FALL 2021 — ISSUE 126

NEWSLETTER

NH WATER WORKS ASSOCIATION

Professional Advancement and Career Development – 2022 and Beyond

Professional certification, training and advancement are critical in the public drinking water sector, as our customers consume our product every day and our level of service is critical to their health and economic wellbeing. The Association strives to provide the best possible training to drinking water professionals to help achieve these critical goals. We work closely with our lead Instructors, our partners at NHDES, and you, to develop educational programs that meet the pressing challenges of our industry.

Pressing challenges include the "silver tsunami", with roughly 40% of Operators within five years of retirement. Emerging contaminants and more protective water quality regulations will require more advanced and complex treatment. Electronic management systems from Operations to billing require new knowledge, including protection from cyber-attacks. An enormous influx of federal funds will help address long overdue system upgrades and maintenance but managing this flood of resources will put additional strain on water workers.

A resilient, well trained, professional, and respected workforce is required to continue our high quality of service in the face of these challenges and opportunities. The Association is realigning our resources to help water workers thrive in their many professional roles and want to share our plans for 2022 with you so that you can prepare for professional advancement and career development in the year ahead.

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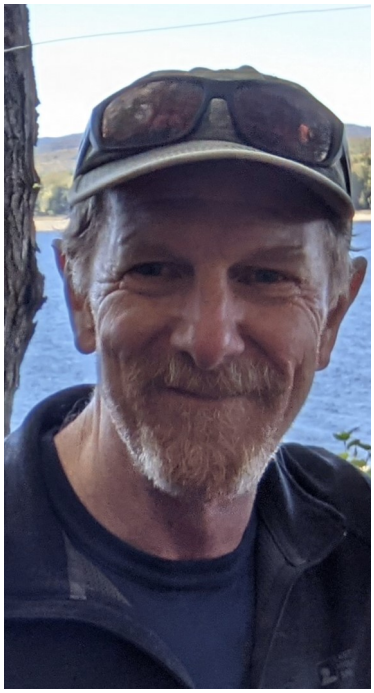
Mike Metcalf - 42 Years of Service in the Drinking Water Industry



Mike Metcalf has been providing engineering services throughout northern New England for 42 years, including the last 17 with Underwood Engineers' Concord, NH office. Mike is now entering his well-deserved retirement in December 2021. Very few have provided as many relevant and effective solutions improving water quality for hundreds of thousands of people. Notable work includes new water supplies, PFAS treatment facilities, Fe/Mn treatment, arsenic treatment, groundwater recharge and dozens of other important projects. He received his bachelor's degree from University of Connecticut in 1979, and a Master's degree from the University of New Hampshire in 1992. Mike maintains his registration as a professional engineer in New Hampshire and Maine. Mike is a past president of the NHWWA and past Chair of the Water Resource Committee for the NEWWA. He lives in Hopkinton, NH with his wife Amy where they raised their 3 grown children. You will now likely find him skiing the woods at Mad River Glen in Vermont or kayaking from his camp on Lake Aziscohos in the Rangeley Lake region of Maine.

As a friend and colleague to many of you that are reading this, you know Mike is always a team player, always willing to help and always a pleasure to work with. We hope everyone will find an opportunity to congratulate him. The industry deserves and needs more people like Mike Metcalf. Lucky for Underwood, he will remain a Technical Leader, but be working on his own schedule!

Abandoned Wells and Groundwater Protection

by Steve Del Deo

The subject of abandoned or inactive wells is one which has been addressed on many occasions. The problem is, these wells are still out there and in my estimation in significant numbers.

The issue of abandoned wells came to mind while on my daily walk, where along my usual route I can see four wells (from the road) that are suspect either because of their distance from homes, or because they are on abandoned properties. So, I got to thinking, if I could pick out several on my walk of a few miles, how many abandoned or at least inactive wells are there in rural New Hampshire?

The important question is, how much of a threat to groundwater quality do these wells actually present? The answer is – enough to be concerned. Whether these wells are shallow (in unconsolidated material) or bedrock, the concern is if contaminated they could compromise groundwater quality in the immediate vicinity of the well, or a broader area especially in the case of bedrock wells.

A second concern, of course, is if not properly secured these wells could create the potential for bodily harm especially for curious children.

Abandoned well at abandoned property.

