Spring 2025

NEIWPCC

Interstate Waters

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Seven Pillars of New York State's Drinking Water Source Protection Program

ALSO:
Meet the Wastewater Trainers

NEIWPCC is a regional commission that helps the states of the Northeast preserve and advance water quality. We engage and convene water quality professionals and other interested parties from New England and New York to collaborate on water, wastewater, and environmental science challenges across shared regions, ecosystems, and areas of expertise.

Interstate Waters

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FROM THE EXECUTIVE DIRECTOR

Welcome to Volume 9, Number 1, of Interstate Waters. This spring, NEIWPCC remains as committed as ever to our mission of preserving and advancing clean water throughout the Northeast. This is clearly shown in the "Highlights" section of this publication, which reports on the many ways in which our team and program partners work in unison to serve their communities as well as the overall region. From tackling the challenges of PFAS to improving maritime safety on New York's Hudson River, NEIWPCC continues to identify and address critical needs in treating wastewater and throughout our waterways.

Readers can also learn about New York's highly successful Drinking Water Source Protection Program (DWSP2), a locally led, state-supported program that empowers municipalities to proactively protect their public drinking water sources. More than 100 communities currently participate, and interest continues to grow throughout the state.

Our wastewater trainers are essential to NEIWPCC's mission, dedicated to sharing their expertise in educating operators, as well as supporting professional development for those seeking career advancement. We share profiles of Bill Patenaude and Tom Bienkiewicz, both of whom exemplify this passion for teaching and dedication to the industry.

As we enter this new year of 2025, we will continue to engage and convene water quality professionals across New England and New York in collaboration across our shared ecosystems, providing our expertise, evaluating our efforts, and celebrating our successes.

Best regards,

Susan Sullivan

NEIWPCC Executive Director

Interstate Waters

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New Funding Expands Water Chestnut Management

Representative Bill Keating and NEIWPCC Program Manager Maryann Dugan at the SNEP grant announcement.

The Southeast New England Program (SNEP) awarded NEIWPCC a $100,000 grant for habitat restoration efforts in two interstate watersheds, the Blackstone and Ten Mile, located in southeastern Massachusetts and Rhode Island. The project will control water chestnut populations in targeted areas, while expanding the scope to support new community organizations and municipalities.

NEIWPCC will assist volunteer efforts to hand-pull the aquatic invasive plant, by engaging community members and increasing public awareness of the negative impacts to water bodies. Previous events in 2024 attracted 332 volunteers for a total of 957 volunteer hours. The project will also provide technical assistance and water chestnut management resources to municipalities and watershed organizations.

Information Clearinghouse for PFAS Sludge and Biosolids Resources

Per- and polyfluoroalkyl substances (PFAS), a group of emerging contaminants, are accumulating at wastewater treatment facilities – the result of widespread use in consumer and industrial products. Novel technologies are being developed to treat PFAS in municipal wastewater and sludge. However, to understand whether these treatments destroy or remove PFAS, further study is needed to track what is in the air, water, and solid phases once the treatment is complete. Presently, wastewater facilities have limited treatment options as scientists and researchers work to develop these processes.

NEIWPCC, in partnership with the North East Biosolids and Residuals Association (NEBRA), is facilitating discussions among stakeholders from the Northeast states' health and environment departments, wastewater treatment facilities, environmental consulting and law firms, universities, and national environmental organizations.

These conversations produced the concept of a Biosolids Technology Hub, or BioHub. NEIWPCC created this online resource to serve as an information clearinghouse on research and funding for piloting, planning, and permitting treatment of PFAS in municipal biosolids or sludge. Housed on NEIWPCC's website, the BioHub's webpage includes downloadable summaries of crowd-sourced information intended to help regulators and clean water practitioners find solutions for municipal sludge management and disposal. The summaries focus on published literature, treatment projects, and technology vendors that can remove or destroy PFAS in wastewater biosolids or sludge.

Virtual Tour of Lake Champlain Landscapes with Stewardship Stories

The Patrick Leahy Lake Champlain Basin Program, in partnership with Peregrine Productions and NEIWPCC, launched a new video series, "Summit to Shore," celebrating the beauty of the basin and highlighting the efforts in several communities to protect and restore their shared waters.

Using the web-based StoryMap as a guide, viewers can digitally explore the landscape around Lake Champlain, from distant mountain peaks in the headwaters to wetlands on the lake's shoreline. The videos include imagery from drones and panoramic 360-degree views, providing unique aerial and on-the-ground perspectives of the waterways.

The videos also show how local organizations, as sources of knowledge and information, provide numerous opportunities for individuals to get involved as stewards of the area's natural and cultural heritage. There is an artist-in-residence program, which connects students to their watershed; a collaboration between private landowners and their local watershed organization to remove a dam; an improvement of public river access points; and a partnership between researchers and town officials to reduce the amount of road salt entering a local lake.

Evolving Underground Storage Tank Industry

According to the Environmental Protection Agency (EPA), approximately 542,000 underground storage tanks (USTs) nationwide store petroleum or hazardous substances. The greatest potential threat from a leaking UST is contamination of groundwater, the source of drinking water for nearly half of all Americans.

NEIWPCC's news publication for the leaking underground storage tank (LUST) community, "LUSTLine," covers technical and regulatory aspects of UST compliance and release prevention, cleanups, financial responsibility and other pertinent topics. The most recent issue is now available on NEIWPCC's website and features a toolkit for processing LUST sites, including choosing a proper active remediation system, optimizing its performance, and how and when to take it away once the cleanup is complete. Other articles examine the progress that the UST community has made since new regulations were passed to prevent further contamination.

Promoting Careers in Wastewater Treatment

NEIWPCC partnered with Massachusetts' Shawsheen Valley Regional Technical High School to address workforce shortages in the wastewater treatment industry. The school offered

Daphne Short, Ryan Buckley and Ashley Harrington, NEIWPCC; Nick Evans, superintendent, Billerica Wastewater Treatment Plant; and Allison Cammarata, director of communications and community partnerships, Shawsheen Tech.

NEIWPCC's "Introduction to Municipal Water Treatment" course as part of its fall curriculum. And, in November 2024, NEIWPCC staff presented a free seminar, "Flush to Fresh: Working in the World of Wastewater."

