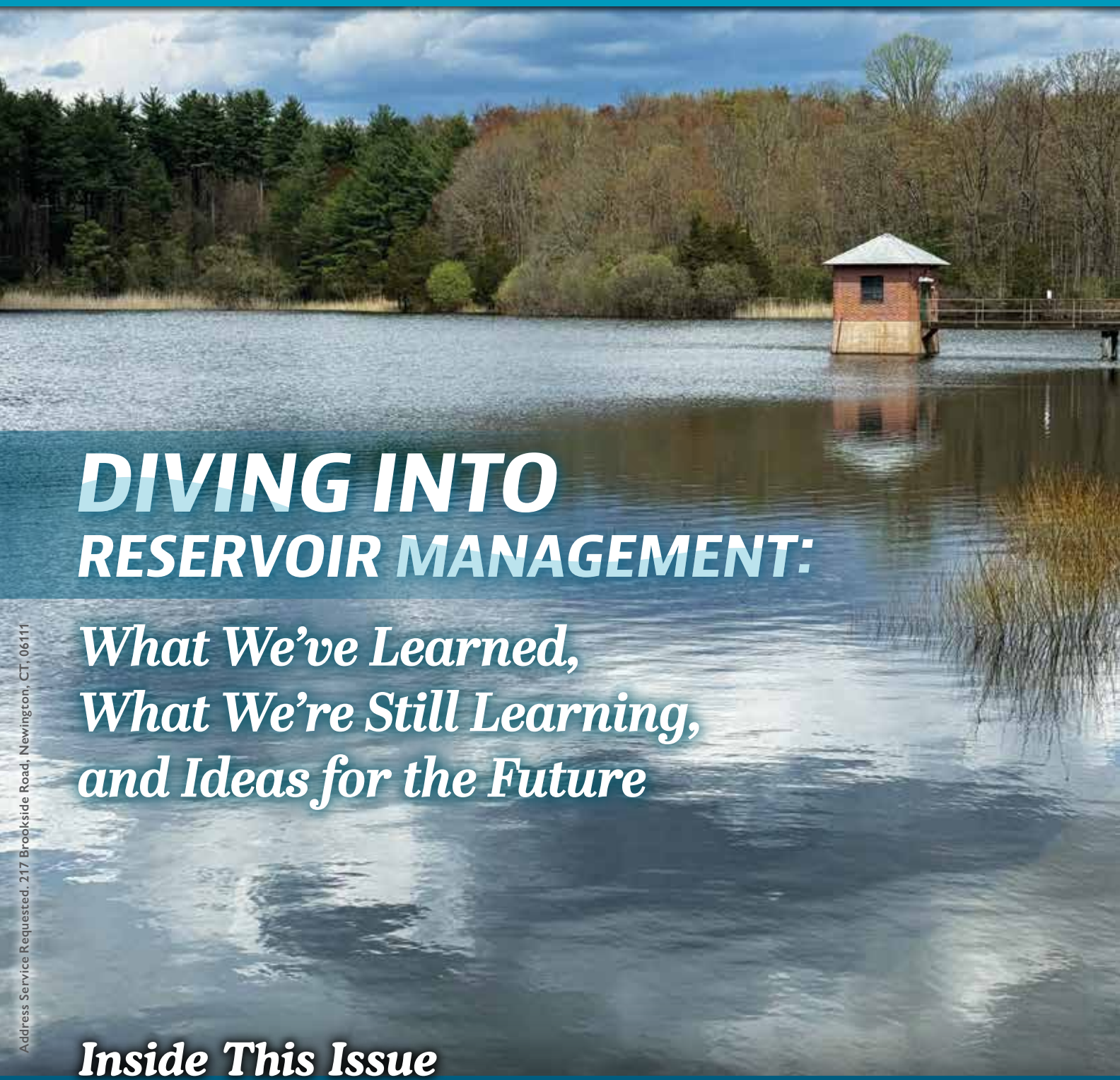
InFlow-Line

The Magazine of the CT Section American Water Works and the Connecticut Water Works Associations

Spring 2024



DIVING INTO RESERVOIR MANAGEMENT:

What We've Learned, What We're Still Learning, and Ideas for the Future

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Volume 19 – Number 1

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Dan Lawrence



Navigating Challenges

2024 has truly started with a bang with continued heavy rains, snow, flood warnings, coastal flooding, localized flooding, high winds, and now an earthquake. I am wondering what is coming next. For the industry, the proposed Lead and Copper Rule improvements and the recently promulgated PFAS regulation changes are on the way.

2024 will be a year of change for the water industry as we need to finalize lead service line inventories by October 2024 and comply with the recently published EPA schedule and the maximum contaminant levels for certain PFAS compounds. The combination of completing a lead service inventory, lead service line replacements, and adding PFAS treatment for water systems is going to require incredible investments of time and resources within the water industry.



So how do we meet all the water quality requirements, replace aging infrastructure, take care of our customers, and navigate these new challenges? I have been sitting in my office and pondering these questions:

- How can I ensure I will have enough contractors?
- Will there be enough granular activated carbon?
- What will the lead time be on pressurized vessels?
- What technologies should I use?
- Can the consultants handle all this additional work?



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The questions add up in my head and as I start to plan, I realize there is a solution that could help answer these questions. I need my peers in the Water Industry to help me and I can help them.

We need to work together and share ideas, concepts, construction costs, operations issues, plans, specifications, and figure out how to best meet these challenging regulations and the related timelines. So, pick the phone up and ask for help and suggestions. We are in this together and can find immense success if we are willing to work together.

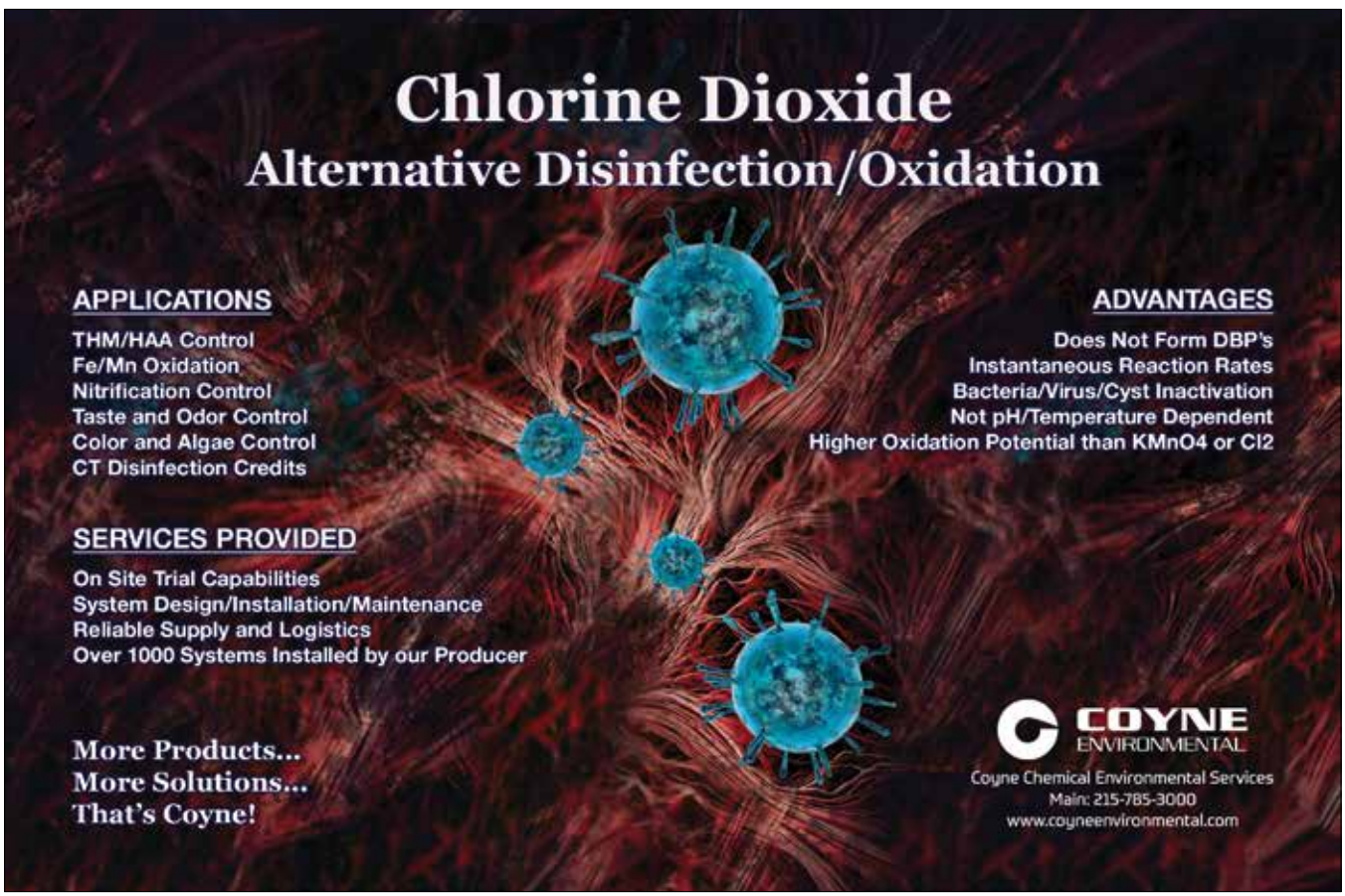
This applies to addressing technical matters but also to responding to changes in regulations and proposed legislation. The CWWA Board and Legislative Committee have been remarkably busy with the legislative session and we thank you for your continued support and input. Reviewing and providing comments on proposed bills and trying to ensure the water industry has a strong voice is always challenging.