The problem here is not so much with abandoned or inactive public water supply wells, but with abandoned private wells. Public water suppliers, in general, know how to properly address their wells. But for a private well owner, having an abandoned well on her or his property and what to do about it may be the furthest thing from that person's mind. So, the point being if you know of an abandoned well and would be comfortable talking with the owner about it, then that would be a great way to help further protect our valuable groundwater resource.

The New Hampshire Department of Environmental Services has a fact sheet which addresses in detail how to decommission an inactive well, and a second fact sheet specifically for monitoring wells. Whether public water system wells or privately owned wells, the methodology is the same. These fact sheets specifically address types of materials acceptable for filling wells, proper capping of wells, and overall securing the well head and surrounding area. State law requires that this work is performed by a licensed NH water well contractor.

The following state laws are relevant to decommissioning inactive or abandoned wells.

RSA 482-B:15 Maintenance and Repair of Wells and Pumps (Chapter 482-B New Hampshire Water Well Board) and associated Administrative Rules We 603 Well Maintenance and We 604 Abandonment of Wells.

Abandoned shallow well constructed of fieldstone.

RSA 485:37 Fencing or Covering, and RSA 485:38 Nuisance (Chapter 485 New Hampshire Safe Drinking Act).

Following are two helpful fact sheets from NHDES:

Decommissioning Inactive Wells

Maintenance and Decommissioning Requirements for Monitoring Wells Associated with Hydrogeologic Investigations

FOR SALE

Thirteen 8-inch Hymax repair couplings. Brand new. Link for spec sheet:

https://www.ferguson.com/product/krausz-usa-hymax-8-in-carbon-steel-repair-coupling-k86056021716/_/R-1773163

$300 each. Contact Amy Lewis at 603-863-6512 or amy@eastmanh2o.org

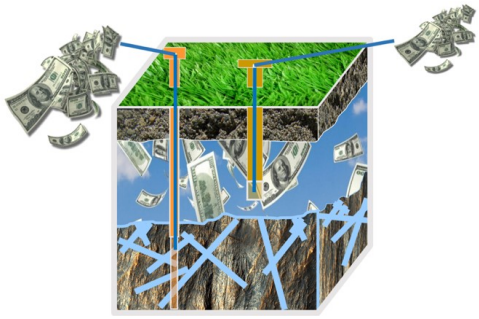
Working on the Edge

By Abby Thompson Fopiano, P.G.

We are in the business of supplying safe drinking water at adequate pressure to more than half of New Hampshire's homes, as well as to schools and to workplaces. You can't run a successful business if you don't know what your assets are, what your liabilities are and how best to provide your inventory in changing times. Over the past decade our industry has been actively promoting the concept of preventative maintenance through inventorying and understanding water system's assets. Although we have done well putting this concept into action, we still have a long way to go.

Most large water systems understand this model and work diligently on the checks and balances. Often, however, smaller water systems do not see their system as a utility— a business which provides a service. Many small water system owners, such as private owners, Co-ops and HOAs, don't have an overall understanding of how water gets to their tap and what the vulnerabilities of that process may be. They are responsible for maintaining systems of great value, often of more than a million dollars when sources, pumps, controls, treatment, and distribution are included. Yet, many have the mindset of "wait till it fails, then we'll fix it" or "we've always done it this way" or "there are other more important things to spend our money on."

Our role as the knowledgeable individuals in this industry is to educate these owners, encouraging them to prioritize their water system and its assets – their wells, tanks, treatment, controls, meters, distribution, etc. We all have different viewpoints on what the most important assets are. As a hydrologist, I see the water source(s) as the greatest asset. This is where the inventory is. Without the water, the business fails. This is role I will take - to educate and promote the importance of prioritizing the health of our water supply wells.



I am the owner of Edgewater Strategies, a firm focused on groundwater withdrawal management and permitting and public water system upgrades and operations. I have been working in New England's drinking water industry for 15 years – first as an intern, then as a consultant, and as a water system operator and a NH DES regulator. My primary focus is on small water systems – aiding with source water optimization, water use and water level monitoring, permitting new wells, pump operation management, public water system operations, asset management and planning for system upgrades.

Growing up on Lake Winnipesaukee I have always felt connected to the water.