The partnership came in response to the challenges local town managers are facing in filling skilled municipal water treatment positions. Further research, confirmed by labor market data from MassHire Metro North, identified approximately 150 unfilled jobs in the Greater Boston area, underscoring the need for professionals in this field.

Restoring Habitat Connectivity in the Hudson River Watershed

The New York State Department of Environmental Conservation (NYSDEC) awarded $343,852 in grants for projects to remove culverts, restore aquatic organism passage and habitat connectivity, reduce local flood risks, and improve water quality in several towns. Funding is administered by NEIWPCC in partnership with NYSDEC's Hudson River Estuary Program and supported by New York State's Environmental Protection Fund.

One of the projects, in Philipstown, will produce shovel-ready stamped engineering plans, permit materials and construction documents to remove a culvert which is a local flood hazard during heavy storm events. Replacement of this structure will also open up an additional constriction just downstream of a current Hudson River Estuary Program-funded dam removal project with observed eel presence. And, a second culvert removal and replacement project in Stephentown will reconnect three-and-a-half miles of high-quality upstream habitat for aquatic organisms, and also mitigate chronic flooding issues.

Wetland Workgroups Advance Regional Collaboration

In November 2024, NEIWPCC – in partnership with the National Association of Wetland Managers – hosted the biennial meeting of the New England Biological Assessment of Wetlands Workgroup (NEBAWWG) and the Mid-Atlantic Wetlands Workgroup (MAWWG). Held in Massachusetts, the event's presentations focused on several themes, including innovative uses of technology in wetland monitoring and assessment; cumulative and secondary impacts to wetlands; functional assessments and restoration techniques; and applications of wetland monitoring data. In addition to the presentations, each state or tribal representative provided an update to the group, highlighting successes, challenges, and areas for collaboration.

Clean Water Podcast Shares Creative Solutions for Water Quality Challenges

The third season of the "Clean Water Pod" podcast focuses on innovative approaches within the Clean Water Act 303(d) Program. In the first episode, host Jeff Berckes and a former colleague discuss challenges they encountered when initially implementing Total Maximum Daily Loads (TMDLs) to address bacteria impairments in three different Iowa lakes, and how they developed a new sampling protocol to examine both beach sand and the water.

In the second episode, listeners discover how water professionals in Boise, Idaho found an atypical way to meet pollutant reductions identified in the TMDL, 40 miles downstream from their wastewater treatment facilities, through constructing a phosphorus removal facility.

The third episode addresses phosphorus pollution in Lake Champlain, located between New York, Vermont, and Canada. The guests talk about their unique collaboration, required to implement the lake's TMDL, as well community engagement and local partnerships.

Berckes then turns to Oregon's salmon-rich Tualatin River in the fourth episode, focusing on a water quality trading credit program initiated to address the river's TMDL for temperature. Guests share the reasons why this watershed-scale program was selected and how it works, as well as the broader ecological benefits it provides.

The Boise River winds through Boise, Idaho before draining into the Snake River.

Symposium Unites Researchers to Tackle Harmful Algal Blooms

In October 2024, more than 500 participants attended the 12th Annual U.S. Symposium on Harmful Algae, held in Portland, Maine, and coordinated by NEIWPCC. The six-day conference's theme, "ONE BLOOM: Unifying Harmful Algal Bloom (HAB) Science in Aquatic Ecosystems," focused on identifying and highlighting commonalities across diverse study systems and disciplines within research.

The agenda featured more than 180 oral presentations, plenary sessions, and speed talks on topics including HAB management and mitigation, emerging toxins, predictive modeling, public health, and socioeconomic impacts. An additional 180 researchers presented their work in poster sessions, providing opportunities for in-depth discussions.

Delving into Successful Clean Water Strategies

From the rugged mountains of northwestern Montana to the large Chesapeake Bay estuary, NEIWPCC's Clean Water Success Story Project celebrates a diverse array of Clean Water Act Section 303(d) achievements. Launched in 2022, the five-year EPA-funded project is intended to inform stakeholders and the public, inspire other water quality programs, and generate support for future work to advance clean water.

Recent case studies focused on the theme of nutrient-related Total Maximum Daily Load (TMDL). A TMDL defines the maximum amount of a pollutant that a waterbody can receive while still meeting water quality standards.

One story focused on reducing nutrient pollution from septic leachate in Montana's Flathead Basin. In collaboration with the Western Montana Conservation Commission, NEIWPCC developed an educational social media campaign about septic system practices that protect water quality, as well as a handout detailing the multi-pronged efforts to reduce septic leachate.

In the east, NEIWPCC worked with a community partnership, Envision the Choptank, to report on nutrient and sediment pollution degrading water quality in a tributary to the Chesapeake Bay – Maryland's Choptank River – largely due to agricultural runoff. To help achieve the Chesapeake Bay TMDL goals for the Choptank watershed, Envision the Choptank focuses on agriculture, local governments, and disenfranchised communities in its evidence-based, community-driven approach.

And, in collaboration with the Maryland Department of the Environment, NEIWPCC developed communication materials highlighting the Bay Restoration Fund (BRF). The fund is directed toward nitrogen-reducing water quality improvements in support of the Chesapeake Bay TMDL, notably major wastewater treatment plant upgrades. In the 20 years since the implementation of the BRF, the water quality of Chesapeake Bay has shown significant signs of improvement.

NEIWPCC is seeking stories from across the country. Accepted case studies may be used to craft multimedia communications products and be featured on the Clean Water Pod podcast. To submit a success story idea or learn more, go to https://neiwpcc.org/303d-success-stories, or email Beth Malcolm at bmalcolm@neiwpcc.org.