"2024 will be a year of change for the water industry as we need to finalize lead service line inventories by October 2024 and comply with the recently published EPA schedule and the maximum contaminant levels for certain PFAS compounds."

Given pending state legislation and the new federal laws and regulations, it is important to reach out to your state lawmakers to inform them about these new challenges. They want to hear from you and from my experience are looking to understand how pending legislation and new laws and regulations may affect operations, customers, and costs.

Working together, we can be successful in meeting these challenges. I look forward to seeing each of you soon at a conference, virtual meeting, or at one of the many training sessions offered in Connecticut and throughout New England.

CWWA's mission is advocating on behalf of the water industry at the State Capitol and before other state agencies to address concerns facing Connecticut's water companies. Come join us at Legislative Committee meetings and make sure the customers in your water system get the representation they deserve. If you have questions or want to get involved reach out to Executive Director Betsy Gara at *gara@gmlobbying.com* or 860-841-7350. We look forward to hearing from you.



Alex Cosentino



Listen, Learn, and Live

If you are fan of winter or a skier like me, this past winter was a little disappointing. The absence of substantial snowfall and the lack of a deep freeze may have left you longing for a Nor'easter or two. However, the early spring has allowed for us to begin our warm-weather, outdoor activities sooner. For me, this means walking my dog in the park, taking in the sights, smells, and sunshine while listening to water podcasts!

There are a handful water podcasts out there including *The Water Values, Water Loop, The Future of Water and* our own Dave Kuzminski's *Careers You Didn't Know About*. The topics range from water scarcity, emerging contaminants, innovative technologies, alternative project delivery methods and everything water in-between. Some are even sponsored by AWWA! A Section theme this year has been education and these podcasts are delivered in an interesting and engaging way, even for the non-water professional! If you have never listened to a water podcast, I highly encourage you to pull one up your smartphone and give it a listen; this may become one of your favorite activities soon too!

Speaking of education, the 2024 Annual Technical Conference and Exposition (ATCAVE) took place in early March. The technical program included a number of informative and thought-provoking presentations. The vendor area was sold out and a new attendance record for the event was set! ATCAVE continues to provide a great setting for Connecticut water industry professionals to connect and further their education.

Later in March, the Connecticut Section hosted our 3rd Annual Hydrant Hysteria Competition at the Metropolitan District's Operations facility in Hartford. The Connecticut Section partnered with the newly revamped New England Section on the event, and teams from all over the Northeast battled for a chance to represent their Section at this year's AWWA Annual Conference and Expo (ACE) in Anaheim, CA. In the championship round, the team from Bristol Water and Sewer defended their Connecticut Section title. A big congratulations to the Bristol team, and thank you to all the judges, sponsors and the Competition Committee who made this event happen.

We are looking forward to the 51st Annual Conference coming up in May. This year, the conference will be held at the Kimpton Taconic Hotel in beautiful Manchester, VT. The program has been finalized and in addition to the technical presentations, we will be hosting a panel discussion with members of the Manufacturers and Associates Committee (MAC).

This panel will provide a forum to discuss topics such as supply chain issues and raw material shortages, labor challenges, and implications of the recently passed *Build America, Buy America (BABA) Act*. The panel will be interactive allowing everyone to get involved and will certainly cover issues we all have been dealing with since COVID-19.

Finally, as this is my last column as Chair of the Connecticut Section, I want to thank our Board for their incredible support over the last year. It has been an amazing ride that went much too quickly. Best of luck to the incoming Chair, Nick Rossi. I have no doubt that the Section will be in good hands under Nick's leadership.



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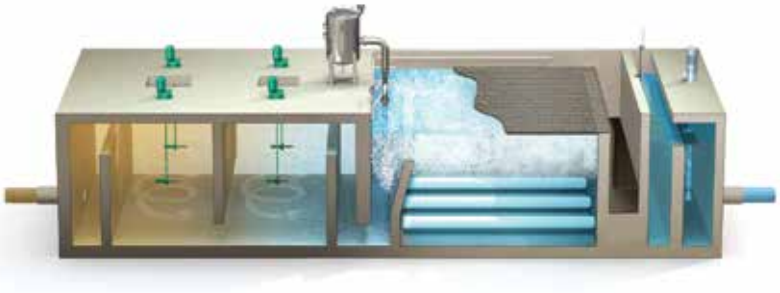
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Preparations Underway for the Future

Although it wasn't much of a winter in Southern New England, I hope you were with me in welcoming the return to Spring. Renew, reset, and recharge.

As I'm writing this article, I am preparing for the 2024 AWWA Legislative Fly-In. The AWWA Government Affairs Office in Washington, DC organizes this annual effort to focus on specific priority topics. While the DC staff interacts with congressional offices throughout the year, the Fly-In provides the opportunity for CTAWWA state delegates to meet directly with their respective congressional members and communicate potential local impacts of proposed legislative activities. This year, Lindsay Birchall, MDC Project Manager, and I will meet with Connecticut's seven congressional legislative staffs to discuss the following four AWWA defined priority topics:

1. To request an exemption to CERCLA requirements specific to past treatment residuals and biosolids disposal whereby water systems can be held liable for potential costs associated with remediation.
2. To promote a sector-specific co-regulatory model for cybersecurity protection.
3. To fully fund DWSRF monies, while minimizing the diversion of funding from this program for congressionally directed spending (earmarks).
4. To receive authorization of a permanent funding program to assist low-income wage earners similar to efforts previously developed for food, energy, and housing.

Based on my past visits as part of previous Fly-Ins, Connecticut's congressional offices have been welcoming and appreciative of hearing from local water professionals on the potential positive and negative impacts of proposed regulation. Lindsay and I will share Connecticut water system experiences and concerns of pending legislation with each of the seven offices to drive home our messages on the topics outlined above.

"Based on my past visits as part of previous Fly-Ins, Connecticut's congressional offices have been welcoming and appreciative of hearing from local water professionals on the potential positive and negative impacts of proposed regulation."

Communication with Connecticut's congressional delegation is important – as a dedicated community of water purveyors and those who actively support our industry, we collectively strive to produce the best quality water possible and meet the regulatory requirements of the SDWA, while maintaining fair and reasonable costs for our ratepayers. In order to meet these expectations of our consumers, water systems depend on our congressional representatives to recognize the realities of the challenges we face and actively assist us in successfully meeting these goals.

Over the years, various topics have been discussed at Fly-Ins, including water quality, finance, IT, infrastructure, and source protection. All these topics require the inclusion of communications, customer service and safety among others. Our ability to comment meaningfully on any of these important areas of our industry underscores the importance we all have in participating in committees that support these priorities. I would encourage anyone who is not currently involved to identify a committee and contribute. Section committees also interface with our peers active in CWWA supporting their good work here in Connecticut.

Our Associations are active, well-managed and respected across the country. It is very important to maintain an engaged and active membership to continue in this long-standing commitment to our industry.