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NHWWA Calendar

Here is a look at our upcoming trainings and events for 2022. For more information and to register visit the TRAINING SCHEDULE & REGISTRATION page on our website. Email notices will go out via Constant Contact.

When	What	Where	TCHs
December 7, 2021	Operator Training	Concord	3
January 20, 2022	NEWWA/NHWWA Joint Meeting	Birchwood Vineyards, Derry, NH	2
Spring 2022	Grade 1A Operator Course	TBA	10
Spring 2022	Exam Prep Course	TBA	12
Spring 2022	Basic Water Works Math Course	TBA	12
Spring 2022	Small System Roundtables	TBA	2.5/each
Spring 2022	Spring Technical Meeting/ Operator Training	TBA	3-5
April 26, 2022	NHDES Water Operator Examinations	Concord, NH	
TBA	Grade 2 Training/Exam Prep	TBA	18-24
TBA	Grade 3-4 Management & Technical Seminar	TBA	6-9
August 3, 2022	Construction Day	TBA	3
Fall 2022	Grade 1A Operator Course	TBA	10
Fall 2022	Exam Prep Course	TBA	12
Fall 2022	Basic Water Works Math Course	TBA	12
Fall 2022	Small System Roundtables	TBA	2.5/each
October 20, 2022	NH Drinking Water Expo & Trade Show	Grappone Center, Concord, NH	5
November 2022	Fall Technical Meeting/ Operator Training	TBA	3-5
December 6, 2022	NHDES Water Operator Examinations	Concord, NH	

2021 NH Drinking Water Expo & Trade Show

It was great to be back in-person again for this year's trade show, to see familiar faces and meet new colleagues. We want to thank everyone who made this event possible—our speakers, sponsors, exhibitors, volunteers and attendees. A list of the presentations with links to slides can be found on our website [NH Drinking Water Expo & Trade Show - New Hampshire Water Works Association (nhwwa.org)](#) .

PRIME EXHIBITORS

Absolute Resource Associates
Barrett Electric Co., Inc.
CDM Smith
DN Tanks
Dufresne Group
E.J. Prescott
Filter Magic / ICS
F. W. Webb
Granite State Analytical Services, LLC
Hoyle, Tanner & Associates, Inc.
New England Backflow, Inc.
R.H. White Companies
Stiles Co.
Ti-SALES
Underwood Engineers
Weston & Sampson
Wright-Pierce

REGULAR EXHIBITORS

BAU/Hopkins
CAI Technologies
Clow Valve Company
Eastcom Associates, Inc.
Eastern Analytical, Inc.
Endyne Inc.
Ford Meter Box Company
GeoInsight
GZA GeoEnvironmental
Hach
Kennedy/MH Valve
Kleinfelder
Maltz Sales Company
Manchester Water Works
Mass Tank Inspection Services, LLC
Mongoose Power Solutions, LLC
New England Water Works Association
New England Environmental Equipment
NH Department of Environmental Services
NHWWA Young Professionals
Pennichuck Water Service Corporation
Preload, LLC
R.E. Prescott Co., Inc.
Secondwind Water Systems, Inc.
Statewide Aquastore, Inc.
SUEZ Advanced Solutions
Tata & Howard
Tighe & Bond Inc
Trihedral Engineering

Change Is Coming – New Association Membership Structure Starts January 2022

To streamline and simplify the ways that you can benefit from NH Water Works Association membership while supporting New Hampshire's leading public drinking water advocate, please watch for the following changes to your 2022 NHWWA Membership:

1. Invoices will be mailed in January, as our fiscal year now matches the calendar year.
2. Membership rates will be modestly increased to better reflect market conditions and the goals of our ambitious 2020 Strategic Plan.
3. We have added a Lifetime Membership category for organizations to recognize long-time employees.

Your membership helps us keep you at the front of training, policy and industry trends in New Hampshire. Invest in your mission by being an active and generous member of the NH Water Works Association!

WELCOME NEW SUPPORTERS!

Individual Members

Jordan Brock, Underwood Engineers

Chris DeCourcy, New England Environmental Equipment, Inc.

Kevin Desjardins, DN Tanks

Tyler Jones, Woodstock PW

Theodor Reinoehl, T.J. Beacon Co., Inc.

Richard Skarinka, PE, Consultant

Associate Member

Steve Donovan, WhiteWater, Inc.