Reports Detail NEIWPCC Work in Each State

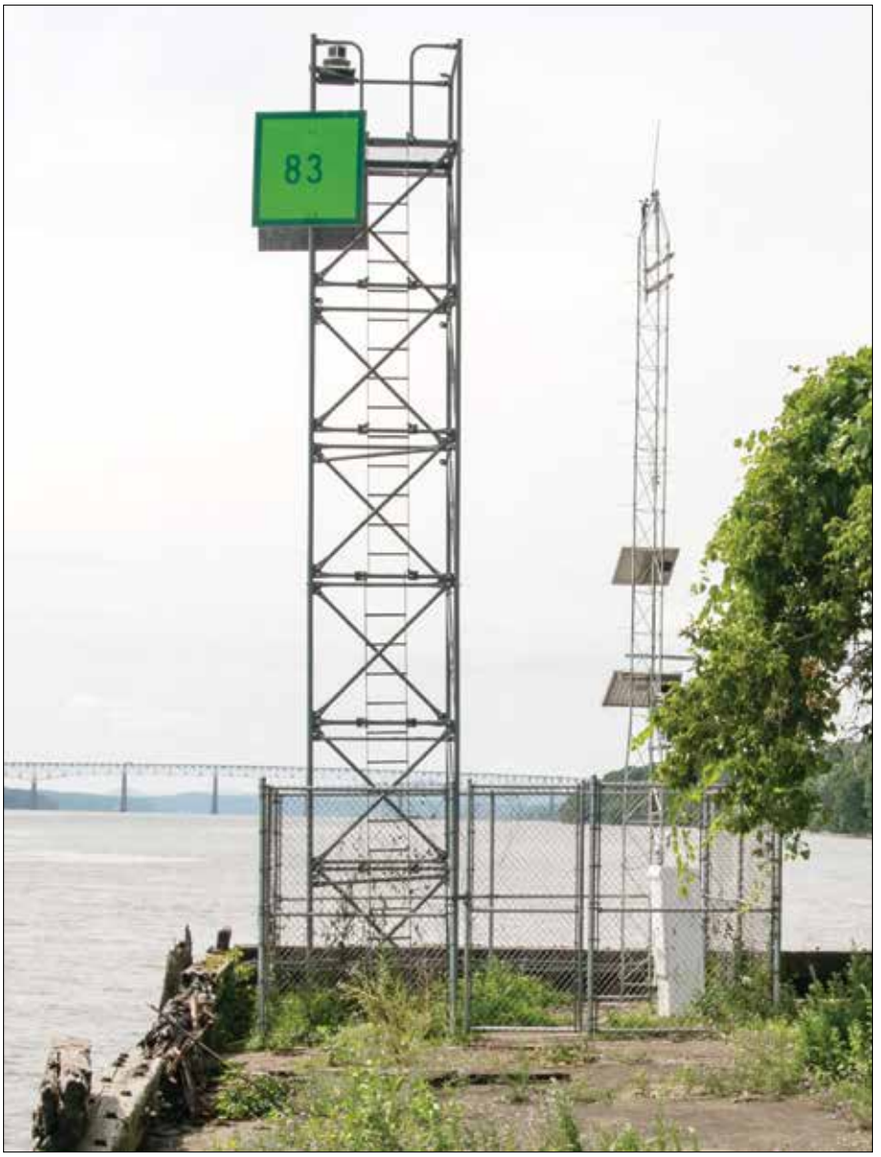
Every year, NEIWPCC produces individual annual reports for each of its member states, summarizing the scope of work accomplished in the previous fiscal year as well as collectively across the region. The 2023-2024 "State Summaries," found on NEIWPCC's website, highlights some of the most pressing clean water challenges facing the Northeast, including per-and polyfluoroalkyl substances (PFAS), invasive species and nitrogen pollution; and outlines programs and projects to address these concerns. The reports also recap NEIWPCC conferences, which provided opportunities for water professionals and stakeholders to connect on both a regional and national level; and the Executive Committee and Commission meetings, which bring together leaders in the states' environmental and health agencies, experts from the private sector and EPA representatives, to identify and discuss water-related challenges.

Chesapeake Bay, part of NEIWPCC's Clean Water Success Story Project.

For more information about these stories, visit NEIWPCC's website at www.neiwpcc.org to view the "News" page. Sign up for NEIWPCC's monthly e-newsletter, Streamlined, at the bottom of the homepage.

Real-Time Data on Coastal Conditions Aids Hudson River Safety

Sarah Fernald, NYSDEC.



The Hudson River Estuary PORTS® station at Turkey Point, New York.

Navigating New York waterways just got a bit easier. The National Oceanic and Atmospheric Administration (NOAA) and the New York State Department of Environmental Conservation (NYSDEC) announced the establishment of the Hudson River Estuary Physical Oceanographic Real-time System (PORTS®). The system delivers real-time oceanographic and meteorological observations that can improve maritime safety and inform coastal resource management in the region. Commercial mariners, recreational boaters, resource managers, and coastal planners can use the online tool to access real-time water level data from Sleepy Hollow to Troy, New York.

The Hudson River National Estuarine Research Reserve (HRNERR) and NYSDEC had previously established the Turkey Point tide station near Saugerties in 2014 to provide accurate water levels and tidal predictions for the Hudson River. Until then, this part of the river had been in a "data gap"—an area without monitoring equipment nearby—as the closest station was in The Battery in Manhattan.