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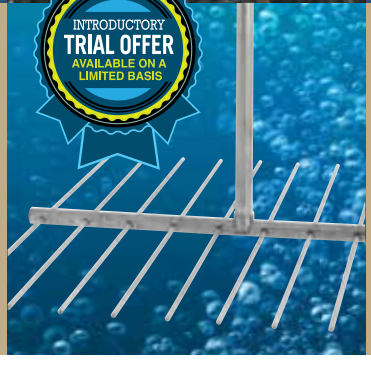


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Michael Turgeon





Day Job
Superintendent, Windham Water Works

What was your first job in the water industry?
My first job in the water industry came by luck when I enlisted in the Air Force and was placed into a position to train as a Utilities Technician. I didn't plan on this industry being my career, but after the training was over and I was put in place, I quickly realized how rewarding, important, and fun it is treating and distributing water and I got hooked.

Recent Accomplishments:
Some of the most recent accomplishments include tying a new GIS platform to our Utility's Lead Service Line Inventory project, completing an in-depth water rate study, onboarding of some great staff, and obtaining a FEMA BRIC grant for an important scoping project that kicked off recently.

What do you value most about CTAWWA/CWWA membership?
The networking is invaluable! I have had countless beneficial conversations with operators, engineers, vendors, and other professionals over the years. The members have always been helpful, whether the conversations were about a typical challenges utilities are facing, a specific situation, or a personal hurdle.

What else would you like to share?
The challenges we all face daily don't seem to be slowing down anytime soon, so remember to continue to share and document your institutional knowledge while having fun with your coworkers and teammates.

Favorite Water Memory
Too many memories to list, but a recent one would be seeing the pride in my staff after they worked through the challenges of rebuilding/re-bedding the underdrain in a filter where we had to have custom made rubber grommets manufactured since the original vendor no longer offered them.



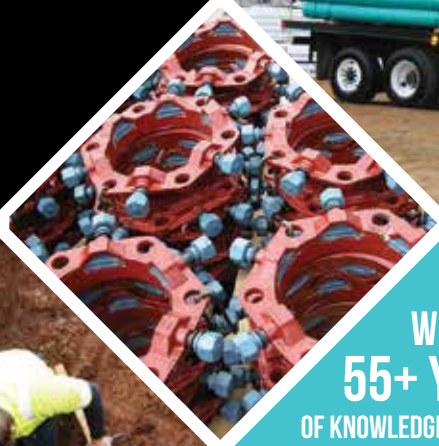
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CWWA's Slate of Officers and Directors

The following 2024-2025 slate of nominations for directors, officers and legislative committee chairs was approved by CWWA's Board of Directors at its February 16, 2024 meeting in accordance with the organization's bylaws:

Officers & Directors

Name	Organization	Position	Type
Sunny Lakshminarayanan	Regional Water Authority	President	Regional
Peter Fazekas	Aquarion Water Co.	Vice President	Private
Neil Amwake	Wallingford Water	Treasurer	Municipal
Al Fiorillo	Southington Water	Secretary	Municipal
Dan Lawrence	Aquarion Water Co.	Past President	Private
Lisa Burns	South Norwalk Electric & Water	Director 1	Municipal
David Peeling	Connecticut Water Co.	Director 1	Private
Ray Jarema	Berlin Water	Director 2	Municipal
Nick Salemi	Metropolitan District	Director 2	Regional
Rose Gavrilovic	Connecticut Water Co.	Director 3	Private
Ben North	East Lyme Water	Director 3	Municipal

Legislative Committee Officers

Name	Organization	Position	Type
Nicoletta Blevins	Regional Water Authority	Tri-Chair	Regional
Rich Hanratty	Connecticut Water Co.	Tri-Chair	Private
Pat Kearney	Manchester Water & Sewer	Tri-Chair	Municipal







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Bring A Friend Membership Event a Success

On November 29, 2023, CTAWWA's Membership & Engagement Committee hosted a notable "Bring A Friend" Membership event at The Truck Bar in Berlin, and the turnout exceeded all expectations. Nearly 50 attendees gathered for an evening filled with camaraderie and fun, resulting in the successful recruitment of seven new members. The event, themed "Bags, Boards & Brews," offered a blend of entertainment with activities such as cornhole, darts, pool, and arcade games, creating a lively atmosphere for networking and connection. Refreshments from Square Peg Pizza added to the enjoyment, providing a perfect backdrop for fostering meaningful connections among water professionals.

Embodying the mission of CTAWWA to unite water professionals passionate about water quality, safety, and sustainability, this event was strategically crafted to attract new members. The "Bring A Friend" concept aimed to showcase the benefits of AWWA community involvement by allowing current members to share their experiences with friends. As a token of appreciation, members who brought a friend were rewarded with exclusive an AWWA Swag Bag, reinforcing the sense of community and camaraderie that lies at the heart of CTAWWA's mission. The success of this event not only expanded the CTAWWA family but also highlighted the effectiveness of fostering connections and shared experiences in promoting the values and mission of the AWWA community.







Food, Folks, Swag, and Fun at the CTAWWA Bring A Friend Membership Event.

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AWWA Membership Summit in Denver, CO



Judy Soda and Romana Longo Receive Section Membership Challenge Prize on behalf of CTAWWA.

The AWWA's Membership Summit in Denver, CO, which was from January 24 to 26, provided a unique opportunity for networking and collaboration among Section leaders and membership advocates. In attendance were Romana Longo and Judy Soda, key figures within the Connecticut Section American Water Works Association (CTAWWA).

The central theme of the Membership Summit was "Connection," which explored AWWA membership strategies and shared best practices that empower local Sections to serve water professionals effectively. Attendees were encouraged to embrace these insights to position their Sections for success, with the ultimate goal of becoming Section Challenge Winners showing positive net growth for the year.

The summit kicked off with an inspiring keynote address by Kevin Coates, emphasizing the significance of meaningful connections in fostering a stronger water community. Association updates and insights into the 2025 Section Challenge set the tone for an energetic and engaging event. Breakout sessions covered crucial aspects of membership, including Membership Basics and Marketing, providing attendees with valuable tools and knowledge to enhance their roles as advocates for water professionals in their local communities.

One notable highlight occurred during Thursday's awards dinner, where CTAWWA was recognized for having achieved remarkable success. The CTAWWA surpassed their membership goal of 1% annual growth, achieving an impressive 3.1% growth in 2023. This achievement stands as a testament to the hard work and dedication of the Connecticut Section's members.

Special recognition goes to our executive director of CTAWWA, Romana Longo, whose unwavering commitment played a pivotal role in the Section's success. Romana Longo's dedication to strengthening AWWA and its local Sections was acknowledged and celebrated during the summit.

The AWWA's Membership Summit not only served as a platform for knowledge-sharing and skill-building but also celebrated the achievements of dedicated individuals like Romana and Judy. As water professionals continue to face evolving challenges, events like these play a crucial role in fostering unity, sharing best practices, and ultimately ensuring the strength and resilience of AWWA and its Sections across the nation.

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Bill Aims to Improve Dam Safety

In response to the partial failure of the Fitchville Pond Dam in Bozrah, which caused flooding along the Yantic River and prompted evacuations, the Connecticut Department of Energy & Environmental Protection (DEEP) is calling for legislation to enable it to take action to protect the public safety when a dam poses an imminent risk. SB-192 will:

1. **Make explicit the dam owner's obligation to maintain a dam in a safe condition;**
2. **Clarify DEEP's authority to order a dam owner to take immediate action when a dam presents an imminent and substantial threat or the Governor has declared an emergency;**
3. **Clarify DEEP's authority to take immediate action, when necessary, to place the dam to a safe condition; and**
4. **Explicitly authorize DEEP to recover from dam owners any state funds used to address imminent, substantial threats or emergencies.**

In written testimony before the legislature's Environment Committee, DEEP Commissioner Katie Dykes, noted: "Connecticut has over 4,800 dams, making it one of the most heavily dammed states in the country per river mile. Climate change has caused more frequent and intense storms, increasing the risk of emergencies, flooding, and risk to human health, safety, and the environment."

The bill was also supported by Rivers Alliance Executive Director Alicea Charamut who stated that "According to a 2023 report released by the Association of State Dam Safety Officials, 830 dams in Connecticut were rated less than satisfactory condition and 267 of these dams are high hazard dams."

