeking to operate more than one plant shall **request prior** approval for a multi-plant operator endorsement by completing and submitting: <https://onlineforms.nh.gov/?formtag=NHDES-W-09-065>



b. A certified operator that was issued an approved multi-plant endorsement shall file an updated "Wastewater Operator Multi-Plant Endorsement: form **within 10 days of any change** in the information that was previously provided.

4. Wastewater Treatment Plant Owner Responsibilities.

a. Ensure that only certified wastewater operators are operating the plant.

b. Designate **annually, by February 15**, the responsible individuals (Authorized Representative, OIRC, and Back-Up) by completing and submitting: <https://onlineforms.nh.gov/?formtag=NHDES-W-09-067>



c. Notify the department in writing (email: [des.wwe.operations@des.nh.gov](mailto:des.wwe.operations@des.nh.gov) ) **within 24-hours** of the termination of the OIRC or Back-Up.

## Operations Challenge Returns to NHWPCA

*By Patty Chesebrough*

The Operations Challenge is often described as the "Wastewater Olympics." It is a unique, fast-paced, skills competition where teams compete in five events including collection systems, laboratory, process control, maintenance, and safety. Each team is judged on the best combination of precision, speed, and safety. Teams train together on the scripted events, all the while learning and perfecting the skills needed for the competition. The NH

team participates in a regional competition held annually at the New England Water Environmental (NEWEA) Spring Conference. The top three teams at regionals then earn the right to represent NEWEA and their state at the now international competition held annually at WEFTEC, the nation's premier water quality event hosted by Water Environment Federation.



*NH Teamwork in Action on the Collection System event. Left to right, Andrew Carr, Sam Wood, Dan Demers, Dennis Celata, and coach Joe Irving in the background*



*2024 NH Ops Challenge Team Celebrates Successful First Competition. Left to right, Joe Irving, Dennis Celata, Sam Wood, Dan Demers, Patty Chesebrough, and Andrew Carr (in front)*

In 2024, NH formed a new Operations Challenge team consisting of employees from the NH Department of Environmental Service Winnepesaukee River Basin

Program, based out of Franklin, NH. Members included Andrew Carr, Dan Demers, Dennis Celata, Sam Wood, and coach Joe Irving. Being new, the team did not place in the top three at the NEWEA regional competition, but demonstrated remarkable teamwork, competitive spirit, and positive attitude. The team has already set their sights on competing in 2025.

Operations Challenge is one of the water sector's best professional development programs. The benefits to those who participate in Operations Challenge are many and vary by the individual, but the list usually includes both work-related benefits such as education, training, networking, name recognition, professional growth, etc.; as well as personal benefits such as learning, friendship, teamwork, camaraderie, competition, career growth, travel, "fame", etc. Here are some direct quotes on the benefits of Operations Challenge from current and former participants:

### The learning:

- *It's a great environment and a great learning and skills building opportunity.*
- *I think participation would benefit anyone in the wastewater field, and if it had to be justified to a manager, I'd say the knowledge and skills that are gained and improved upon far outweigh any costs. It provides hands on training and in-depth experience for the concepts that are tested for during operator licensure.*
- *The genius of operations challenge is the focus on using the best and safest practices. The practice you do for OC ingrains those practices into your routine until it is second nature. It gave us the opportunity to practice and memorize some procedures that might only ever occur every two or three years. Safety Tripods are the best example. We have set one up for a job at the plant once in my time here, and before OC, it would have taken me a bit to do it if we needed one. Now I know I can set one up in less than a minute. That's a confidence boost. There is nothing better for your plant than having a bunch of operators who are confident in their skills because they've practiced and been judged on them.*
- *It's a huge learning experience!*

### The time commitment:

- *The practices took up a little bit of free time, and the competition was a little bit stressful, but NEWEA was a blast and worth the extra time and work for me.*
- *I don't believe we would have made it as far as we did without putting in our own time. The extra time with the team members helped us as a whole.*