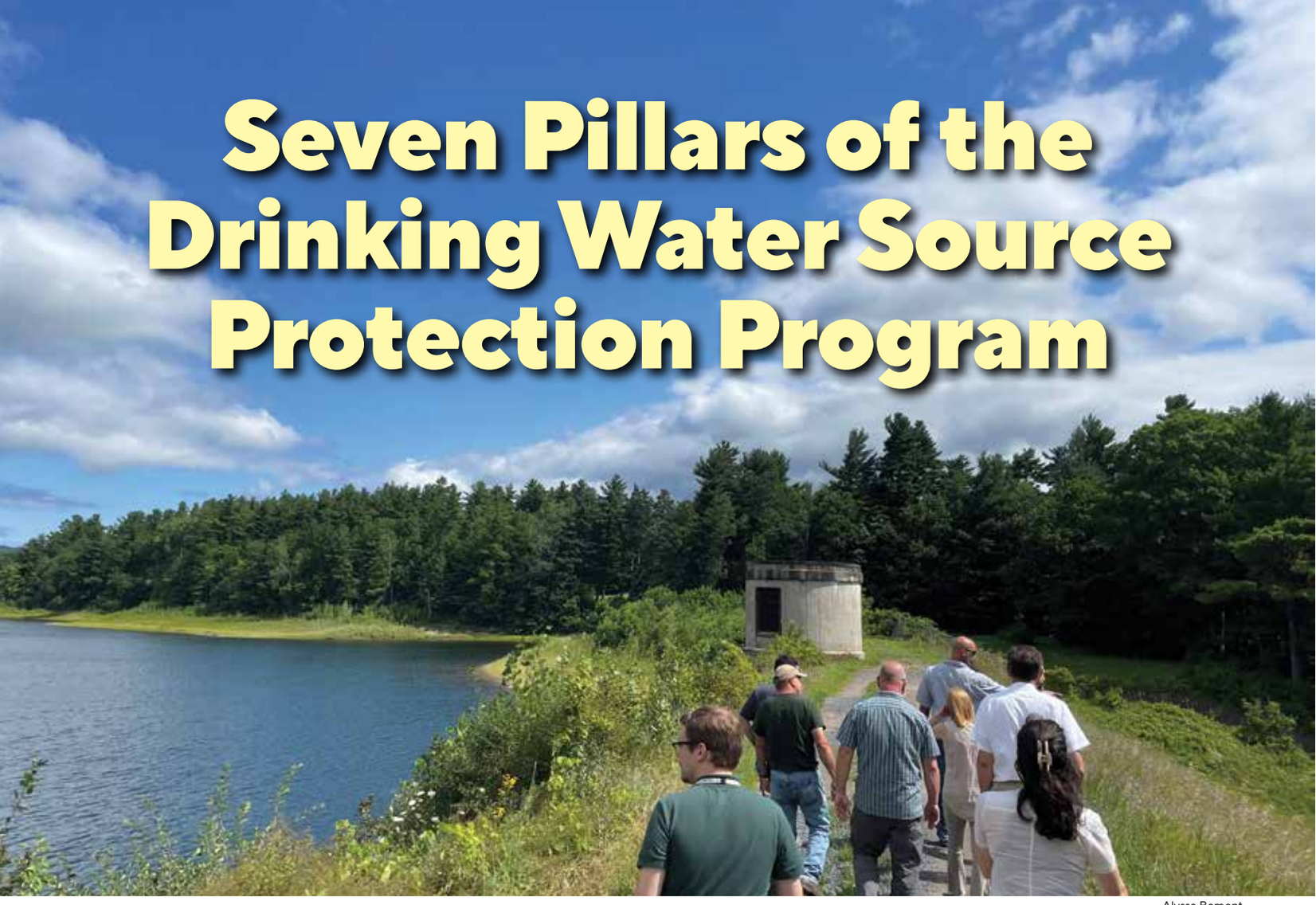
Chris Mitchell, NEIWPCC environmental analyst and HRNERR research coordinator, manages the station. He oversees its operation and maintenance, and acts as a liaison between NYSDEC and NOAA. In 2017, NOAA officially adopted the station into the National Water Level Observation Network, a series of long-term continuously operating water level stations throughout the U.S. and its territories.

In 2023, HRNERR, NYSDEC and NOAA identified the upper tidal portion of the Hudson River as a targeted location for the establishment of a new PORTS® network, with Turkey Point as its focal station. This station would be the cornerstone for a larger network of sensors, monitoring, and data products. Mitchell, as the team lead, managed project coordination and collaboration, and Christina Pacella, NEIWPCC environmental analyst and HRNERR habitat researcher, assisted with operational and logistical tasks.

The Turkey Point station is equipped with pressure-based and microwave water level sensors, satellite transmitters, as well as rechargeable batteries and solar panels. The redundancy of the built-in sensors and power sources is designed to ensure the station operates in all weather conditions, and that NOAA's critical real-time data continues to flow when it is most urgently needed by the maritime community. The station is also equipped with an anemometer that measures wind speed, pressure, and direction; sensors for air and water temperature, relative humidity, and conductivity; as well as a barometric pressure sensor to measure meteorological conditions.

A second water level station will be added to the system later in the year to deliver data from the upper portion of the Hudson River at the Coxsackie State boat launch and Riverside Park. The project team continues to pursue expansions of the network, which will improve maritime safety and provide high quality data on other portions of the river.

Seven Pillars of the Drinking Water Source Protection Program



Alyssa Bement

Tour of Mead Reservoir, city and town of Plattsburgh, New York.

New York state's Drinking Water Source Protection Program (DWSP2) is a locally led, state-supported program that empowers municipalities to proactively protect their public drinking water sources. Since the inception of the program in 2019, DWSP2 has evolved and grown, supporting more than 100 municipalities with 2.5 million water consumers.

The program is committed to increasing awareness and protection of source water throughout the state. By collaborating with program partners and gathering feedback from DWSP2 participants and technical assistance (TA) providers through interviews, meetings, and data analysis, DWSP2 is able to make continuous improvements in order to best suit the needs of all parties. The voluntary nature of the program provides municipalities the opportunity to be proactive in the methods used to protect source waters.

Proactive vs. Reactive

State agencies tend to operate in a reactive capacity – for example: a contamination event occurs, an emergency response follows, and then a remediation takes place. A more successful approach can be in anticipating those contamination issues and reducing or eliminating their risk.

This proactive approach is the foundation of DWSP2. It positions the state to work with communities to identify potential contaminant sources that can impact source waters and proactively implement ways to remove those threats.

Once these sources are identified, communities get assistance with the selection and implementation of suitable methods to proactively protect drinking water. This includes information on applicable partners to work with and potential funding opportunities. Through this assistance, the DWSP2 program furthers a municipality's ability to anticipate source water-related issues, make informed decisions, and utilize the appropriate management tools.

Community Driven

DWSP2 is a program built for its participants, requiring a municipality or water system owner to be the driver. This makes it more likely that the plan will be fully implemented and successful. To better achieve this, every DWSP2 community first forms a stakeholder group during plan development and then a program management team (PMT) during the implementation phase.

DWSP2 stakeholder groups consist of active community members, local organizations and public officials. They help build partnerships at the municipal level, ensure that plan development does not fall on one person, bring in expertise (e.g., water treatment operators, agricultural experts, planners, etc.), and open new lines of communication.

After the plan development phase, the PMT is formed to carry out implementation activities. In addition, PMTs share reports/updates on actions to keep the community informed on

progress. A successful DWSP2 plan depends on a dedicated group who will withstand staff turnover and ensure that the plan is used, maintained, and updated.

"Pulling together a stakeholder group early on was probably one of the most important aspects of our program," said Ben Slotman, P.E., director of the Department of Public Works, Ellicottville. "I think we had a fairly active group, which our plan benefitted from. I could see how other communities may struggle to pull together a diverse group, so being proactive and engaging with your technical assistance provider are two pieces of advice I would give."

Alyssa Bement

Stakeholders working on a project profile exercise for a DWSP2 plan.