In addition to the bill, DEEP has stated that it will focus agency resources on the highest risk and poorest condition dams across the state. They are recruiting additional staff to ensure that owners take action to address safety concerns in a timely manner.

CWWA Executive Director Betsy Gara also testified on the bill commenting that "Connecticut's water companies regularly inspect dams, update emergency action plans, and make needed repairs and upgrades on an ongoing basis, recognizing the importance of properly maintaining public water supply dams."

Gara also raised concerns that water companies have faced significant delays in obtaining permits to make needed dam upgrades and repairs. Given the need to upgrade dams to make state-mandated stream flow releases and to repair and rehabilitate aging dams, which can be decades old, these permitting delays must be addressed.

CWWA recently met with DEEP to discuss these concerns and will be working with them to explore opportunities to expedite permitting, including whether certain repair work can be included under filing only or non-filing general permits.

The legislature's Environment Committee unanimously approved SB-192, which heads to the state Senate for further action.

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Dave (affectionately called "Shrek") and one of his many recognition awards.



Dave and First Selectman Ryan Curley of Portland.

Friends, Officials, and Colleagues Gather to Celebrate *Dave Kuzminski's* Retirement

On March 7, 2024, more than 150 friends, family, state and local officials, as well as current and retired water industry colleagues gathered at St. Clement's Castle in Portland to celebrate Dave Kuzminski's retirement. Dave had a distinguished 50-year career with the Town of Portland, working in various roles in the water department, advancing the Town's water conservation programs and addressing various technology needs for the Town and its schools. He truly was a man who 'did it all' for his community, as town leaders and residents relied upon Dave for decades to run their water system and assist with technology needs.

Dave was very active in the water industry professional associations – as the Chair of the Connecticut Section American Water Works Association (CTAWWA), as a member of the Section's Cross Connection, Water Conservation and Sustainability, and Website committees as well as on the Connecticut Water Works Association (CWWA) Board and its Legislative committee. He was also involved at the national level serving on a drinking water Environmental Protection Agency (EPA) committee and working on committee activities with AWWA.

Dave was the man behind the camera at many CTAWWA and CWWA events, supporting technology at conferences and acting as webmaster for both organizations' websites for years. He created 'Walter the Water Saver' to promote water conservation and brought Walter to schools and events, including Drinking Water Week at the State Capitol.

Dave was instrumental in programs to introduce students to the water profession and develop future leaders. He collaborated with the CT Department of Public Health (DPH) and Gateway Community College to develop the *Water and People* curriculum for high school students and spearheaded the *Water Boot Camp* program. To help attract talent to the water profession, Dave has invited water professionals to share information about their careers through podcasts *Careers You Didn't Know About: The Future of the Water and Wastewater Industry* done at his music studio in Portland. With Dave's retirement he will be able to spend more time at his business, the Connecticut Valley School of Music and Dance, and he plans to expand the water podcasts nationally.

Dave's programs, many of which were developed in close collaboration with CTAWWA, received recognition at the national level and resulted in several Section awards for CTAWWA. Dave was previously recognized by his colleagues in CTAWWA with the prestigious George Warren Fuller Award for those who have "provided outstanding leadership or made a significant contribution toward the advancement of the water works practice." His efforts were also recognized in 2010 by EPA with CTAWWA receiving an Environmental Merit Award for developing partnerships for green jobs in the water sector, and Dave received the Educational Public Health Drinking Water Merit Award from DPH in 2014.



Dave, Lori Mathieu of DPH, and Jack Betkoski of PURA.



Dave and several current and former colleagues.

At the retirement dinner, Dave's myriad achievements were well recognized. Portland's First Selectman, Ryan Curley, presented him a citation on behalf of the Town congratulating Dave's career and Portland's legislators, Senator Norm Needleman and Representative Christie Carpino, provided a proclamation recognizing Dave. Commissioner Jack Betkoski from the Public Utilities Regulatory Authority and Lori Mathieu from DPH presented Dave with the Water Planning Council's Water Champion Award for his considerable contributions to the water profession and efforts to advance state water planning. It was fitting that the state officials concluded their remarks by offering a toast to Dave and everyone raised a glass of clean, safe drinking water in his honor.

Thank you, Dave, for your time, talent, enthusiasm and creativity in support of drinking water and our profession. You truly made a difference! Cheers to your next chapter.



CWWA's Betsy Gara and Dave





DIVING INTO RESERVOIR MANAGEMENT:

What We've Learned, What We're Still Learning, and Ideas for the Future

By Alex Schoen, South Norwalk Electric & Water

South Norwalk Electric and Water (SNEW) is a medium-sized water provider in Southwestern CT. SNEW provides water to roughly 42,000 consumers, serving about half of the city of Norwalk, CT, and a part of the southern end of the town of Wilton, CT. SNEW's water supply is entirely surface water, sourced from a system of four reservoirs and one stream diversion in the towns of Wilton and New Canaan, CT.

Water Sources and Quality

SNEW's main water source is the South Norwalk Reservoir (colloquially referred to as City Lake), located in a rural-suburban setting in Wilton, CT. The gatehouse through which water for treatment is drawn is located at the southern end of the reservoir. The reservoir is supplemented by three smaller satellite-storage reservoirs, Popes Pond and Rock Lake (both in Wilton), and the New Canaan Reservoir in New Canaan. Water can also be taken through a diversion from the Comstock Brook in Wilton. Most of the reservoir system is relatively shallow, with the majority of the South Norwalk Reservoir being less than six meters in depth, and Popes Pond reaching a maximum depth of only about five meters. Total system availability is 1,264 million gallons (MG), with the South Norwalk Reservoir accounting for 726 MG (57.4%) of the total. All SNEW's reservoirs display eutrophic characteristics to varying degrees. In simple terms, this means that these lakes are biologically productive, nutrient-rich, and unfortunately, quite susceptible to algal and cyanobacterial growth.

Historical Issues at SNEW

In SNEW's historical records, there are documented reports of intermittent taste and odor issues dating back to the 1970s. These largely revolve around "earthy" or "muddy" taste and odor concerns. A study was commissioned after a particularly severe taste and odor event in the late Summer of 1989. This episode resulted in over 100 customer complaint calls over a period of two months. The study report, prepared for SNEW by Fugro-McClelland (East), Inc., noted that the taste and odor event coincided with a bloom of the cyanobacterium *Aphanizomenon* in the South Norwalk Reservoir. With some research, it was found that both the South Norwalk Reservoir and the Popes Pond storage reservoir displayed eutrophic tendencies; this was particularly evident in the phosphorus levels in both lakes. A further point of interest in this report is that SNEW's copper sulfate treatments to combat algae growth were not always effective; algae counts would occasionally remain roughly the same, or even increase, in the post-treatment analysis typically done within 48 to 72 hours. The report also cites data indicative of an unspecified mixing event in late July of 1989, which may have functioned as a "mini-turnover," exacerbating problems that were already present.

Summer 2020

As many currently in the water industry of the Northeast region will remember, the Summer of 2020 brought widespread drought conditions. According to SNEW's internal monitoring, 2020 was in fact the second-worst year on record for reservoir levels and adversely affected the amount of water available for treatment. Beginning in July 2020, SNEW began observing elevated cyanobacteria counts in the South Norwalk Reservoir, specifically of the genera *Aphanizomenon* and *Dolichospermum*. Throughout the summer and into autumn, counts were routinely over 5,000 cells/mL of these organisms, reaching a maximum of roughly 35,000 cells/mL in September. Like what was reported in 1989, personnel began observing that SNEW's copper sulfate treatments were seemingly less effective than they had been in the past and even observing significant cyanobacterial growth 24 to 48 hours post-treatment. Coinciding with this, SNEW began to receive inquiries from customers concerned with the quality of their water, with most citing "earthy" or "musty" taste and odor. The situation reached a head in early November, when MIB and Geosmin samples were collected for analysis. The Geosmin result came back at a staggering 183 nanograms per liter (ng/L) in the treated drinking water[1] being sent out to the distribution system (the taste threshold for Geosmin is commonly cited as 6-10 ng/L).

