

Share Your Thoughts

NHWPCA 2023 Fall Meeting

Town of Durham Wastewater Facility Tour



The Town of Durham, NH is pleased to welcome all visitors to tour their WWTF as part of the NHWPCA Fall Meeting on September 28th, 2023. Discharging to the Oyster River (upstream of the Great Bay Estuary), the WWTF serves a seasonal community as Durham is home to the University of New Hampshire (UNH). The WWTF was originally constructed in the 1930's as a primary treatment facility. Later, in 1977, the plant was upgraded to expand primary treatment, improve the disinfection process, and provide secondary treatment including the addition of aeration and secondary clarifiers. Additionally, new solids handling units were provided to store, dewater, and compost residual solids. Since then, there have been numerous upgrades and improvements to systems within the facility:

- 2011 Aeration Blower Upgrade
 - Installation of four high-speed 100 HP Nuero turbo blowers dedicated for the aeration and sludge holding tanks.
- 2016 Dewatering System Upgrade & Bardenpho Conversion
 - Installation of inclined screw presses, screw conveyors, a polymer blending unit, potassium permanganate system, and sludge feed pumps.
 - Select aeration tank modifications to enhance nutrient removal process



Continued on Page 3

NHWPCA Board

*Ryan Peebles,
President*

*Michael Theriault,
Vice President*

*Patty Chesebrough,
Secretary*

*Mario Leclerc,
Treasurer*

*Aaron Costa,
1st Director*

*Nate Brown,
2nd Director*

*Peter Conroy,
3rd Director*

*Anthony Drouin,
1st Director-at-Large*

*Dave Webber,
2nd Director at-Large*

*Michael Trainque,
NEWEA Director*

In This Issue

Blurbs, Blurbs & More
Blurbs

Announcements

Safety Corner

Thoughts from the
Bench

Swings and Things from
the 2023 NHWPCA Golf
Outing

City of Manchester - 20
Years of Challenges Met
and Mastered

RMI attends 2023
National Water Policy
Fly-In

2023 Annual Poster
Contest

The Importance
of Reputation vs.
Character?

2023 NHWPCA (Green)
Vs NHWWA (Blue)
Softball Game & Joint
Fisher Cats Outing

2023 Summer Meeting

10 Questions to get
to know NHWPCA's
newsletter committee

Out of The Archives!

Photo Gallery

Editor's Words



Stephanie, Somersworth WWTF, with her daughter

It was wonderful to have such perfect weather for the summer outing at Ellacoya! I had a great time catching up with people that I only see at NHWPCA events, and of course the food/drinks/ice cream were all awesome. Check out the photo gallery for some photos from the outing and from the golf tournament.

This photo of me and my daughter was taken only a few days later and the weather was far from perfect. There were torrential downpours, thunder and lightning. We have big smiles on our faces because we're at Camp Scelkit, which was the only Girl Scout camp in Maine that my daughter and I had never visited. As a girl, my daughter's troop loved Camp Pondicherry and Camp Kirkwold. The young ladies never wanted

to drive all the way up to Camp Natarswi, but I took Deanna there for Camp Adventures for Grown-Ups in 2017.

My daughter was in Maine for a couple of weeks this summer to escape the South Carolina heat and humidity. I spoiled her with her favorite foods and several hundred dollars' worth of repairs for her car. She said that she had hit a pothole on the highway and needed an alignment and was due for an oil change. I'm sure glad that she gave me the excuse to have her car thoroughly looked at since South Carolina doesn't require inspections. Besides the alignment and oil change, she needed rotors and brakes. I'm not going to wait for an excuse to have her car looked at next year!

Never mind next year - in this edition we're still celebrating The Collector's 40th anniversary and we're doing some looking back while also looking forward. I'm looking forward to seeing y'all at the next NHWPCA event, and in the meantime, please Share Your Thoughts!



Upcoming Events

Go to www.nhwPCA.org for live links to online registration

Sep. 12 - GSRWA Operator Field Day & Exhibit - Mount Sunapee

Sep. 20 - Operator Exchange

Sep. 28 - Construction Career Days - Hillborough County Youth Center Foundation, New Boston

Sep. 28 - Fall Meeting - Three Chimneys Inn, Durham

Oct 5 - PFAS Sampling Procedures for Collection Systems, WWTF Influent/Effluent & Residuals' Franklin Training Center, Franklin

Nov. 10 - Board Meeting - Concord WWRG

NEWSLETTER COMMITTEE

Stephanie Rochefort, Mary Jane Meier, Steve Clifton, Ryan Peebles, Dylan Delisle, **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.

Editor: Stephanie Rochefort

THE COLLECTOR is the Official Newsletter of the NHWPCA
For more information about the NHWPCA visit our website at www.nhwPCA.org

Printed by **EVANSprinting**

155 River Rd. Unit 15, Bow, NH 03304 | 603-225-5529 | evans1@evansprint.com

operations as part of a pilot conversion to a two-train 4-stage Bardenpho process.