Agency Collaboration

The New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) each have a role in protecting public drinking water sources and are equal partners in DWSP2, with support from the state's Department of Agriculture and Markets (AGM) and Department of State (DOS). The roles of NYSDEC and NYSDOH mainly follow the agencies' missions and capacity related to the division of program responsibilities. NYSDEC develops and continues growth of DWSP2, and NYSDOH works directly with the communities to provide technical assistance and implement the program. While they may work on different aspects of the program, the agencies work closely together. Individual program staff are in daily contact with each other, and the two agencies meet weekly as a team to discuss issues and make final decisions.

DWSP2 supports NYSDEC's mission to conserve, improve and protect New York's natural resources, which includes water bodies. NYSDEC has had a lead role in writing the DWSP2 "A Framework for Creating a Drinking Water Source Protection Program Plan" ("DWSP2 Framework," or "Framework"), which provides a roadmap for creating a source water protection plan, including implementation activities and next steps.

NYSDEC's involvement stems from many of the department's programs (regulatory and nonregulatory) in some way protecting water. Also, from DWSP2 empowering communities to protect their local water bodies by implementing environmentally sound practices that will have a lasting effect further aligns with the agency's purpose. NYSDEC has existing capacity and experience in receiving state funding and procuring contracts. Therefore, it made sense to have NYSDEC manage the program's state funding, which is used to hire the TA providers and fund source water-related projects. NYSDEC oversees the TA providers to ensure they stay on track and assist when roadblocks arise.

"I've had the privilege of witnessing DWSP2 grow from an idea into a collaborative program that successfully safeguards the environment, and public health," said Susan Van Patten, water chief, NYSDEC. "From those early days of laying DWSP2's groundwork to the program's current impact on New York's public water supplies, it has been incredibly rewarding to see the way our collective efforts are shaping the state's clean water future."

NYSDOH oversees the delivery of suitable drinking water, frequently working with suppliers to help improve their public supply, which is a struggle for some communities due to limited resources and support. The department provides a structure which communities can use to garner local support, ensure high quality drinking water, and potentially avoid high treatment costs. Staff work directly with communities as a TA provider during plan development. Additionally, NYSDOH coordinates with NYSDEC to ensure that DWSP2 plans meet all components of the program. As communities transition from plan development to implementation, NYSDOH staff serve as their long-term advisors, especially as needs change.

NYSDEC and NYSDOH have some overlapping responsibilities, such as participating in DWSP2 outreach and ensuring plans meet requirements. Since the program is voluntary, outreach is critical. Both agencies present the environmental and public health benefits at conferences and write outreach materials. In addition, the two agencies hold TA providers and communities to program standards as they work toward state

Roxy Johnson, city of Ithaca watershed coordinator

Six Mile Creek, Ithaca, New York.

Alyssa Bement

Touring a stream restoration site in the Catskills.

acceptance of their DWSP2 plans. Through weekly meetings and consistent updates, the two agencies ensure the program meets high standards.

Since the inception of DWSP2, the New York State Department of State (NYSDOS) and the New York State Department of Agriculture and Markets (NYSAGM) have been supporting agencies involved in developing the program and drafting the framework. Protecting public water supplies involves land use considerations such as zoning, comprehensive planning, and waterfront revitalization. NYSDOS serves as a key partner to assist DWSP2 in making critical related land use decisions. Agriculture is an important industry in New York and many public water supplies have agricultural activities in their watershed. NYSAGM provides a link to county soil and water conservation districts, which frequently work with farmers and serve as key local partners in protecting drinking water. The four agencies share program progress and ideas for improving DWSP2.

NEIWPCC has supported the state agencies and enhanced the program's reach. The state sought out NEIWPCC because of its mission as a regional commission that helps the states of the Northeast preserve and advance water quality.

Free Technical Assistance

NYSDEC and NYSDOH, in collaboration with NYSAGM, NYSDOS, and other source water protection organizations, created the DWSP2 Framework, a guide and template for TA providers and communities to use so that DWSP2 plans are grounded in science, adhere to state and federal laws and regulations, and ensure projects are implementable and, where appropriate, fundable. This promotes consistency between each community's plan and the state-wide program.

Municipalities accepted into DWSP2 receive comprehensive, results-oriented assistance to complete a plan that is unique to their needs. At no cost to the community, the state pairs DWSP2 participants with at least one of 15 TA providers covering all of New York. Using the framework, TA providers coordinate the formation of stakeholder groups, interpret data, create maps, identify source water protection strategies, provide guidance on funding, and help the municipality start implementing protection actions. Communities walk away from this assistance with a clear path forward on how to safeguard the environment and public health through source water protection.

Once work is completed on a DWSP2 plan, a community's TA provider will send it to NYSDEC and NYSDOH for state acceptance. After the plan is determined to align with the key elements of the DWSP2 framework, a community can begin to work with their TA provider on implementing several actions outlined in their plan.

"Creating a plan can seem challenging if you don't know where to start," said Dan Lang, P.G., deputy director, NYSDOH Center for Environmental Health. "The free technical assistance offered by this program gives communities the resources they need to identify local priorities and implementation strategies."

Action Oriented: Implementation

Some communities have found the transition from planning into implementation difficult. To address this issue, TA providers begin by identifying up to three priority issues from the DWSP2 plan to implement immediately. Examples include:

- Writing and application assistance.
- Local law gap analyses.
- Aquifer protection overlay district.
- Community education and outreach.
- Intermunicipal agreement toolkit.

Communities typically work with their TA providers between six to twelve months to accomplish some early action implementation activities.

Community Spotlight: Ithaca

Beginning in 2021, the city of Ithaca participated in DWSP2, with the intention to build on the work previously completed in its 2004 Source Water Assessment Program (SWAPP) plan. Several potential contaminants threatened Ithaca's water quality, while droughts and limited reservoir management contributed to decreasing water quantity. Ithaca's DWSP2 stakeholder group worked with their TA provider to develop and implement a program that was specific to their community and drinking water sources to address their concerns. After the city's plan received state acceptance in 2022, Ithaca moved to implementation to make their source water protection goals a reality.

As part of the implementation process, Ithaca began to address its core water quality concerns by performing a build-out analysis. The analysis explored the impacts of various development scenarios and provided community leaders with decision-making tools. With assistance from TA providers, the city successfully applied for and secured a $45,000 grant award, "Build-out Analysis Modeling for Scenario Planning." Through the funding obtained from this grant, Ithaca was able

Buttermillk Falls, Ithaca

to inform future land use planning within their drinking water source protection area to support the long-term health and sustainability of Six Mile Creek, which serves approximately 30,000 residents.