Moving Beyond 2020

SNEW took what action it could to address the 2020 taste and odor episode. The first course of action was to bypass the waste recycle process until the Geosmin levels in the raw water came down to a reasonable level. Additionally, treated water was temporarily purchased through an interconnection and mixed with SNEW's own water to dilute the Geosmin levels in the finished product. The Geosmin levels did eventually dissipate, and normalcy returned toward the middle of November 2020. However, SNEW recognized that action needed to be taken in order to try to curtail future taste and odor episodes. Beginning in 2021, SNEW expanded its internal source water sampling program to include sections of the South Norwalk Reservoir, which were not previously monitored, and began monitoring depth samples in all satellite reservoir locations (prior to this, the only satellite reservoir that was monitored in full was Popes Pond). In addition to this, SNEW also contracted Ecosystem Consulting Service (ECS, now a division of GZA GeoEnvironmental, Inc.) to conduct an in-depth study of the SNEW reservoir system to assess areas of concern and possible solutions.

A Different Year, Similar Problems

The Summer of 2021 proved to be (thankfully) uneventful for SNEW. The assessment conducted by ECS found eutrophic lake conditions, nutrient richness (particularly phosphorus), and susceptibility to algal and cyanobacterial growth in all SNEW reservoirs, some to a greater extent than others. It even cited the possibility of a mixing event, namely Hurricane Isaias in August 2020, which may have contributed to greater cyanobacterial growth potential. If this sounds familiar, that is because it is extremely similar to what the 1989 Fugro-McClelland study found a full 30 years prior. Many of the recommendations in the two reports were also similar, including but not limited to aeration techniques, alternative water transfer options from the storage reservoirs, and nutrient inactivation.

New Staff, New Ideas

The timing was right to entertain new ideas about how the reservoirs are managed. The first, and perhaps simplest factor that was addressed was the intake gate selection process. One recommendation was to draw water from lower depths when sufficient mixing is present; this helps to move the water throughout the column, rather than only from upper levels in order to prevent stagnation of water on the bottom of the reservoir (this principle is also applicable to the transfer of water from storage reservoirs to the main reservoir). In the past, SNEW had typically drawn water from its top gates and moved down when necessary. SNEW took this action where it could; during the assessment period, it was found that not all gates available were even in working condition; moreover, some gatehouse blueprints were found to be inaccurate. At this point, most of these gate issues have been addressed.

Another aspect which was particularly disturbing to the SNEW staff was the inconsistency in effectiveness of copper sulfate treatments, which appeared to be trending worse over time. Over the course of the past few years, SNEW has found that success rates of these treatments seem to vary tremendously between reservoirs, despite similar relevant water quality parameters (pH, alkalinity, etc.). For instance, in 2023, copper sulfate treatments were found to be highly effective in Popes Pond but did virtually nothing in the main South Norwalk Reservoir. It was also noted in both studies that overuse of copper sulfate can have detrimental effects, potentially

[1] *It should be noted that the SNEW water treatment plant was originally designed (2006) as a zero-liquid-discharge facility, essentially meaning that liquid water treatment wastes are recycled to the head of the treatment process and reintroduced into the raw water stream. While this certainly factored into the severity of this episode, it was not the root cause.*

leading to the creation of biomasses in the benthic zone which can propagate further cyanobacterial growth. In the past, it was SNEW's practice to treat with copper sulfate several times per season, even when there were no indicators of problems. Currently, SNEW is attempting to minimize usage of copper sulfate and is actively exploring other options.

One alternate method of cyanobacterial growth control SNEW has implemented is the deployment of sonic algae control units. First installed in 2021, the function of these units is to disrupt gas vesicles of certain cyanobacterial genera (notably *Aphanizomenon* and *Dolichospermum*) to inhibit their buoyancy, and ultimately, their growth potential. It is important to note that these units are not algacidal; once the cyanobacteria in question are present, the sonic control units are ineffective in terminating them. The idea of the sonic control units is preemptive growth prevention. It is still too early to draw definitive conclusions, but thus far SNEW appears to be having some success with delaying cyanobacterial growth with the deployment of these units.

> *"SNEW recognized that action needed to be taken in order to try to curtail future taste and odor episodes.*

"Well, It Was a Weird Year..."

In stark contrast to 2020, 2021 was a very wet year; in fact, in 2021 SNEW's reservoir levels never fell below 80%. Conditions between the two years were quite dissimilar. In a way, having a reservoir study done in 2021 may be considered disadvantageous due to such disparate conditions. However, in the midst of both seasons, commentary arose about how both were departures from "the norm." As this pattern continued in 2022 and 2023 (a drought year and a wet year, respectively), SNEW staff began to reflect on whether or not a "normal" year is an entity that actually exists. While averages certainly help to establish baseline strategies for management, staff must be adaptable and innovative to combat unique challenges presented in each season. The most important thing the SNEW staff has learned about reservoir management over the past several years is that the learning process is constant.



Under Consideration

SNEW is currently considering a number of options for continued improvement of its reservoir management program. In 2023, SNEW utilized a pretreatment of Sodium Percarbonate in the South Norwalk Reservoir and plans to do so again in 2024. This chemical is applied in the Spring, and an increasing number of utilities have reported success in minimizing cyanobacterial activity using this and similar chemicals (Peroxides). One use year is not enough to draw any solid conclusions, but results from 2023 were inconclusive; although raw water quality seems to be improved and SNEW avoided any taste and odor issues, cyanobacteria counts did become elevated late in the Summer, and some genera (particularly *Woronichinia*) persisted late into the year.

At one point, SNEW used hypolimnetic aeration in the South Norwalk Reservoir, but this was discontinued as it did not achieve the desired results. Recently, SNEW took part in a pilot study with the University of Vermont to assess the possible effectiveness of using the plant's own process residuals in combination with aeration to inactivate nutrients, phosphorus in particular. The results of this study were promising, and SNEW intends to continue with this assessment in the future. SNEW is particularly interested in phosphorus inactivation, as phosphorus loading from the streams feeding the reservoirs has increased drastically since early 2018 and seems to be worsening. Fortunately, excessive phosphorus levels have not yet been reflected in the reservoirs themselves, but the feeling is that this is inevitable if the trends continue. SNEW is planning on using a biochar in 2024 to attempt to mitigate some phosphorus coming in from the streams.



Conclusion

When dealing with surface water, drinking water quality can be significantly impacted by what occurs in the reservoir system. Thus, it is important to monitor and adapt reservoir management strategies as new information and methods become available. The industry as a whole is facing the challenge of an aging workforce and should prioritize both the transfer and preservation of institutional knowledge, as well as welcoming the new perspectives and fresh ideas from those who are newer to the industry. By combining institutional knowledge with new innovations, water departments will be better able to handle the many variations and surprises that arise from year to year.

The Presentation "Diving into Reservoir Management: What We've Learned, What We're Still Learning, and Ideas for the Future" was given by Wes D'Angelo and Alex Schoen of South Norwalk Electric and Water at the 9th Annual Water Quality and Treatment Symposium, November 15, 2023 in Norwich, CT.

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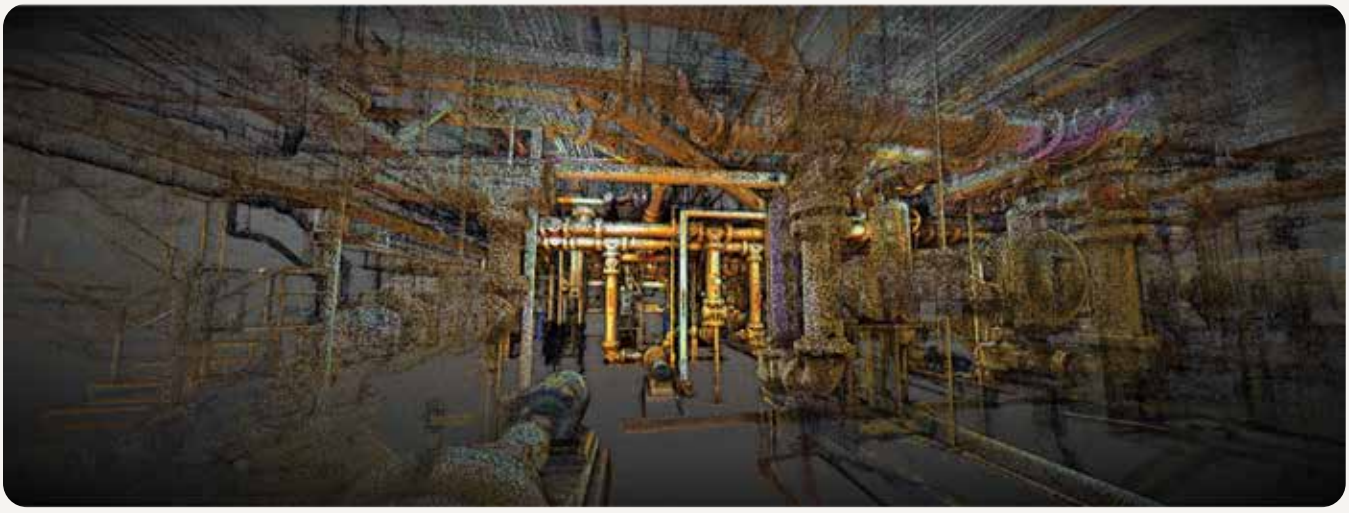
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Reality Capture in the Water Industry

By Trent Guihan, Business Solutions Manager at Tighe & Bond and Peter Grabowski, Chief Operating Officer at Tighe & Bond



Point Clouds enable accurate documentation of complex mechanical spaces.