- 2016 Chemical Storage and Feed Building
 - Construction of a new building to house sodium hypochlorite, sodium bisulfite, and associated pumping and feed systems
- 2017 Generator Upgrade
 - Replaced the WWTF stand-by generator with new exterior diesel type.
- 2020 Grit System Upgrade
 - Addition of internal equipment for aerated grit tank No. 2.
 - Replacement of the grit classifier and installation of exterior positive displacement blowers



The facility is designed to treat an average daily flow of 2.5-million gallons per day (mgd) and a peak hour flow of 7.40-mgd. Historically, the Great Bay has been identified by the EPA as experiencing water quality problems that have been attributed to excessive nitrogen discharges. The Town was proactive in their long-term planning to address future nutrient limitations and upgraded the existing MLE process to a 4-Stage Bardenpho process. This conversion occurred as a full-scale pilot test to determine if the existing tankage could biologically achieve low level effluent TN without supplemental carbon or

additional tertiary treatment. Ancillary upgrades were also made to the electrical, HVAC, and SCADA systems.



Tour highlights include:

- Recent upgrades: new aerated grit equipment and two new activated carbon odor control systems dedicated for sludge processing.
- The WWTF's 4-stage Bardenpho process, which the Town has optimized to achieve excellent TN removal,
- Huber inclined screw presses (which have been successfully operating since construction in 2015).

The Town of Durham would like to welcome all visitors to tour the new WWTF to get a glimpse of these upgrades. Breakfast and coffee will be provided by Wright-Pierce. Following the tour, the Fall Meeting and luncheon will be at the historic Three Chimney's Inn, located only 1 mile from the plant in Durham's beautiful downtown.

Blurbs, Blurbs, & More Blurbs

Congratulations to New Hampshire's newly certified wastewater treatment operators!

73% of the people who took the exam passed. The average grade for everyone who took the exam was 71%.

Mark Adamczyk - Dartmouth Skiway - 1-Oit

Ryan Ames - Franklin - 1

Jacob Babkirk - Pease - 1-Oit
 James Barlow - Newmarket - 1-Oit
 John Brackett - Epping - 1-Oit
 Verne Brehio - Eastman - 1
 Brandon Doucet - Lebanon - 1-Oit
 Christopher Grove - Hinsdale - 1
 John Gustafson - 3m-Tilton - 1
 Timothy Jarest - Peterborough - 1-Oit
 Bert King H2oinnovation - 1-Oit
 James Mclain - Lancaster - 1
 David O'Connor, Jr. - Hampton - 1-Oit
 Kyle Tondreau - Rochester - 1-Oit
 Eric Edwards - Henniker - 2
 Colin Haase - Lebanon - 2
 John Jeacopello - Newport - 2-Oit
 Nathaniel R Martin - Manchester - 2-Oit
 Hobie Shireling - Allenstown - 2
 Margaret Whitcomb - Star Island - 2-Oit
 Zach Wood - Portsmouth - 2-Oit
 Samuel N. Wood - Franklin - 3
 Jeffrey O'Neil - Berlin - 4
 Kristen Simard - Star Island - 4
 Graton Guyette - 1
 Kris Jenson - 2
 Steven Oosterman - 3
 Christopher Kelley - 3
 Daniel Rydel - 2-Oit
 Paul Jessel - 3

*Richard "Dick" Emberley
 Wastewater Engineering Bureau, Water Division, NHDES
 Wastewater Operations Section
 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095
 Richard.Emberley@des.nh.gov
 1-603-271-2940*

2023 Operator Exchange

This year, working with Green Mountain Water Environment Association, the operator exchange is moving forward with Vermont. Carrie Lafond of Fairfield wastewater will be touring a couple plants in New Hampshire and Tim Jarest of Peterborough wastewater will be traveling to Vermont. There aren't

many details about the trip Tim is going to take yet but here is what we have planned for Carrie: We are going to start the morning off with a tour of the Hanover wastewater treatment facility September 26th, grab some lunch at a local restaurant and make our way to the Sunapee plant to finish up day one. September 27th We will start with a tour of the Peterborough wastewater facility, lunch in Peterborough, and then head over to Jaffrey's plant. The day will end with a group dinner in Durham with the Fall meeting the following day. The fall meeting will be at the Durham wastewater treatment facility followed by a luncheon at The Chimneys Inn to finish out the day.

Special Thanks to All Our Collector Contributors

Each issue of your Collector features articles developed by our members and some non-members, as well. The Newsletter committee wishes to thank our writers and all those who submit ideas for news to share with our readers. The breadth of knowledge amongst our expert wastewater and water professionals is astounding. We are fortunate that so many operators and regulators and engineers and technicians and suppliers are willing to donate their time to share their knowledge, experiences and news. A BIG Thank You For All YOU Do and for Sharing Your Thoughts!

Photo Contest!

NHWPCA is planning an industry photo contest! We think that in addition to the immense operational talent in the wastewater field in NH, there are also a significant number of folks with major photography skills. What better way to recognize this talent than to showcase those skills by highlighting the wastewater profession, its hard-working people, facilities and the infrastructure that protects the public and the environment every day. There will be prizes awarded in 2 separate categories: "The People of Clean Water", showcasing the hardworking folks of the industry, and "Equipment and The Environment" showcasing the environment which we work so hard to protect, and the equipment which makes it possible. Watch for details in the winter edition of The Collector!



Announcements

NERPCA Annual Pretreatment Coordinators Conference

The New England Regional Pretreatment Coordinators Association (NERPCA) will host the Annual Pretreatment Coordinators Conference on October 24 through 26 at the UMass Lowell Convention Center. This year marks the 25th anniversary for this conference. Consult the NERPCA website (NERPCA.org) for registration details.