Community Spotlight: Ellicottville

The town and village of Ellicottville participated in DWSP2 in 2021. The municipalities' vision, as described in their plan, was to ensure that their water supply – drawn from the Great Valley Aquifer – continues as a reliable and cost-effective source of excellent quality drinking water, meeting the highest public health standards. To this end, the stakeholder group prioritized actions to prevent contaminants from seeping into groundwater and protect their source water area from future development. Following state acceptance in 2022, the PMT, with support from their TA provider, kicked off implementation efforts.

One specific action was the development of an Aquifer Protection Overlay District (APOD). An APOD applies an additional set of source water protection regulations to those of the existing, underlying primary zoning district(s). Keeping the priority goals in mind, a list of recommended amendments and new laws are gathered. The communities then have the option to choose which recommendations they would like implemented into the existing body of legislation, or to include these recommendations as part of an APOD.

Outreach and Program Awareness

DWSP2 agency staff put considerable effort into raising program awareness and increasing exposure to target audiences. The team takes a multi-faceted outreach approach to communicate with all interested parties, from municipal officials to local stakeholders. Bi-monthly newsletters provide an opportunity for DWSP2 to educate thousands of readers on source water-related topics and program updates. Social media engagement – through related posts on Facebook and Instagram – furthers this effort. The DWSP2 team actively seeks opportunities to present and table at conferences and trainings. State staff note that tabling at conferences provide attendees with a more relaxed atmosphere to have an open dialogue about their source water.

The most direct way for a community to initiate involvement in DWSP2 is through the agency's interest form, in which they supply contact information, describe public water supply details, and explain the reasons behind seeking enrollment in the program. Agency staff then provides them with a community-specific presentation about the program. The interest form is available on the DWSP2 website and given out at conferences. Each of these avenues have proven effective.

Using a combination of newsletters, social media engagement, presentations/tabling, and the interest form makes it possible for DWSP2 to cover many communication channels and promote consistent engagement with the program before, during, and after enrollment.

Alyssa Bement

Scott Stoddard, Plattsburgh's municipal water and wastewater utilities director, showing Madeline Silecchia, NEIWPCC environmental analyst and NYSDOH drinking water specialist, water quality testing at the new town well.

Alyssa Bement

Exploring the pumphouse at the Patterson Reservoir in Plattsburgh, New York, a system that was built in the early 1900s.

Data Storage and Analysis

To collect and analyze data to improve the statewide program, the DWSP2 team is modernizing its collection from participating communities. DWSP2 will be piloting an online platform to host data in a central location for participants. The system, when launched, will collect each plan's data and track progress. As part of continued program improvement, the DWSP2 team anticipates using this data to identify areas that are successful and those that need additional attention. For example, DWSP2 will have a better understanding of the rate of plan implementation and which strategies are being selected by each community. This type of information is important to understand how to best support municipalities with their source water protection goals.

More information about these implementation activities, including specific examples executed by DWSP2 communities and their TA providers, can be found in the DWSP2 Newsletter. Go to https://dec.ny.gov/environmental-protection/water/water-quality/dwsp2/newsletter-archive.

This article was written by the following contributors: Susan Van Patten, Watershed Section B Section chief, NYSDEC; Kristin Martinez, environmental program specialist, NYSDEC; Tyler Bobko, environmental analyst, Drinking Water Source Protection Program, NYSDEC; Pat Palmer: research scientist, NYSDOH; Pauline Wanjugi, research scientist, NYSDOH; Colleen Bradley, NEIWPCC environmental analyst, drinking water specialist, NYSDOH; Ryan Bell, NEIWPCC program manager, drinking water specialist, NYSDOH.

Developing Leaders in Wastewater: Meet NEIWPCC Trainer Bill Patenaude

By Beth MacBlane

In 2005, William (Bill) Patenaude, a principal engineer with the Rhode Island Department of Environmental Management's (RIDEM) Office of Water Resources, served on an interview committee for a local wastewater treatment plant. During this process, he observed nervous candidates who were well-qualified for the role but lacked interview skills and management knowledge. This sparked the idea for a program to support rising professionals in the industry.

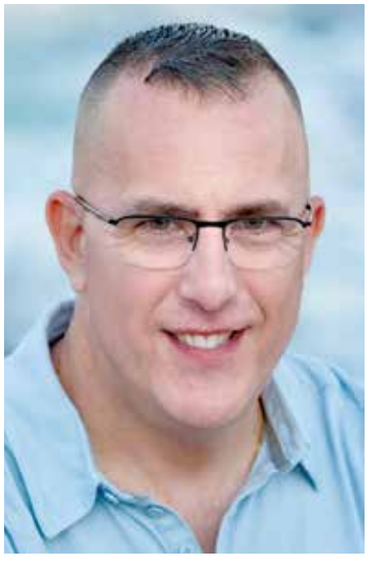
Rather than a one-day class model, Patenaude, who also served as a trainer for wastewater facilities, believed participants should meet regularly over time to network, learn and grow together. An 11-month long Wastewater Leadership Boot Camp emerged from his efforts, meeting for a full day each month to provide technical and non-technical leadership training, including elements and insights from the Myers-Briggs Type Indicator personality assessment model to inform individual strengths and leadership styles.

Officially launched in 2007 with funding from the U.S. EPA, the free RIDEM program continues to provide intensive technical training and professional development opportunities for municipal wastewater staff. While slight adjustments are made from year to year, the Boot Camp consistently includes job shadowing, interaction with environmental advocates and regulators, process control training, media relations, as well as a public-presentation requirement — all designed to help prepare the next generation of wastewater management leaders.

"One of the most gratifying things about boot camp was being part of the participants' professional and personal development," Patenaude said, "and we couldn't have done it without the support of leadership at RIDEM and so many others."

He used his extensive network to recruit guest speakers to the program, including NEIWPCC Environmental Engineer Jennifer Lichtensteiger.

"Bill approaches teaching with respect for his students and accountability – he sets high expectations of his students," said Lichtensteiger. "Seeing the transformation of the students from the beginning of the management program to the end was remarkable. They came into the unfamiliar program unsure of themselves and, through Bill's mentorship, grew into confident, capable leaders. He inspired his students to do well and find their own personal leadership style."