Most utilities acknowledge their facilities have gone through many alterations and upgrades over the years. Were those changes well documented? Most often they are not. And if they were:

- Where is that information stored? Are the record drawings rolled up and put on a shelf in a storage room at the treatment facility?
- Even if your utility has a dedicated "record room," are your employees quickly able to find what they need? Not just your "go-to" operator, but everyone?

Having up-to-date and easy-to-locate existing facility records is a crucial component of efficient daily operations and capital project planning efforts. Reality capture solutions can provide utilities with up-to-date digital visualizations and records of their facilities. With secure cloud-based platforms, this information is readily accessible to your operations staff and design personnel.

So, what is reality capture? Reality capture refers to the process of digitally documenting and recreating the physical environment with high-resolution data about real-world objects. This is typically accomplished using a broad range of data collection technologies, including 3D laser scanning, unmanned systems (drones, underwater vehicles, etc.), thermal imagery, and 360-degree photography. This article focuses on 3D laser scanning, a technology that uses a laser to capture the shape and dimensions of an object or environment. It produces a digital representation of the scanned area consisting of millions of data points, called a point cloud. Most 3D laser scanners also capture 360-degree photos during the data collection process, which are used to colorize the point cloud and develop immersive 3D virtual views of the captured space. The generation and examination of point clouds within virtual viewers have many practical applications for the water industry such as:

- Providing an accurate and reliable source of truth to verify existing conditions.
- Serving as the basis for developing as-built 3D models, construction documents, and digital twins.
- Functioning as a coordination tool during decision-making processes to help mitigate conflicts or risk, such as by:
  - Confirming the clearance for new equipment within complex mechanical spaces.
  - Discussing safety procedures such as confined space entry or lock-out-tag-out without being onsite.

Traditional methods of verifying existing conditions, such as manual measurements and photographs, can be time-consuming, incomplete, and inaccurate; furthermore, the documentation is often not stored in a location where it can be easily accessed and utilized in the future. With point cloud data and virtual viewers securely stored on the cloud, this information is made available on any device and can be viewed concurrently with coordination, safety, and planning efforts to increase efficiency. This saves time and resources especially when areas may be inaccessible due to operational or other restrictions.

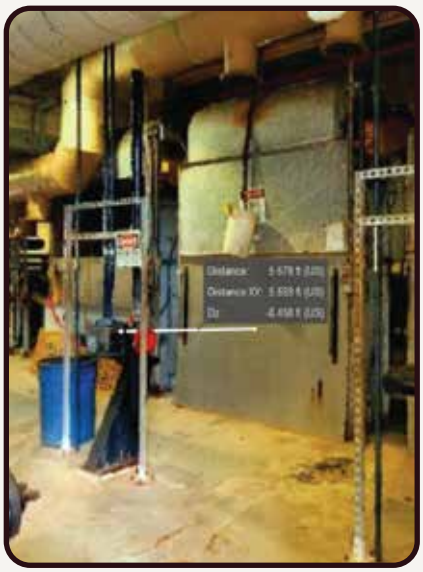
Reality capture by 3D laser scanning also offers significant advantages over traditional data collection methods, such as:

- **Speed:** 3D laser scanning captures large and complex areas in minutes or hours when compared to hours or days for manual collection methods.
- **Accuracy:** 3D laser scanning documents the exact shape and dimensions of any object or surface, with a high level of detail and precision, regardless of the lighting or the environment.
- **Completeness:** 3D laser scanning collects more of an entire site versus traditional techniques, including hard-to-reach or hidden areas, with fewer gaps in the data.
- **Visualization:** 3D laser scanning creates realistic 3D representations of the scanned area, which can be viewed, manipulated, and analyzed from any angle or perspective.
- **Integration:** 3D laser scan data can easily integrate with other software and tools, such as Computer Aided Design (CAD), Building Information Modeling (BIM), Geographic Information Systems (GIS), and Virtual Reality (VR), to create 3D models, perform simulations, generate reports, and is the first step in developing a Digital Twin of a facility.

Two recent projects demonstrate the benefits of reality capture by 3D laser scanning in mitigating risk during design and construction. The first project involved the



Staff on-site performing 3D laser scans of a drinking water facility.



3D viewers and measurement tools enable fast and efficient coordination.

replacement of three trash racks at the wastewater treatment facility in Lynn, MA. Because the project had a fast-track design schedule to meet client needs, the project team utilized 3D laser scanning to capture the existing conditions of the headworks area, including the slide gates, channel access hatches, locations of the existing trash racks, and the surrounding channel structures. Also, since one of the three influent channels was offline, the team captured conditions within the channel by inserting the scanner into the access hatch. Personnel entry into the space would trigger a permit-required confined space entry and a standby extraction team. The scanner was able to capture the channel conditions without personnel breaking the plane of entry.

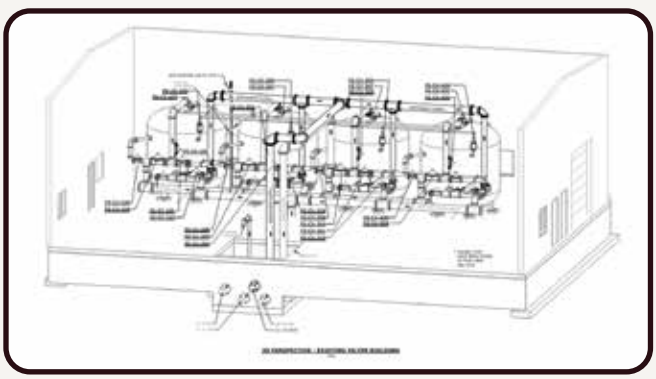
The point cloud generated by the 3D laser scanner revealed discrepancies with both the original plant record drawings and a more recent set produced for an upgrade project. Because the scanner captured the precise locations of equipment, floor hatches, and slide gates, the design team was able to quickly adjust the new design, which in turn reduced the amount of concrete cutting and floor modifications required. The point-cloud data allowed the design team to make the design adjustments and know the new equipment would still fit which in turn reduced construction efforts saving the client money on the overall project. The inconsistencies of the two original drawing sets, if missed, could have caused significant problems during construction, including the need for additional structural analysis, potential schedule delays, and change orders.

The second project involved the upgrade of the existing filter system control valves and installation of additional backwash control valves and piping from a new finished water/ backwash supply clearwell in Raynham, MA. The record drawings did not accurately represent the existing facility. It was determined that 3D laser scanning would be the most economical choice for providing accurate in-situ conditions to design the retrofit.