NERPCA is a group of pretreatment professionals located in EPA Region 1 who are responsible for addressing current pretreatment issues, assisting approved and non-approved pretreatment programs with pretreatment questions and providing education for all pretreatment personnel within the region. NERPCA was incorporated in August 2014 to assure that all the pretreatment professionals within the EPA Region 1 borders are invited members, fully represented, and have an equal voice in the planning and other training activities coordinated by the Association. The Executive Committee consists of elected officials from POTW pretreatment programs from several of the Region 1 states: Maine, Massachusetts, New Hampshire and Rhode Island. Their primary function is the planning of the Annual Conference, assuring that education to pretreatment professionals continues. The New England Regional Pretreatment Coordinators Association is open to all pretreatment professionals who wish to be part of the general membership. There are no membership fees. However, there is an expectation that each member will provide input on core activities. The New England Regional Pretreatment Coordinators Association depends heavily on volunteers to help achieve the association's goals.

2023 Winter Meeting – Save the Date

Robert J. Robinson, P.E., City of Manchester

Friday, December 8, 2023

8:00 AM-3:00 PM

Manchester WWTP, Manchester, NH

The City of Manchester will be hosting the 2023 Winter Meeting. The City of Manchester owns and operates northern New England's largest WWTP

40 Years Ago...

On October 24 1983 at least 161 American marines and sailors were killed and 75 were injured when suicide terrorists driving a truck loaded with TNT blew up a Marine headquarters at Beirut International Airport.

and wastewater utility. The tour will feature the Solids Train Upgrade Project and other recent plant upgrades. The presentation and business meeting to follow will be held at the Puritan Backroom Restaurant.



Safety Corner

Be Wary of Those Bearing Gifts!

By Patty Chesebrough, NHWPCA Safety Committee

It used to be that a friendly resident or passerby would hand a hard-working crew some bottled waters on a hot day or hot coffees on a cold day. Unfortunately, in



planning

engineering

support

construction



WATER & WASTEWATER EXPERTS

- treatment
- pump stations
- collection
- NPDES permitting
- emerging contaminants (PFAS)

800.SAMPSON

westonandsampson.com

Portsmouth NH · Manchester NH

OFFICES ALONG THE EAST COAST

an employee-owned company



today's world, this has become a potential workplace hazard. The NHWPCA Safety Committee was recently informed about the following two alleged incidents involving handouts from the public, including one that resulted in a worker fatality!

An employee accepted some water from the public as they were working on the roadway. The employee started to feel ill and went to the hospital. It was later discovered the water was laced with Fentanyl.

A flagging company that performs work for us, but doesn't work for us, recently had a personal vehicle pull up to two flaggers and offer them bottled water because they looked hot. Apparently the water was laced with something and one flagger died and the other is in the hospital.

Although we were unable to verify the source and factual nature of these two alleged incidents, we decided that the potential hazard still exists and, thus, it is worth increasing awareness across our industry about that potential.

We all want to trust in the public's generosity, but the risk to you and your employees is just too great. Since it is human nature to accept such seemingly benevolent handouts, it is critical that we get the word out about this new type of potential workplace hazard.

Actions you can take to reduce this hazard:

- NEVER accept any donation of food or beverage from the public, as these offerings could potentially contain hazardous materials.
- EDUCATE your staff, boss, and coworkers, as well police, fire, public works, other municipal departments, family, friends, and anyone else that could be at risk.
- UPDATE safety policies, procedures, etc. to include discussion about this potential workplace hazard and a specific prohibition against accepting offerings from the public and anyone else they don't know personally or would not trust with their life.

None of us wants to believe that this type of

40 Years Ago...

On September 16th, 1983, Arnold Schwarzenegger became a US citizen.

intentionally malicious behavior could exist in our community or workplace, but the fact is that it could, and we need to take steps to protect ourselves.

This article is brought to you by the NHWPCA Safety Committee. We are still seeking Near Miss ideas in 2023! If you or someone you know have had a Near Miss, please let us know by sending the incident to Patty Chesebrough at pchesebrough@neiwpsc.org. All submissions are confidential. We just want to keep a Near Miss from becoming an accident. Thank you in advance for your submissions.



By Stephanie Rochefort, City of Somersworth WWTF

Since The Collector is celebrating its 40th anniversary, I want to take a few moments to share some changes that I've seen in my lab. I haven't been working here for forty years (after thirty years I stopped counting), but long enough to have seen some significant changes.

First of all, check out my by-line. All of my lab-books used to say "WPCF", then I changed to "WWTP" and now "WWTF". It sounds more professional. I just have to stop referring to this place as "the plant".

The way that I was taught to calibrate the pH meter sure wouldn't cut it today! We did a two-point calibration with a 4 buffer and a 10 buffer and then ran a 7 buffer for a standard. Those two points are too far apart for a two-point calibration. For a long time, I've been following a proper three-point calibration procedure and running a second source 6.86 buffer for my standard. I've used several different brands of pH meters and even more pH probes. I don't really have a favorite, guess I'm still working on that.

Prior to my arrival in Somersworth, total residual chlorine was measured with a colorimetric method that did not have a very low detection limit. There was an amperometric titrator still in the box and I was told that we were overdue in using it. I figured it out, taught the others, and we used that old titrator for many years before updating to a new amperometric titrator that is still in use today.