Small System Members

Wagon Wheel Mobile Park

Stephen Wentworth

Thank you to all our supporters. Supporters receive discounts on industry-leading educational classes and programs, access to current and critical technical and regulatory information, and are part of an organization that effectively advocates for and represents New Hampshire's public drinking water sector. If you are not yet a supporter, please consider joining today. Help us to help you succeed!

NHWWA Young Professionals Committee Happenings

In-person events are back and the NHWWA Young Professionals Committee (YPC) is taking full advantage!

In August, the YPC took us out to the ballgame at Northeast Delta Dental Stadium in Manchester to watch the New Hampshire Fisher Cats take on the Hartford Yard Goats. Young professionals, experienced professionals, and their families enjoyed BBQ and networking on the upper deck while watching the Fisher Cats take the win with a score of 6 – 2! The YPC also raffled off tickets to the NEWWA Red Sox Outing with proceeds going toward the YP Operator Scholarship. This sold-out, YPC event was a terrific way to celebrate a return to in-person networking and social opportunities, and the YPC is excited to keep this annual tradition alive!

This year, AWWA declared the first ever Source Water Protection Week, September 26 – October 2, 2021, to highlight the importance of protecting drinking water sources from pollution. To celebrate, the YPC hosted a Reservoir Cleanup and Picnic Bash at the Concord Water Treatment Facility. A crew of volunteers filled up several bags of trash around the outskirts of Penacook Lake, Concord's primary drinking water source. Afterwards, folks celebrated the successful cleanup by playing yard games, enjoying some grilled burgers, and listening to live music!

To wrap up the first half of the Fall season, the YPC was thrilled to finally be back at the NHWWA Expo and Tradeshow! The YPC hosted a busy booth, welcoming new members and introducing them to the opportunities that our committee has to offer. At lunchtime, young professionals participated in the YPC's "Moving Up" panel – an interactive discussion about advancing your career in the water industry. At the end of the day, several of the female leaders of the YPC spoke on the "Women in Water" panel, highlighting their experiences as women in the water industry and emphasizing the importance of female inclusion. Overall, the YPC had a busy and successful day at the Expo!

A great effort by the YP's and families picking up trash in the Penacook Lake watershed on September 25!

Keep an eye out for news about upcoming events! We are planning a networking event after the NEWWA/ NHWWA Joint Meeting on January 20. You will also have a chance to vote on the YP Choice Event soon.

We hope to see you at some of our upcoming winter events!

(**Professional Advancement** *continued from page 1)*

Entry-level Water Workers (Grades 1A and 1 Training and Exam Preparation)

The Association's Basics course was our 10-week, 30-hour class offered in the January – March timeframe to prepare new workers to pass Grade 1 exams. We have decided to no longer offer this course as we have created a more effective and economical way to meet the need. We encourage prospective operators to attend one or more of the following courses that will be offered in the spring and fall, prior to NHDES on-site exams in late April and early December:

- The rigorous and comprehensive **Combined Treatment and Distribution** training (1A) is designed for Operators of very small systems or workers that are new to the drinking water industry. This is a 12-hour class taught over a 2-week period, designed to prepare students to take the Grade 1A exam.
- The **Exam Preparation Course** will be focused on Grade 1 exam requirements. Exam Preparation includes 12 hours of training over a 2-week period.
- New operators are also encouraged to attend the **Water Works Math Course** that supplements both Grade 1A and Grade 1 curricula. Waterworks Math includes 12 hours of training over a 2-week period.

Required experience for Grade 1 can be earned under NHDES' Operator-in-Training program so that a new employee can become a certified Grade 1 Operator within one year. No hands-on experience is required for Grade 1A certification.

Grade 1 and higher exams can be taken online throughout the year at a DES-approved testing facility as well as during NHDES on-site exams. Grade 1A is unique to New Hampshire and exams must be taken on site. NHDES on-site exams are scheduled for April 26 and December 6, 2022.

Because of NHDES' financial support, tuition is limited to $50 / class for 1A, Exam Preparation and Water Works Math. With a total potential training time that exceeds our former Basics class, and with our new approach and NHDES support, costs to prepare for a Grade 1 exam have been substantially reduced.