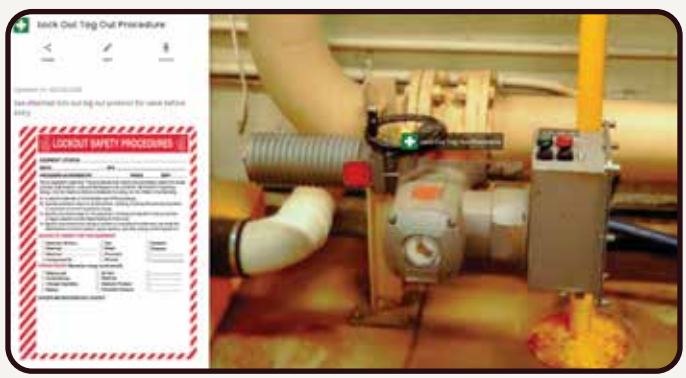
The point cloud was used to generate a BIM model of the existing process mechanical equipment. The model and point cloud enabled the design team to efficiently locate the new control valves within the existing pipe network. Additionally, project team coordination for the upgraded control system and demolition of the existing chemical systems was streamlined with the point cloud data and 3D viewer, allowing the project team to collaborate the design easily within the virtual space and to more quickly generate accurate construction documents. Overall, the 3D laser scanning data enabled verification of the existing conditions, giving more confidence to the design team and eliminating multiple trips back and forth to the plant to verify various conflicts.

As technology continues to advance and our workforce continues to transition, water utilities need to consider how their facilities' data is being collected and stored to make it relevant and accessible for future use. 3D laser scanning is a powerful and versatile technology that can enhance the confidence of field-collected data and provide a clean slate of current facility conditions information.

Looking ahead, point cloud data and 3D models are now available for use throughout a facility's lifecycle. Data such as operations manuals, maintenance schedules, lock-out-tag-out procedures, performance specifications, vendor cut sheets, parts diagrams, schematics, etc. can all be linked to their respective assets within a 3D reality environment. This same asset link can be integrated with Computerized Maintenance Management System (CMMS), Supervisory Control and Data Acquisition (SCADA), GIS, and other solutions to interconnect operational information and enable your workforce to further enhance the decision-making process. Ultimately, reality capture technology like 3D laser scanning allows for more efficient planning, design, and coordination efforts with up-to-date and reliable facility documentation.



3D models generated from point cloud data provide accurate as-builts for retrofit design.



Safety information and other data sources can be directly linked into point clouds and 3D models making information easy to locate.





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How **SURE**?

SUstainability and **RE**siliency for Conventional Filters

By Stuart F. Humphries, Director – Filtration Technologies, Orthos Liquid Systems, Inc.

For over a century, conventional granular media downflow filters have provided reliable, economic water and wastewater treatment. Even today, this type of filtration system provides proven treatment capabilities and long-term maintenance benefits. Though the process of granular media filtration is relatively well-understood, the long-term success of a filter may ultimately depend more on the filter underdrain design.

Conventional Filter "ABCs"

The filtration operation for conventional filters is comprised of two distinct phases: filtration and cleaning (backwashing). The filtration phase to remove particulate material is accomplished by passing the water downward through a filter bed comprised of one or more granular medias (e.g., sand, anthracite, GAC), with or without chemical addition. The solids removal process is accomplished by several removal mechanisms such as straining, sedimentation, impaction, interception, adhesion, and adsorption. The filtration phase must end once the suspended solids in the effluent increase to an unacceptable concentration or when a limiting headloss occurs across the filter bed. Backwashing cleans the filter media by reversing the flow through the media to send the solids-laden wash water for treatment elsewhere. Air is often used in addition to water, either sequentially or simultaneously, to provide enhanced media scouring.

All granular downflow filters must contain media and an underdrain that:

1) supports the granular media;
2) withstands maximum filtering headloss;
3) uniformly allows percolation of the filtrate across the media bed;
4) uniformly distributes backwash water across the entire bed at varying flowrates;
5) uniformly distributes the scouring air either separately or simultaneously with the backwash water;
6) withstands the upthrust created at the maximum rates of backwash and scouring air; and
7) resists corrosion.

Underdrain Types

Filter underdrains are principally comprised by one of the following: (a) suspended concrete slab or steel plate with integral filtration nozzles and plenum below; or (b) set of round-, triangular-, or block-shaped parallel pipes (laterals) containing holes, slots or nozzles and that connect into a main header pipe or duct (flume).

Suspended underdrains utilize an elevated floor, supported on columns or between dwarf walls, creating a plenum underneath. The plenum space, with at least 6" to more than 30" of vertical height, advantageously provides for inspection and service through an access hatch. Floors are constructed using steel plate (for small filters), from precast slabs, or by pouring a monolithic concrete slab on top of base form panels. Monolithic slabs minimize grouting (i.e., potential leakage points) and include reinforcement bars linked to the tank structure to create a robust design that withstands very high vertical forces. Nozzles sleeves are cast into the concrete floor, and once curing is finished, nozzles are quickly installed. Unlike nozzle-less lateral underdrains, suspended floors may be pressure-tested to ensure structural capability by inserting blanking plugs into the nozzle sleeves.

Lateral underdrains consist of a main header pipe or flume with several parallel laterals branched perpendicularly off one or both sides of the header or flume. The headloss in each lateral includes entry, friction, and discharge losses, the sum of which vary water and air



flowrates considerably under different operating conditions. Lateral underdrains are often fixed in place by grout or anchor bolts and buried in gravel to support and retain media and improve backwash performance.

Underdrain Design

Except in specific cases, filter underdrains must be level for uniform filtration across the bed and to evenly distribute the water and air fed during backwashing in a two-dimensional horizontal plane. Uneven, shallower parts of the media bed will create undesirable and increased filtering, backwash, and separate air scour flowrates. For simultaneous air-water cleaning, a zone of lower water flow may receive a higher proportion of air due to reduced water flow back pressure.

Filter underdrains must either have a fine straining method to hold back the media or have graded gravel to prevent media migration and loss. For underdrains requiring gravel, packing layers must remain stationary during backwash – if disrupted, the gravel must be re-laid.

Backwashing, particularly at increased rates, will not regrade the material, and instead will likely cause spouting through the media. Air scour and simultaneous air/

water washing make problems from gravel layer undulations much worse. Suspended underdrains with large slot opening nozzles and gravel permit horizontal short circuiting, convergence of flow from several nozzles, and formation of a spout through the packing layer. Fine slot nozzles to retain media directly above the suspended underdrain eliminate horizontal short circuiting and also provide the advantage of a lower hydraulic filter profile.

Lateral systems (triangular or block with slots, round pipes with nozzles) that have openings fine enough to retain the media can block up if backwash water is not entirely free of grit. In contrast, because suspended underdrain velocities are relatively low, nozzles with very fine slots may be used without concern as grit particles in backwash water may settle in the plenum.

Backwash Method

Critical to a filter is the ability for its media to be effectively cleaned. With proper backwashing, conventional filters have many significant advantages over other filter types, to include much longer filter runs with smaller overall backwash volumes; however, not all conventional filter backwash capabilities are "created equal."

Velocities under a suspended underdrain are relatively low, which reliably leads to good backwash and air scour distribution. The large plenum area buffers changes and provides uniform water and air flowrates across the filter floor. Comparatively, underdrains with laterals produce higher velocities, friction loss, and the Bernoulli effect, resulting in limits of effective lateral length, additional filter design concerns, and increased maldistribution. The flow pattern down the length of a lateral forms an asymmetric "U" shape and changes significantly according to flowrate, leading to operational challenges and structural design concerns. When the air/water interface is created during air scour, without a sufficient lateral cross-section for the air to pass down the lateral length, waves are created that produce intermittent discharge and damage. As inferred previously, nozzle-less lateral systems cannot be pressure-tested following installation, introducing doubt of installed structural capability during these conditions.

Air is distributed through laterals using the orifices or slots located in the crown of a round pipe or triangular lateral, near the top of the primary duct of a block-shaped lateral, or through slotted nozzles mounted on a round pipe lateral. For triangular and nozzle-less round laterals, orifices must be engineered only for a specific set of flowrate conditions, which unquestionably change during backwash and air scour operation and lead to poor performance and orifice blockage.

Air is distributed through a suspended floor through precision-engineered nozzles/strainers. A nozzle has three main components – the strainer to retain media, a water control orifice, and a stem with air orifices. Nozzle stems include a top air bleed hole and lower air metering hole or slots. As scour air is supplied, air collects at the plenum top and depresses the plenum water to form a uniform air/water divide line across all filter stems. The air bleed hole triggers the flow of air and the resulting headloss causes depression of the plenum water interface. Once the air metering hole or slots are exposed, this larger orifice area stabilizes the water level; however, when air and water flows simultaneously, the driving head increases, forcing air into the stem, which raises the plenum water level. By correct selection of the stem bore and of the size and location of the orifices, a range of air/water interface level may be beneficially maintained under both air-only and simultaneous conditions. After air scour has ended, the air bleed hole allows venting of air from the underdrain.