The BOD-meter was an old Wheaton model that displaced a lot of water each time the probe went in and out of each bottle, but I was told that it was

better than the YSI bench meters. I used that old meter practically every day before the clarification that composite hold-time begins when the LAST sub-sample is drawn, and I could run a batch of BOD samples.

Running COD samples was kinda sketchy. We ran those for process control, but used a method that produced hazardous waste. There was SO MUCH hazardous waste in the lab storage cabinets when I started working in Somersworth. Somebody even thought that a wastewater lab needed a bottle of elemental mercury! That's fun to play with but it sure felt good when we were able to clear all the hazardous waste out of the lab.

I've seen a lot of changes with how we test for e-coli. We were testing for total coliform when I first began working in Somersworth, with a membrane filtration method. Membrane filtration is a horrible and tedious method. The maintenance crew had built a filtration funnel holder and a light-box to sterilize equipment between dilutions. There was an old, wonky autoclave. To save money, we re-sterilized our sample bottles. Then we were updated to a permit limit for e-coli, but that just meant a different media. To save money, I made our own agar plates. When it was too hot in the lab, I would wheel them into the one room in the facility that had air-conditioning so the plates would set-up. I will sing praises to the inventors of IDEXX from the highest mountaintop because what a game-changer that was for e-coli analysis!

The biggest changes happened with the previous upgrade when the lab was updated and expanded. The room for the expansion came from the old room where the ton-cylinders of chlorine gas used to be! That's a whole other topic....does anybody out there want to write about their experiences with changing from chlorine gas to hypo or UV? I just know there's some good stories out there!

Swings and Things from the 2023 NHWPCA Golf Outing

By Fred McNeill, City of Manchester, NH



On a picture-perfect mid-summer August day the New Hampshire Water Pollution Control Association hosted its 34th annual golf tournament at the legendary Beaver Meadows Golf Course in Concord. This event draws many of the same players year after year so it seems as much of a family reunion as a golf tournament. Several retired industry leaders such as George Harrington (Flow Assessment Services, Inc.), Mike Hanscom (City of Concord), Sharon Nall (DES), Denis Messier (Town of Newington), and Bruce Kudrick (Town of Hooksett) all played and had a chance to catch up with old friends and industry gossip. We also had the pleasure of entertaining guests from every other New England state. All players received a golfing umbrella as a participation prize and to ensure it would not rain that day. Players enjoyed a continental breakfast, some early morning "beverages", and then hit the driving range and putting green to hone their golfing skills for the big tournament. At 0815, twenty-eight teams totaling 112 players headed out for 18 holes of fun and games.



NEED TRAINING OR TCHS?
VISIT OUR TRAINING CALENDAR
<https://portal.neiwpcc.org/training-calendar.asp>



40 Years Ago...

On September 18th, for the first time American Rock band Kiss appears on MTV without their make-up.

Hoots and hollers could be heard from every corner of the course throughout the morning as teams searched for those elusive birdies and eagles. There were even whispers of old friend Joe Ducharme who scored a hole-in-one last year on the 130-yard 13th hole using his faithful 8-iron. As a tournament tradition, a putting contest was hosted by NHWPCA members Rebecca Elwood and Mario Leclerc. Each team stopped by to test their skills after the 9th hole with three putts each. It was great to hear these hoots and hollers as teams tried to will the ball into the cup on a tough left breaking uphill putt. Chronicling all of the action on the course with his trusty camera was another retired industry leader, Charlie Tyler (MWRA). Charlie took team pictures, action shots, and captured those spontaneous moments that we have all come to enjoy when admiring Charlie's photojournalism. Despite a few wayward shots and some high-spirited hijinks, all the golfers finished their rounds in record time and headed back to the clubhouse for lunch at Beaver Meadows' famous 19th Hole. All the guests enjoyed a traditional BBQ lunch of chicken, burgers, hotdogs, along with plenty of tasty treats for dessert.

After lunch it was time for the awards ceremony which started with the skill prizes that were awarded for the putting contest, longest drive, straightest drive, and "closest-to-the-pin". Jen Lachmayr and her team Arcadis beat out four other teams to win the putting contest. Our friends from Flow Assessment Services, Paul Casey and Dennis Vigliotte, took the first two closest-to-the-pins for holes 3 and 6. Past winner Laurie Perkins from Wright-Pierce once again won the Ladies long drive title with a 10th hole long bomb. At the completion of the skill prizes, it was time for the tournament tally. Grabbing third place with a 63 was last year's champs and New Hampshire newcomer Scott Haynes and his Arcadis Team No. 2. Second place for a second year in a row, with an identical score from last year of 61, was Wright-Pierce Team Dover lead by Tim Vadney. This year's winner with a sizzling 59 was Team Kleinfelder led by Ian Gervais, who will be married shortly after the tournament, and Kevin Desjardins, who recently celebrated the birth of their first child. Congratulations to both of them on the win and the special milestones in their lives. As new family men, Ian and Kevin may not have enough time to work on their golf games next year thereby giving another team a chance at winning. Next on the golfing agenda was over \$2,000 in prizes that were raffled off including drivers, 3-woods, wedges, bags, and other golfing goodies. Lastly, our long-time sponsor Aqua Solutions, Inc. provided Bruins tickets that were raffled off. A hearty congratulations to all our winners and participants. As the crowd began to wind down the last of golfing gang shared their highlights, lowlights, and the great time they had at the tournament. Like a family reunion, we were all already making plans for next year's tournament.