After dedicating 34 years of his career to RIDEM, Patenaude joined NEIWPCC in 2023 as a training specialist, applying his experience and expertise in management to craft new courses for NEIWPCC's Wastewater and Onsite Programs Division. In 2024, he launched a virtual leadership mini-series as an alternative to the boot camp model, with courses on team building, communications, and management. As a certified Myers-Briggs Type facilitator, he weaves in elements of personal understanding in areas such as strengths, values, and preferences, and how knowing one's personality type can give you better awareness as a leader.

"Bill is passionate about the human side of the water industry, which is invaluable in an industry that is starved for people and is coping with ever changing permit limits and challenges," said Ryan Buckley, NEIWPCC environmental analyst. "His philosophy reminds us that without these essential workers, our waterbodies would look like they did before the Clean Water Act was established."

Early in his career, Patenaude realized that his extroverted personality and preference for hands-on work was not the norm among his engineering counterparts. Taking a Myers-Brigg type indicator assessment changed the course of his personal and professional life. "It was a watershed moment in my life for many reasons," he explained. "Understanding personality types, preferences and strengths – my own, my teams, the organizations and the industry's – really dovetailed into my work as a trainer at the time."

He found that many of the issues facing the industry in Rhode Island were not technical matters, but rather had to do with management, public relations, and interpersonal issues.

"A top challenge of the water industry is that the public doesn't know the importance and value of treating our wastewater," said Patenaude. "Wastewater professionals are often technical in nature, and may not be skilled at, or have access to training to support effective public outreach efforts."

RIDEM's boot camp model inspired other states to follow suit. The program has been replicated in every New England state and continues to advance the professionalism of the industry. NEIWPCC was involved with RIDEM's boot camp from the outset, and continues to support regional management programs in a variety of ways, including by convening a management school workgroup.

In recognition of Patenaude's efforts, the EPA honored him with the 2023 EPA Lifetime Achievement Award for his outstanding work throughout this career as a leader in the wastewater field. Previously, the EPA also recognized him with the 2008 Regional Wastewater Operator Training and Certification Provider Award for developing the boot camp.

At NEIWPCC, Patenaude's classes help to fill a gap in operator training while continuing his efforts to support effective leadership and public outreach in the industry. "I really enjoy bringing what I was able to do for Rhode Island to all of New England through NEIWPCC's courses," he said.

Beth MacBlane is an information officer with NEIWPCC's Division of Communications and Outreach.

Building Operator Skills: Meet NEIWPCC Trainer Tom Bienkiewicz

Walking to grammar school, Thomas (Tom) Bienkiewicz recalls crossing over the Blackstone River in Blackstone, Massachusetts, always curious to see what color the river would be running that day. Sometimes it would be red, blue or green, with a cloud of suds standing six feet tall pushed up against the dam. This was typical in the 1960s and early '70s, before the federal Clean Water Act was established to regulate discharges, like dyes from upstream textile and paper mills on the Blackstone River.

Bienkiewicz reflects on these early memories as he shares about his 44 year – and counting – career in the wastewater industry. He served 37 of those years with the Massachusetts Department of Environmental Protection's (DEP) Division of Water, focusing on wastewater operator training and certification.

Bienkiewicz began working closely with NEIWPCC in 2003, when the commission assumed administrative and renewal duties of the state's wastewater operator training program. He had gained an expertise of the exam material and the certification process and challenges through his role with the Massachusetts State Board of Certification of Operators of Wastewater Treatment Facilities. As executive secretary, he managed the licensing process of operators, developed exams, oversaw exam preparation courses and reviewed new technologies.

He was also involved with certification exam development as a volunteer for more than 15 years with the Association of Boards of Certification (now Water Professionals International). For his dedication and excellence in the field, the EPA honored him with the "State Wastewater Operator Training and Certification Assistance Provider Award" in 2007.

Upon his retirement from the DEP, Bienkiewicz joined NEIWPCC as a part-time training specialist in 2017. He teaches municipal wastewater classes on basic and advanced topics, including solids processing, administration, and regulatory compliance.

"What I like about my role at NEIWPCC is that I feel we are meeting the needs of the operators," said Bienkiewicz. "The courses aim to equip students with a strong foundation of the skills and knowledge needed to take operator exams and be good operators. By offering a variety of courses, remotely and in-person, we're not leaving anybody out."

In addition to his thorough understanding of municipal wastewater treatment and exam preparation, Bienkiewicz has an undeniable passion for helping his students.

"Tom draws from experience as an engineer and a regulator to craft his trainings and give students what they need to succeed," said NEIWPCC Environmental Analyst Ryan Buckley. "He is always looking to improve classes to better support his students, and really takes the time to connect with everyone to find out what they need and how he can help."

NEIWPCC Information Officer Shelly Jenkins, who coordinates the Massachusetts Wastewater Certification and Renewal Program, concurs. "Tom possesses an extraordinary amount of patience, treating each student as if they were his only one. Most operators in Massachusetts know him by name and hold him in high regard. Additionally, we are learning from him and all the valuable experience he brings – his feedback has significantly influenced the way we conduct training at NEIWPCC."

NEIWPCC is constantly adjusting classes in response to new procedures and equipment. Bienkiewicz is quick to point out that the skillset needed to be an operator today has changed significantly. "We went from on/off switches on equipment to using sophisticated computer systems throughout the treatment process," Bienkiewicz said. "Today, both municipal and industrial operators need improved computer skills to be able to react to information provided by the technology."

Bienkiewicz adds that new challenges and procedures accompany the technological shifts the industry has experienced, such as computer failure and cyberterrorism threats. "Operators need to be prepared for almost any scenario and take the time to develop detailed emergency response plans." He also mentions other challenges the industry now faces: emerging contaminants, increased nutrient levels, and new permit requirements.

While technology will continue to evolve, Bienkiewicz keeps his eyes on the students operating the equipment, ensuring they have the tools and experiences needed to succeed in their careers and further the wastewater industry. When he's not training, Bienkiewicz is enjoying his retirement fishing and kayaking on a transformed Blackstone River, due in part to his own many years of dedicated service.

Tom Bienkiewicz leads a class in Millbury, Massachusetts.

NEIWPCC Commissioner **Janine Burke-Wells**, executive director of the North East Biosolids and Residuals Association (NEBRA), provided opening and closing remarks as well as a PFAS regulatory update at the North East Residuals and Biosolids Conference.