Market Analysis

Though nozzle-based underdrains predominate the international municipal market, block-shaped lateral systems are prevalent in the United States. The molded block contains a triangular or semi-circular primary manifold that distributes into an outer pair of secondary ducts, which in turn feed an upper face (or cap). Multiple lengths of blocks are laid side-by-side and grout is placed between these laterals. Originally (late 1970s), the cap contained large perforations requiring gravel; however, to avoid the packing layer in the early 1990s, sintered polyethylene bead slabs were screwed onto the block top. Due to the numerous amounts of floor uplift events, resulting mostly from slab plugging, biological fouling, and grout leakage, manufacturers are currently discontinuing the beaded slabs, reverting to slotted caps, and providing a significant amount of supplementary hardware to hold down the blocks.

In response to the prevalent floor failures, stainless steel triangular laterals have recently increased in usage. Though having a low hydraulic filtering profile, maldistribution of triangular lateral systems is significantly higher than that of block or nozzle-based monolithic floors. Undesired outcomes resulted in poor media agitation and cleaning, shorter filter runs, increased backwash rates and volumes, and a reduction in filter capacity. Adding the recent increased cost of stainless steel, the life cycle benefit of triangular lateral systems over that of block style is questionable.

To fully capture the treatment capabilities and long-term maintenance benefits of conventional filters, prudent municipal filter design must include consideration of suspended monolithic floors. This type of nozzle-based underdrain system eliminates gravel, has excellent filter and backwash distribution characteristics, and is structurally superior to lateral systems. At end-of-life cycle, in contrast to a complete lateral underdrain overhaul, nozzles are simply replaced as the monolithic floor remains part of the civil structure. Properly designed and installed monolithic underdrains can last more than 25 years of operation without a filter underdrain failure.

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- **A categorical listing of products and services and a list of companies that provide them.**
- **An alphabetical listing of companies appearing in the first section. This includes name, contact info, website, and more.**

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Town of Montville WPCA Holds Groundbreaking Ceremony

The Town of Montville Water Pollution Control Authority (WPCA) held a groundbreaking ceremony on March 13, 2024, for its new drinking water storage tank off Cook Drive in Montville. The project includes installation of a new glass-fused-to-steel tank adjacent to the existing tank. The new tank will have a capacity of just over 530,000 gallons. The groundbreaking ceremony was attended with great fanfare by federal, state, and local officials, local media, the design engineer, and selected contractors.

"The new tank will have a capacity of just over 530,000 gallons."

The tank to be installed in Montville was manufactured by CST Industries located in DeKalb, IL. According to Wright-Pierce, the tank design engineer, this particular type of tank was chosen because the fused glass coating on top of the steel panels eliminates the need for recoating the surface every 20 to 30 years, resulting in lower maintenance costs over the life of the tank. The Montville WPCA obtained financing for this project in part through the Drinking Water State Revolving Fund loan program and in part through grant funding including funds from the federal Bipartisan Infrastructure Law. The anticipated project cost is $2.04 million, to be completed by Suchocki & Son with tank construction assistance from Statewide Aquastore, Inc.

The water distribution network in Montville is supplied by water purchased from Groton Utilities. The distribution system is divided into different pressure zones to maintain acceptable water pressure for all customers. The new tank is vital to maintaining stable water pressure and ensuring a large volume of water can be provided in the event of a fire.



Montville Tank Groundbreaking Ceremony, March 13, 2024. L-R: WPCA Chairman Chuck Longton, WPCA Superintendent Derek Albertson, WPCA Administrator Ron McDaniel, DPH Deputy Commissioner Lisa Morrissey, Mayor Leonard Bunnell, DPH Environmental Engineer Raul Tejada, and DPH Public Health Branch Chief Lori Mathieu.



Voluntown to Perform Community Water System Study

The Town of Voluntown, CT was recently awarded a Community Investment Fund grant from the State of Connecticut Department of Economic and Community Development for $250,000 to conduct a water supply feasibility study for two areas of town. The first area, the Village Center, consists of the Town's downtown area with municipal buildings, commercial facilities, and residential homes. The second area includes a residential area adjacent to Beach Pond where seasonal residences are transitioning to year-round homes. Based on a Request for Qualifications issued by the Town, the eventual study is likely to include a detailed assessment of potential water service areas and demands, identification of high potential source water locations, identification of potential funding sources for implementation, and an extensive public outreach effort.

Connecticut Water Marks World Water Day by Assembling Portable Water Filters



In Connecticut, it's easy to take water for granted. At Connecticut Water, our dedicated team takes pride in delivering high-quality, life sustaining water to our customers in their homes every day.

But across the globe in 2022, 2.2 billion people lacked safely managed drinking water including 703 million without basic water service; 3.5 billion people lacked safely managed sanitation, including 1.5 billion without basic sanitation services; and 2 billion lacked a basic handwashing facility, according to the United Nations (UN).

World Water Day, an annual United Nations Observance on March 22, raises awareness and inspires action to tackle the global water and sanitation crisis. Climate change and population growth will only exacerbate the issue. The UN suggested three ways for people to get involved in 2024 – learn, share, and act.

To mark the day, Connecticut Water staff took part in a team-building event to learn about the global water crisis through various activities including assembling portable water filters, which will be distributed through a non-profit to clean water in hard-to-reach areas in need like in refugee camps and after natural disasters. Each filter can supply roughly ten people with water and last for about 10 years.

State Plan of Conservation & Development

The **draft 2025-30 Connecticut Conservation and Development Policies Plan** is now available for public comment. The Office of Responsible Growth will be scheduling public meetings to review the draft and solicit feedback this spring. Meeting dates and times will be posted as they become available. In addition, written feedback can be emailed to *opm.cd.plan@ct.gov.*

Read the plan by visiting *https://storymaps.arcgis.com/collections/7ce949e7bdd341c689f2cee82d34f3f8.*

The Office of Responsible Growth will be accepting comments through **June 30, 2024**, and will consider all feedback in its preparation of a final draft plan in the fall of 2024.

DEEP's "20 by 26" Initiative

Building on the foundation of its **20BY20 initiative,** the Connecticut Department of Energy & Environmental Protection (DEEP) has launched its new 20BY26 initiative to pursue measurable improvements across the agency to increase the predictability, efficiency, and transparency of DEEP's processes. As part of the initiative, DEEP has identified 16 goals – and is seeking to identify four new goals with input from stakeholders. Visit *https://portal.ct.gov/ deep-20by26* to learn more.

The 16 goals include improving permitting transparency and predictability and reducing the permitting backlog. In addition, DEEP is considering changing some individual permits to General Permits and eliminating some permits to "permit by rule."

Those with comments on how DEEP can make its processes more predictable, transparent, or efficient in line with DEEP's strategic goals (*https://portal.ct.gov/DEEP/About/DEEP-Strategic-Goals*) were encouraged to share their ideas for additional 20BY26 goals via email by May 1, 2024 or at one of DEEP's 20BY26 events.

As always, the Connecticut Water Works Association (CWWA) encourages its members to provide feedback on issues with various permit requirements applicable to water companies. Contact Betsy Gara with concerns at *gara@gmlobbying.com.*

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Connecticut Water Named a Winner of the 2024 Top Workplaces USA

Connecticut Water earned the prestigious 2024 Top Workplaces USA award after employees provided positive feedback in an engagement survey administered by Energage. Energage invited more than 42,000 organizations to participate in the Top Workplaces USA survey, which has surveyed more than 20 million employees over more than a decade to recognize top organizations across the country.

"We're honored to receive the Top Workplaces USA award. Providing reliable, high-quality drinking water and world-class customer service requires a team dedicated to its profession and committed to its customers," Connecticut Water President Craig Patla said. "Connecticut Water views employee satisfaction and engagement as a critical elements of our company, which we've embedded into the core values of how Connecticut Water carries out its mission."

Connecticut Water is headquartered in Clinton, CT, and has more than 240 employees who work in towns throughout the state. "Supporting our employees remains a top priority for Connecticut Water. Earning this recognition is a reflection of our passionate, dedicated team," Patla said. "Connecticut Water wants all employees to feel appreciated and empowered to thrive."



Our concern for the environment is more than just talk

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