As always, we wish to thank all of our very generous sponsors listed below. Our sponsors' generosity and participation is what makes this such a successful event for NHWPCA. We look forward to seeing you next year for our 35th golf tournament on Thursday August 1, 2024 at Beaver Meadow Golf Course!

- Aqua Solutions
- Arcadis
- Boyson and Associates, Inc.
- Brown and Caldwell
- Carlsen Systems





ENDYNE
Laboratory Services

Full-Service
Environmental Laboratory
Lebanon NH
(603)678-4891

Plattsburgh NY — Williston VT
Lake George NY

info@endynelabs.com



www.endynelabs.com

CDM Smith
 Comprehensive Environmental Inc.
 Concord Winwater
 Eastern Analytical, Inc.
 EJ Prescott
 Electrical Installations, LLC
 Flow Assessment Services, Inc.
 Fuss & O'Neill
 Hayes Pump
 Hazen and Sawyer
 HDR
 Hoyle, Tanner & Associates, Inc.
 Jacobs
 Kleinfelder
 Multiple Hearths, IFCO
 NEIWPC
 Normandeau
 P. Gioioso & Sons, Inc.
 Park Construction Corp
 PC Construction
 Penta Corp
 RH White
 RMI
 Stantec Consulting Services Inc.
 The MAHER Corporation
 Tighe & Bond
 Underwood Engineers, Inc.
 Water Industries, LLC

City of Manchester - 20 Years of Challenges Met and Mastered

*Frederick J. McNeill, P.E., Chief Engineer
 Environmental Protection Division
 Department of Public Works, City of Manchester*

The City of Manchester, New Hampshire is the largest city north of Boston with 115,000 residents and has experienced continued growth and significant revitalization over the past 20 years. The City of Manchester owns and operates a Wastewater Treatment Plant (WWTP) that was constructed in the early 1970s as part of the Clean Water Act and went into operation in 1975 with a capacity of 26.0 million gallons per day (mgd). The WWTP was upgraded in 1993 and expanded to 34.0 mgd. The WWTP was upgraded again in 2016 and expanded to 42.0 mgd. Presently, the WWTP treats flow from the communities of Manchester, Goffstown, Londonderry, and Bedford (metro population of 172,000) and currently averages about 24.0 mgd

annually. The City's 390-mile collection system has about 11,000 manholes and 15 combined sewer overflow outfalls (CSOs). The collection system has over 100 miles of pipe that is over 100 years old and about 55% of the system is combined conveying both wastewater and stormwater. To convey these flows, the City owns and operates 11 pump stations varying in age from 1975 to 2013 and varying in flow from 0.10 mgd to 25.0 mgd. The City's stormwater system consists of over 190 miles piping, 12,000 catch basins, 3,000 drain manholes, and six urban ponds.



Challenges

Over the past 20 years, the city Manchester has faced many of the same challenges as the wastewater industry has nationally:

- Increased regulatory requirements
- Aging and failing infrastructure
- Graying and diminishing work force
- Lack of sustainable funding
- Climate change induced weather events.

These challenges led Manchester in 2006 to reassess its wastewater and stormwater infrastructure needs to efficiently and effectively determine future goals and objectives. One of the key results of this reassessment was the preparation of four master plan documents covering the WWTP, CSOs, pump stations, and collection system. These four documents collectively provided a clear and cohesive vision with a defined roadmap that would lead the City's focus, efforts, and investments for the next 20-years.

WWTP Projects

The WWTP Facility Plan which started in 2005 and was completed in 2010 pro-actively addressed

two of the key challenges identified above; “increased regulatory requirements” and “aging and failing infrastructure”. The increased regulatory requirements addressed in the Facility Plan included evaluation of nutrient removal methodologies/ technologies to achieve compliance with an anticipated phosphorus limit in the City’s next NPDES permit. The Facility Plan also identified the need to increase peak wet weather flow capacity at the WWTF to minimize CSO discharges as required by a combined sewer overflow (CSO) mitigation consent decree. The majority of the equipment at the WWTP was original to either 1975 when the facility was constructed or date back to 1993 the date of the last major upgrade. To address aging and failing infrastructure the Facility Plan developed a prioritized program of capital improvements projects that recommended over \$75 million in projects over the next 20 years. The Facility Plan emphasized that all equipment replacement should focus on energy reductions, ease of operations, and ability to provide pro-active maintenance. The City supported and embraced these recommendations and embarked on addressing the WWTP challenges of regulatory compliance and the replacement of aging and failing equipment. Ten WWTP projects completed since 2007 are briefly summarized below.