### The networking:

- *My impression of the ops challenge was great! I thought that the whole environment was a positive one and I didn't meet anyone who wasn't willing to help or give tips.*
- *I think that it is a great networking event and it introduced us to several people in the industry who are willing to help you out or answer any questions.*
- *In my personal life I don't know anyone that does wastewater, and in my professional life I basically knew just my coworkers. It was inspiring to meet so many other young professionals who are building a career in wastewater. You feel a little less crazy after meeting 20 or 30 other crazy people, right? Now, I just feel like I belong.*

### The team building:

- *As a new supervisor, it was a great team building experience. The competitive aspect offers a unique opportunity to build team rapport that is different from what we usually encounter in the workplace.*
- *For me it brought me closer to my coworkers and made the team building great.*
- *It's an opportunity to do a team activity again, it's not quite sports, but it's fun to work towards a competitive goal with teammates again.*

### The growth:

- *In my 20+ years of participating in Ops Challenge, I have seen the personal and professional growth of so many individuals. Young, immature, "kids" just starting out in wastewater who have become chief operators, superintendents, utility managers, association presidents, etc. Ops Challenge creates industry leaders!*
- *One of the best things about the Ops Challenge is the time you spend with dedicated professionals that mostly don't remember that they are just that,*

# Wastewater

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| disinfection | mixed liquor | phosphorus | bugs |
| microscope   | filaments    | filtration |      |
| secondary    | nitrogen     | bacteria   |      |
| tertiary     | effluent     | rotifer    |      |
| loading      | gloves       | pumps      |      |
| treatment    | biosolids    | influent   |      |
| ammonia      | primary      | sludge     |      |
| tanks        | pipes        |            |      |

*skilled and dedicated professionals. Most of the folks that participate in the Challenge at the local, New England wide, and National level do so because it's their calling. It's just "what they do".*

- *The overall morale that it brings to the individual was very uplifting to me in the workplace, which is a great benefit! I enjoyed doing the Ops challenge and I look forward to doing it next year!*

### Want to Learn More?

If you would like to learn more about Operations Challenge, visit the WEF Team Resource Center using the QR code here or at the following URL: <https://www.rmwea.org/oc.php>.



You may also contact the NHWPCA Operations Challenge liaison, Patty Chesebrough, at [patricia.l.chesebrough@des.nh.com](mailto:patricia.l.chesebrough@des.nh.com).

## Poster Contest Winners and Clean Water Week Proclamation Signing

May 28, 2024

Annually the New Hampshire Water Pollution Control Association (NHWPCA) and the NHDES sponsor a poster contest event that showcases the importance of clean water in New Hampshire. Schools in the state, grades one through six, submit posters on a particular theme. The theme is chosen by the NHWPCA Poster Contest committee and chair of the committee Casey Rosenberg. This year's theme was "Life Without Water". Hundreds of submissions were received on the topic this year. The posters are then sorted by grade and judged by the NHWPCA board of directors. Prizes awarded are 1st place \$100 gift card to the winning student and a \$100 check to the school. Second place receives a \$50 dollar gift card and third place a \$25 gift card. In addition, there are always a few honorable mention posters. Once the award winners and honorable mentions have been chosen, they, along with family members, are invited to share in the awards event. The event is held at the state house in Concord in the Governor's

office. Speakers that participated in the place 2024 awards event are President of the NHWPCA, Mike Theriault and NHDES Water Division Director, Rene Pellitier. Both speakers said a few words on the topic of clean water and congratulated the poster contest winners. Following the speakers and awards presentations, the Governor enters. He speaks with and congratulates all the winners, along with the family members. Once the Governor is ready, he announces the signing of the proclamation for Clean Water Week. All the award winners are invited to gather around the Governor for the signing of the Clean Water Week Proclamation for June 2024. Each winner received a pen used to sign the proclamation by Governor Chris Sununu. This year's signing was especially significant because of the number of winners, twelve. The Governor had never used twelve pens to sign the proclamation before and pointed out this was a special first time for him. After the signing of the proclamation, the winners along with family members are invited to enjoy in an after celebratory event. This year's celebratory after event hosted ice cream as a special treat. The ice cream event was catered by Frosty's Ice Cream Truck, locally owned in Londonderry by Angela Martin. The event was an extreme success, even the Governor had a cone of ice cream. Congratulations to all the winners and many thanks to all who participate in this prestigious New Hampshire event.