Mid-Level Water Workers (Grade 2 Training and Exam Preparation)

There is a growing need for Grade 2 Operators as senior workers retire and water treatment systems become more complex. We plan to create a class focused on Grade 1 Operators seeking Grade 2 certification, designed to help students pass Grade 2 exams as well as prepare for higher levels of supervisory and management responsibility. We envision 18 – 24 hours of training over a 6-to-8-week period, taught in modules by leading professionals. Modules will include treatment and distribution operations; regulatory requirements and strategies to meet them; water math and chemistry; management, communications, and budgeting; and Grade 2 exam preparation. Classes will be scheduled and structured to minimize work disruptions, and class size limited to 20 students to maximize interactive learning.

Senior-level Water Workers (Grades 3 and 4, Management and Technical Seminars)

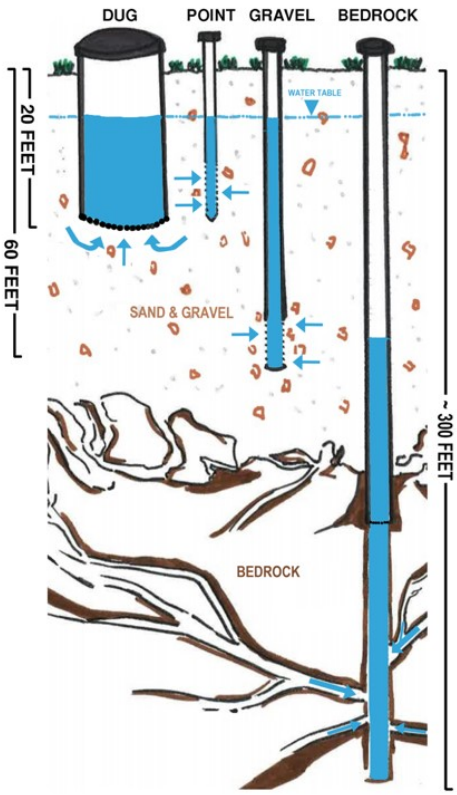
There are roughly sixty Grade 3 and 4 Operators in the State. These professionals are chief Operators and supervisors for our largest and most complex public water systems. As industry leaders they mentor staff and help shape policy and best practices within New Hampshire and beyond. We are committed to helping senior-level workers maintain their exemplary levels of service, connect with and learn from their peers, and pass their knowledge and experience to the next generation.

For 2022 we are developing a three-seminar, 6 to 9-hour series of roundtables designed to meet leadership needs. Topics will include workforce development and succession planning; system finance; communications; regulations and legal considerations; and best practices in public water supply source protection, treatment, and distribution. We will continue to solicit topics of interest from prospective students, so material remains relevant and fresh.

Please contact Boyd Smith if you have any suggestions for topics or learning formats that will help you advance your professional career in the water sector, and if you are interested in shaping the future of the drinking water workforce as an advisor or Instructor.

Thank you for supporting the NH Water Works Association and thank you for your public service!

(**Working on the Edge** *continued from page 3)*



Studying for my undergraduate degree in Missoula, Montana, I found the geologic and hydraulic facets of groundwater fascinating; I was in awe of how geologic processes shape everything around us. While back home in NH studying for my master's degree at UNH, I became intrigued with groundwater flow in our local bedrock, captivated by the notion that although we live in such a water-rich area, water can be so hard to find. Our bedrock aquifers offer little storage, it is almost impossible to predict what a borehole/well will yield and it is always surprising how bedrock fractures are *or are not* interconnected.

In April 2021, I launched Edgewater Strategies with a vision to provide expertise to bring water supply and system upgrade projects to completion through a clear and easy process for owners and operators. I see my work as a puzzle that I get to solve. I focus on listening to the issues and the limitations, determining the needs, gathering the data, and piecing together a project to bring it to fruition.

Our industry is on the edge of many changes. The workforce is turning over, resulting in a loss of institutional knowledge. Electronic automation has become more widespread, which is a benefit, yet it comes with a learning curve. There is money available to rebuild our systems, although it is hard to find the time and the resources to get it done. We can only guess what the next big hurdle or contaminant of concern will be. We all play a role in adapting and helping this business grow in the most sustainable way. One of my roles is to help optimize the well sources. What is your role?

Edgewater Strategies is based out of Gilford, NH. Abby Thompson Fopiano, P.G., can be reached at (603) 630-1971 or abby@edgewaternh.com.