1. Dewatering Upgrade Project - Completed 2007
- Cost \$4.5 Million

- Project Description
- Replaced belt filter presses with three new 75 hp centrifuges
- New operations room
- New polymer feed system
- New screw conveyor



2. Secondary Clarifier Upgrade - Completed 2010
- Cost \$3.5 Million

- Project Description

- Replaced original draft tube type equipment with spiral blades
- New wall mounted outboard FRP launders
- New scum sprays
- New chemical feed pumps



3. Fluidized Bed Incinerator Upgrade - Project Completed 2011 - Cost \$4.5 Million

- Project Description
- Rebuilt the Incinerator
- Replaced 75% of the vessel’s shell
- New brick interior lining
- New tuyere system
- Inlet manifold
- Heat exchanger



4. Grit Upgrade Project - Completed 2013 - Cost \$4.0 Million

- Project Description
- Replaced chain and flight equipment with new hydraulic screw conveyors
- New grit pumps and classifiers
- New flumes
- Cover modifications
- Channel baffles



5. Aeration Upgrade - Completed 2016 - Cost \$22.5 Million
 - Project Description
 - The aeration system was modified from two trains of six basins to four trains of three basins
 - New fine bubble technology diffusers
 - Selector basins for TP removal
 - New blower building housing four 300 HP blowers
 - \$3.3 Million Electrical upgrade



6. Operations Building Boiler Upgrade - Completed 2017 - Cost \$2.5 Million
 - Project Description
 - Three original 300 HP oil fired steam boilers are being replaced with four energy efficient gas fired hot water condensing boilers
 - New piping and air handling equipment
7. New Storage Building - Completed 2017 - Cost \$400,00
 - Project Description
 - The construction of a 32 ft. by 70 ft. four bay storage building

civil &
environmental
engineering

Over 40 Years of service
to Northern New England



25 Vaughan Mall Portsmouth, NH ph 603.436.6192
99 North State Street Concord, NH ph 603.230.9898
www.underwoodengineers.com

- Wood frame construction
 - Prides dry/safe storage of seasonal equipment
8. Clarifier/Thickener Upgrade - Completed 2018 - Cost \$10.0 Million
 - Project Description
 - Complete removal and replacement of all internal components of three 130 ft. diameter clarifiers and three 50 ft. gravity thickeners
 - Covers for the gravity thickeners
 9. Incinerator Emissions Control Project - Completed 2019 - Cost \$10 Million
 - Project Description
 - Installation of new scrubber to remove mercury and SO2
 - Replacement of main heat exchanger
 - Replacement of tuyere system
 - New ductwork and piping
 10. Solids Train Upgrade - Ongoing - Cost \$25 Million
 - Project Description
 - Installation of three new "thickening" centrifuges
 - Installation of 225-CY cake storage silo that is 22-ft diameter, 26-ft high silo and 46-ft height overall
 - Installation on in-line mixers and seven solids analyzers
 - Enlargement of three truck bays



Work at a WWTP is similar to painting the Golden Gate Bridge. You start at one end and by the time the job is completed, it's time to start all over at the other end. Carrying this theme forward the City has three more WWTP projects programmed to complete the facility Plan's recommendations. **Stay tuned for the next edition of The Collector to learn more!**

RMI attends 2023 National Water Policy Fly-In

By Devon Pasco, Administrative Assistant, RMI

Two members of RMI, President Shelagh Connelly and Sales Representative Christina Adams, flew to Washington D.C. to attend the National Water Policy Fly-In as part of Water Week 2023. Representatives from across the wastewater, drinking water, stormwater, and water reuse sectors attended this major annual event to jointly advocate for water policy. Shelagh and Christina were joined by NEWEA President Bob Fischer, as well as Nic Leblanc of Canadian environmental management company Englobe, who attended with interest in how the EPA and US Congress were handling current PFAS issues.

2023 brought with it some complex challenges for

40 Years Ago...

On November 2, 1983, President Reagan signed a bill establishing Dr. Martin Luther King Jr. Day as a federal holiday.

the water sector, including emerging contaminants, workforce shortages, and a need for continued funding for infrastructure, climate resiliency, and water research, making this event all the more crucial. Over the span of the two-day event, attendees were able to hear remarks from prominent members of Congress, as well as meet with legislators and government officials on Capitol Hill.

As always, RMI was very impressed with the engagement of our National Delegation – and saw first-hand the great work being done by our Senators Shaheen and Hassan, and our Congresspeople Kuster and Pappas. The granite state is fortunate to have this team working for us in DC.



Bob Fischer (NEWEA), Nic LeBlanc (Englobe), Christina Adams (RMI)



NH Congressman Chris Pappas and RMI President Shelagh Connelly

2023 Annual Poster Contest

This year's National Clean Water Week (June 4 to June 10) was celebrated by our annual Clean Water Poster Contest. We use this contest as an opportunity to remind students of the importance of protecting our water resources and of the impacts children can make by maintaining an active role in preserving the environment. This year's theme was "How We Use Water" and we received 120 entries between grades 1-6. We were thrilled to be able to invite 15 winners to the State House in order to meet Governor Sununu as he helped us lead off New Hampshire's Clean Water Week by spending quality time with the winners and signing the proclamation with them. As always, we look forward to another year of the Poster Contest in 2024!



The Importance of Reputation vs. Character?

Editorial

Originally published on April 13, 2023 and reprinted with permission of the Londonderry Times

Are you more concerned about your character than your reputation? Your character is what and who you are when no one is looking, while your reputation is merely what others think of you.

Having a good reputation isn't everything, I know plenty of people who have a stellar reputation and yet have no character. The opposite is also true, there are people who have a bad reputation and have an outstanding character. A person of character is often out in front, regardless of who is watching, doing what they believe is the right thing.

Reputation seekers cannot lead that way because they need to be sure people are looking. When you care more about your reputation, it means you care more about how the public views you rather than doing the right thing.