### FUN FACT

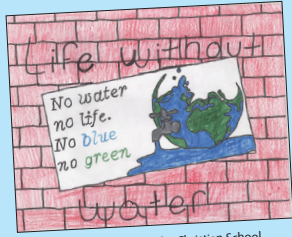
#### A MINI COOPER WAS FOUND IN THE LONDON SEWERS

Yes, you heard that right, well... half of one to be exact! In 2014, during a widespread clearout of the London sewer systems, one of the lines was clogged by half a Mini cooper. When it was removed, Thames water stated that it was in terrible condition, claiming it could be decades old. How did it end up there? Nobody seems to know!

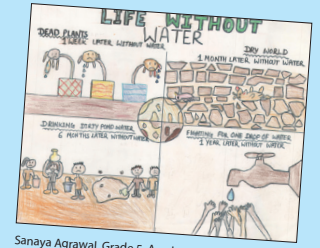
# New Hampshire Clean Water Week

June 2-8, 2024

## Life Without Water



Jasper Ruczko, Grade 6, Trinity Christian School



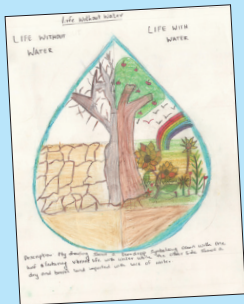
Sanaya Agrawal, Grade 5, Academy of Science & Design



Lexi Bonenfant, Grade 3, Ernest P. Barka Elementary



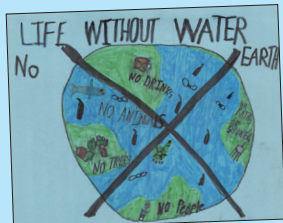
Eloise Druke, Grade 3, Trinity Christian School



Aarush Bhuvanagiri, Grade 5, Academy of Science & Design



Josephine Callahan, Grade 5, Bridgewater-Hebron Village School



Jake Arvidson, Grade 3, Trinity Christian School



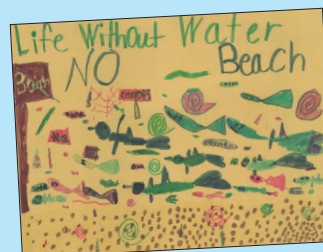
Meredith Theriault, Grade 5, Ernest P. Barka Elementary



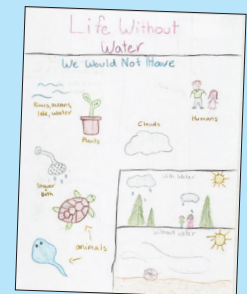
Anders Maness, Grade 3, Sant Bani School



Damiya Martin & Grace Nicolaisen, Grade 3, Sant Bani School



Liviya Miller, Grade 3, Trinity Christian School



Isabelle Geddes, Grade 6, Merrimack Valley Middle School

## 2024-2025

August 2024						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
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September 2024						
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October 2024						
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27	28	29	30	31		

November 2024						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat
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December 2024						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat
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29	30	31				

January 2025						
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February 2025						
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March 2025						
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April 2025						
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May 2025						
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June 2025						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat
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29	30					

July 2025						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat
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20	21	22	23	24	25	26
27	28	29	30	31		

Special Thanks to Our Sponsors and Organizers:



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# The largest wastewater treatment plants can be defined in several ways

*From Wikipedia, the free encyclopedia*

The largest in term of capacity, both during dry and wet-weather, is the Jean-R.-Marcotte Wastewater Treatment Plant in Montreal. With full secondary treatment of effluents it would be the Deer Island Waste Water Treatment Plant of Boston. In terms of area occupied it is by far Melbourne’s Western Treatment Plant.