Environmental Analysts **Ryan Buckley** and **Daphne Short**, and Information Officer **Ashley Harrington**, presented an introduction to wastewater seminar at Shawsheen Valley Regional Vocational Technical High School in Billerica, Massachusetts.

Sara Cernadas-Martín

Sara Cernadas-Martín, environmental analyst and Long Island Sound Study Habitat Restoration and Stewardship coordinator, participated in a career panel focused on STEM related careers at Queens College, City University of New York.

Brittney Flaten

Brittney Flaten, environmental analyst and Hudson River Estuary Program HRECOS coordinator, and **Anna Palmer**, environmental analyst and Hudson River Estuary Program source water protection specialist, presented a webinar on empowering water resource managers as part of the NY-NJ Harbor and Estuary Program's 2024 conference.

Anna Palmer

Richard Friesner, director of Water Quality Programs, was appointed to the advisory board of the Massachusetts Water Resources Research Center.

Anya Grondalski, information officer and Long Island Sound Study science communicator, was accepted as a member of the National Science Writers Association.

Laura Hollowell, information officer and Lake Champlain Basin Program resource room coordinator, retired in May after 22 years of service.

New England Water Environment Association Annual Conference

Ryan Buckley, James Plummer and Daphne Short, environmental analysts, moderated sessions at the New England Water Environment Association (NEWEA) Annual Conference. **Jen Lichtensteiger**, environmental engineer, presented about the BioHub and served on a panel about biosolids management. **Sarita Croce**, director of Water Resource Protection Programs, presented about water and wastewater plant WARN and EMAC assistance for extreme weather events at the conference. NEIWPCC commissioner **Brian Kavanah**, Maine Department of Environmental Protection, also gave a presentation; and Massachusetts Commissioner **Adam Yanulis**, Tighe & Bond, moderated a session about communication strategies.

NEWEA President Scott Goodinson congratulates Janine Burke-Wells.

Additionally, several NEIWPCC commissioners were honored at the NEWEA awards ceremony: **Janine Burke-Wells**, North East Biosolids and Residuals Association, received the Biosolids Management Award; **Stacy Thompson**, Saco (Maine) Water Resource Recovery Department, earned the WEF Operator Scholarship; **Fred McNeill**, city of Manchester, N.H. (retired) received the William D. Hatfield Award; and the Greater Augusta Utility District, of which **Brian Tarbuck** serves as general manager, received the Paul Keough Award.

Jennifer Lichtensteiger, environmental engineer, served on the "A Crisis in the Making: The Future of Biosolids Disposal" panel at the 14th Annual Water Resources Strategies Symposium, hosted by the Massachusetts Coalition for Water Resources Stewardship.

Meg Modley, environmental analyst and Lake Champlain Basin Program aquatic invasive species management coordinator, was featured on Vermont Public about the recent finding of invasive golden clam in Lake Champlain.

Christina Stringer, director of Wastewater and Onsite Programs, and **Susan Sullivan**, executive director, shared their expertise during a NEBRA lunch and learn event about the impact of PFAS on biosolids management in the Northeast.

Katelyn Sultzbach

Katelyn Sultzbach, information officer, was named a member of the city of Lowell, Massachusetts's newly established Diversity, Equity, Inclusion and Belonging Committee.

Matthew Vaughan, environmental analyst and Lake Champlain Basin Program chief scientist, gave a public presentation about the 2024 State of the Lake and Ecosystem Indicators Report as part of the Love the Lake speaker series. Vaughan also spoke with reporters about the impact of the July 2024 floods while aboard the University of Vermont's new Research Vessel Marcelle Melosira.

The NYSDEC's Zach Smith and NEIWPCC Environmental Analyst Amanda Post motor between sampling locations on the Genesee River.

Multiplate Sampling on the Genesee River in New York

NEIWPCC staff joined the New York State Department of Environmental Conservation (NYSDEC) in 2024 to perform multiplate sampling for macroinvertebrates on the Genesee River near Rochester, New York.

The samplers, designed to attract macroinvertebrates and other aquatic organisms, are deployed for about five weeks to allow time for colonization of the plates. The presence and absence of certain macroinvertebrates helps indicate the quality of the water. All accumulated organisms and other material are scraped from the plates with a paint scraper into stream water contained in a 5-gallon bucket. This water is then filtered using a sieve, rinsed and preserved before being sent to a laboratory for analysis. Additional water quality data is collected such as dissolved oxygen, pH, and water temperature. While waiting for the final species list for these samples, the team identified larval caddisflies, mayflies, chironomids, worms and mussels.

NYSDEC staff retrieve the multiplate sampler from a dock.

These data are a part of the NYSDEC's Rotating Integrated Basin Studies (RIBS) program and can be accessed through the NYSDEC Division of Water (DOW) Monitoring Portal, which is updated yearly.

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EVENTS

2025

April 2-3, **North Country Convention**, Presque Isle, Maine, www.neiwpcc.org

April 2-3, **NEWWA Spring Joint Regional Conference & Expo**, Worcester, Mass., www.newwa.org

April 6-12, **National Water Week**, Washington, D.C., www.waterweek.us

April 9-10, **Annual Nonpoint Source Conference**, Freeport, Maine, www.neiwpcc.org

May 6-9, **WEF Residuals and Biosolids Conference**, Baltimore, Md., www.wef.org

May 11-14, **NEWEA Spring Meeting**, Portland, Maine, www.newea.org

May 22, **Green Mountain Water Environment Association Spring Meeting**, Killington, Vt., www.gmwea.org

June 8-11, **American Water Works Association**, ACE25, Denver, Colo., www.ace.awwa.org

July 15-18, **Collection Systems and Stormwater Conference**, Houston, Texas, www.wef.org

July 22-25, **NACWA Utility Leadership Conference**, Colorado Springs, Colo., www.nacwa.org

Sept. 21-24, **NEWWA Annual Conference**, Rockport, Maine, www.newwa.org

Sept. 22-25, **National Tanks Conference**, Spokane, Wash., www.neiwpcc.org

Sept. 27-Oct. 1, **WEFTEC Technical Exhibition & Conference**, Chicago, Ill., www.weftec.org

Oct. 27-30, **National Nonpoint Source Training Workshop**, Baton Rouge, La., www.neiwpcc.org