Character takes a lifetime to build, but can be lost in an instant. Once it's lost, it can be difficult to regain. Your true character is revealed when no one else is looking. Character is more important than reputation, but having a good reputation is also a necessity.

The general public may not know who we are, so they base their judgement merely on what some said AKA reputation.

The fact is that your character is much more important in defining your success than your reputation will ever be. Your character defines the person you are, regardless of the circumstances in which you find yourself. Your reputation on the other hand, is nothing more than what some people think you are in certain circumstances.

Be more concerned about your character than you

40 Years Ago...

On November 20th, 1983, *The Day After*, an American film depicting what would happen if nuclear war broke out, is first aired on TV.

are about your reputation and your reputation will take care of itself. In the long term, your reputation will become a by-product of your character. If you are of strong character, your consistent exemplary behavior will mean that even disparaging remarks about you will be meaningless because nobody will believe them.

Your character isn't going to be judged by what you say you believe in, or what you say about how people should act; your character will be judged by how you live your life. This is a lesson that I was fortunate to learn first-hand when I was an adolescent.

It is crucial to live up to your responsibilities, and do things because they're right, not because it makes you look good. Don't let others set your standards. To be trusted, you must be trustworthy.

A good reputation may be a wonderful way to open doors, but only with a strong and good character will you be able to keep them open, phonies and con artists are soon found out and then usually ushered out.

It's never too late to become the person you want to be.

2023 NHWPCA (Green) vs. NHWWA (Blue) Softball Game & Joint Fisher Cats Outing

By Kevin Garvey, PE, Wright-Pierce

It was a beautiful summer Saturday right up until the first pitch of the NHWPCA (green) vs NHWWA (blue) softball game. Five minutes before the first pitch the sky began to open and then it proceeded to rain harder and harder for the next 45 minutes until a rain delay was enforced. At the time of the rain delay the NHWPCA team was winning 7 – 3, unfortunately the NHWPCA team lost all its momentum following the delay. The NHWWA team proceeded to outscore the NHWPCA team by 29 runs over the remainder of the game for final score of 35 – 10. Thank you to the 25 softball players in attendance, to Sam Currier for umpiring the game, and to Mike Theriault for bringing refreshments for all in attendance. Spirit awards went out to Derek from the City of Concord, and Nora from Hazen and Sawyer for their hard-fought efforts on the ball field. If you're a softball player and interested in playing in the 2024 Green vs Blue softball game please reach out to Kevin Garvey at 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 at 5 PM to share a pint, chat about the finer things in life, and to eagerly await the first pitch. While all were waiting for the first pitch, a Water for People 50/50 raffle was held and raised \$210. The Fisher Cats game was unfortunately cancelled due to inclement weather, we are still waiting to hear when the Fisher Cats game will be rescheduled to. Please keep your eye out for follow up correspondence on the rescheduled game.

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 their butts off in deluge weather conditions. The associations would like to recognize the following sponsors whose generosity help made the softball game and Fisher Cats affordable for all to enjoy.

- Aquarion Water Company
- Carlsen Systems
- CDM Smith
- Endyne

Tighe&Bond

Design | Engineering | Environmental Science



Delivering Innovative Solutions throughout the Northeast

- Water Resource Management
- Capital Improvement Plans
- Distribution / Storage Solutions
- Dam Improvements
- Water Supply Plans
- Groundwater Development
- Vulnerability Assessments
- Treatment Plants
- PFAS Treatment
- Sustainability / Resiliency
- Lead Service Line Replacement Plans
- Grant Funding / Rate Studies

WATER RESOURCES

@tighebond
www.tighebond.com

EJ Prescott, Inc.
 F.R. Mahony & Associates
 Granite State Analytical
 Hazen and Sawyer
 Kleinfelder
 Manchester Water Works
 Tata & Howard, Inc.
 The Maher Corporation
 Wright-Pierce



Bob Blais – Wright-Pierce, Mike Patrick – Maher Group, Kevin Garvey – Wright-Pierce, Blake Miner – City of Concord, Mario Leclerc – Seabrook, Craig Lavin – EJ Prescott, Derek Emerson – City of Concord, Rebecca Saucier – Wright-Pierce, Anthony Drouin – NHDES, Joe Mulleavey – City of Concord, Leo Lavin – Hooksett WWTF, Daryl Coppola – FR Mahony, Giada Coppola – FR Mahony

2023 Summer Meeting

By Kevin Garvey, PE, Wright-Pierce

It was a beautiful summer day at Ellacoya State Park in Gilford NH along the shore of Lake Winnepesaukee for the NHWPCA Summer Meeting on June 23, 2023. The Association’s Activities Committee was in full force to greet park attendants as they arrived on their golf cart to open the gates to the venue. Setup began immediately for the summer meeting. Tables were moved, barbecues and burners were fired up, and the feast was readied for preparation.

As the hot dogs began cooking, the cornhole tournament was set up, and a board meeting was held. Teams began playing just as the golden hotdogs came off the grill and the wonderful chili donated by Poor Boy’s Diner in Londonderry, NH was ready to serve. The cornhole competition was a real hit, with 16 teams competing in a double

elimination style tournament for bragging rights. Past tournament winners Mike Dube (2018, 2022) from the Hampton WWTF and Mario Leclerc (2016, 2019, 2022) from the Seabrook WWTF teamed up and edged out the competition! Congrats to Mike and Mario on the back to back championship!