Plant name	Location	Opening Year	Dry-weather capacity (m <sup>3</sup> per day)	Wet-weather capacity (m <sup>3</sup> per day)	Area (km <sup>2</sup> )	Notes
New Delta Wastewater Treatment Plant	El Dabaa, Egypt	2023	7,500,000		0.32	Holds four Guinness World Records.
Bahr El-Baqar Wastewater Treatment Plant	Port Said, Egypt	2021	5,600,000		0.65	
Jean-R.-Marcotte Wastewater Treatment Plant	Montreal, Canada	1984	2,780,000	7,600,000	0.67	Secondary treatment plant planned for 2023
Detroit Wastewater Treatment Plant	Detroit, USA	1940	2,460,000	6,435,000	0.53	Wet-weather secondary treatment capacity limited to 3,520,000 m <sup>3</sup> /day
Stickney Water Reclamation Plant	Chicago, USA	1930	2,665,000	5,450,000	1.67	
Blue Plains Advanced Wastewater Treatment Plant	Washington DC, USA	1937	1,450,000	4,073,000	0.62	Secondary treatment since 1959. Enhanced nutrient removal in 2014.
Deer Island Waste Water Treatment Plant	Boston USA	1968	1,438,000	4,542,000	0.6	Full secondary treatment since 1995.

## 2012 Nissan NV 2500HD

**Model:** NV High Roof  
**Exterior Color:** Blizzard White  
**Interior Color:** Charcoal Grey  
**Milage:** 108,157  
**Engine:** 5.6L DOHC 32 Valve 8- Cylinder  
**Transmission:** 5-speed Automatic



The Sanford Sewerage District purchased this unit in 2015. We have inspected over 50 miles of public sewer in Sanford. This unit has proved to be an immensely important piece of equipment to our tool box. It has allowed us to identify our problematic areas prompting regular maintenance or scheduling segments of pipe to be replaced, relined, pipe burst, and point repair. It is also helpful during emergency sewer backups. We no longer have reoccurring sewer blockages because we now identify the source of the backup. Lots of spare components! The price is \$100,000 or a reasonable best offer. Please give us a call if you are interested in inspecting your public lines. Pictures will be available on our website: [www.sanfordsewerage.org](http://www.sanfordsewerage.org)

## SPX PEARPOINT/ CUES INSPECTION EQUIPMENT

### Command Module/ PC

- 1 Industrial Rack Mount PC. Ruggedized cabinet. Windows 10
- 1 P350 Flexitrac P350- CMOD command module.

### Crawlers

- 2 P354 Crawler, non-steerable. Suitable for 4” to 6” pipe. Single motor system with integrated Sonde. Grit and rubber wheels.
- 1 P356 Crawler, steerable. Suitable for 8” up to 36” pipe. Dual motor system with integrated Sonde. Grit, rubber, and Pneumatic wheels.

### Cameras

- 2 P350 NTSC Pan and Tilt Camera. Manual Focus. 220 lumen light.
- 1 P350 NTSC Pan and Tilt with 10X Zoom. Auto Focus. 420 lumen light.

### Elevators

- 2 P350 Fixed Elevator. P534 up to 12”. P356 up to 15”.
- 1 Large Manual Adjustable Elevator. P356 only 12” to 24”.
- 1 P356 Powered Elevator. 12” to 36” inspections.

### System Accessories

- 2 Powered Cable Drum Cassettes. 1000’ of cable and terminated with swivel end.
- 2 P350 Pendant Controller. Handheld control of tractor.
- 1 P350 8 Watt Light. For P356 only, 850 lumen light.
- 1 P354 Crawler Weight. Underbelly weight for P354 crawler.
- Spare wheels for P354 and P356 Crawlers

Sanford Sewerage District | André Brousseau – Superintendent | 207-324-5313

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