Attendees enjoyed a fantastic and fun-filled social networking event with the perfectly-grilled marinated steaks and chicken, homemade salads, corn-on-the-cob, and refreshing cold treats at the ice cream bar donated by Wright-Pierce, which provided a number of smiling scoopers for the warm afternoon.

The NHWPCA extends much gratitude to the many volunteers of the Activities Committee who worked hard to plan, setup, cook, and clean up, making the event so successful and a special thank you to all the individuals that stepped up the day of the event to help move tables, cook, and to help in many additional ways. The Association would like to recognize the following sponsors and donors whose generosity help made the Summer Meeting affordable for all to enjoy.

- BAU Hopkins
- Carlsen Systems
- CSA Environmental Consultants
- EJ Prescott, Inc.
- F.R. Mahony & Associates
- Haye Pump, Inc.
- Multiple Hearth
- New England Environmental Equipment, Inc.
- Stantec
- Town of Hampton
- Underwood Engineers
- Weston & Sampson
- Wright-Pierce (Ice Cream Bar)
- Poor Boy’s Diner (Chili)



10 Questions to get to know NHWPCA's newsletter committee

Dylan Delisle



1. Who is your current employer and for how long have you worked there?

For the past four years I have been employed as an operator with the City of Concord.

2. Why did you decide to go into this field?

Prior to working in a wastewater facility, I worked as an analyst conducting ecological risk assessment and toxicology analysis on wastewater samples. I had always wanted to know more about the wastewater process so I decided to enter the field from there. This decision was backed by my love for the outdoors, particularly fishing. Clean water is the foundation for strong ecosystems, biodiversity and healthy fish populations!

3. What is special about the place you grew up?

I was born and raised here in New Hampshire and there is so much about it that is special to me. I enjoy having four distinct seasons, and I also enjoy the close proximity of the mountains, ocean and forests. You don't get that just anywhere and it's easy to take for granted.

4. What's your favorite movie genre?

I am a big fan of comedies and cult films!

5. What's your favorite book of all time?

The Sacramento State's Operation of Wastewater Treatment Plants of course.

6. For what song do you HAVE TO turn up the volume and sing along?

"Like a Rolling Stone" by Bob Dylan

7. Would you rather go hang-gliding or white-water rafting?

I do appreciate some clean water... Sign me up for whitewater rafting any day.

8. How do you relax after a hard day of work?

After a hard day of work, I love taking my dogs out on a walk or I grab my fly rod and have some fun in the local rivers and ponds.

9. Which is your favorite NHWPCA event or meeting?

I attended the operator exchange program back in 2021 and I found it to be an excellent way to gain knowledge and obtain resources in the field of wastewater. I would highly recommend this program to anybody looking to further themselves in the field.

10. Does pineapple belong on pizza?

To each their own... I am a pineapple on pizza guy for sure.

Out of The Archives!

This vintage photo came to me from a pipe-cutting competition at a past construction career day. Wouldn't it be fun to highlight some other vintage photos? Please dig through your archives and send to srochefort@somersworthnh.gov.





Photo Gallery

2023 Summer Events





2023 NHWPCA Sponsors



Scott Haynes
(617) 605-4624



Gene Weeks
(207) 245-8829



IMPROVING COMMUNITIES TOGETHER
Christine King
(401) 333-2328



Ryan Peebles
(802) 222-1762



Paul Schmidt
(603) 431-6196



Eastern Analytical, Inc
professional laboratory and drilling service.
Jennifer Laramie
(603) 228-0525



Laurel Jackson
(603) 678-4891



John Tetreault
(781) 982-9300



Paul Casey
(603) 656-9799



Maureen MacDowell
(603) 668-8223



Greg Bleszinski
(860) 690-5236



Richard Slingsby
(603) 540-1608



Nichole Davis
(603) 460-5157



Multiple Hearth Furnace Services
William Lill
(585) 288-2070



John Benham
(603) 934-7100

RMI
Charley Hanson
(603) 536-8900



Jaine Marquis
(978) 838-9998



Adam Yanulis
(617) 680-3091



Mike Carleton
(603) 875-7000



Mary O'Malley
(603) 570-6320



Mike Theriault
(603) 606-4435



10 Tower Office
Park Suite 601
Woburn MA
01801

NON PROFIT ORG.
U.S. POSTAGE
PAID
CONCORD, NH
PERMIT NO 1513

BECOME A 2023 SPONSOR AND/OR ADVERTISER

Sponsor Opportunity: Your company's name, logo, contact person and phone number will appear in four quarterly issues of the "The Collector" in a special section designated for the newsletter sponsors! *Your company will receive a copy of each newsletter.*

Advertisement Opportunity: a business-card, 1/4 page or 1/2-page advertisement can be published once, twice, three or even four times! *Your company will receive a copy of the newsletter(s) containing your advertisement.*

For maximum exposure for your business to 400+ wastewater professionals consider both a sponsorship and an advertisement!

DEADLINE: Rolling deadlines for 2023 are 2/1, 5/1, 8/1 and 11/1.

Please direct all advertising copy and graphics, as well as payment questions, to:

(781) 939-0908 or info.nhwpc@gmail.com