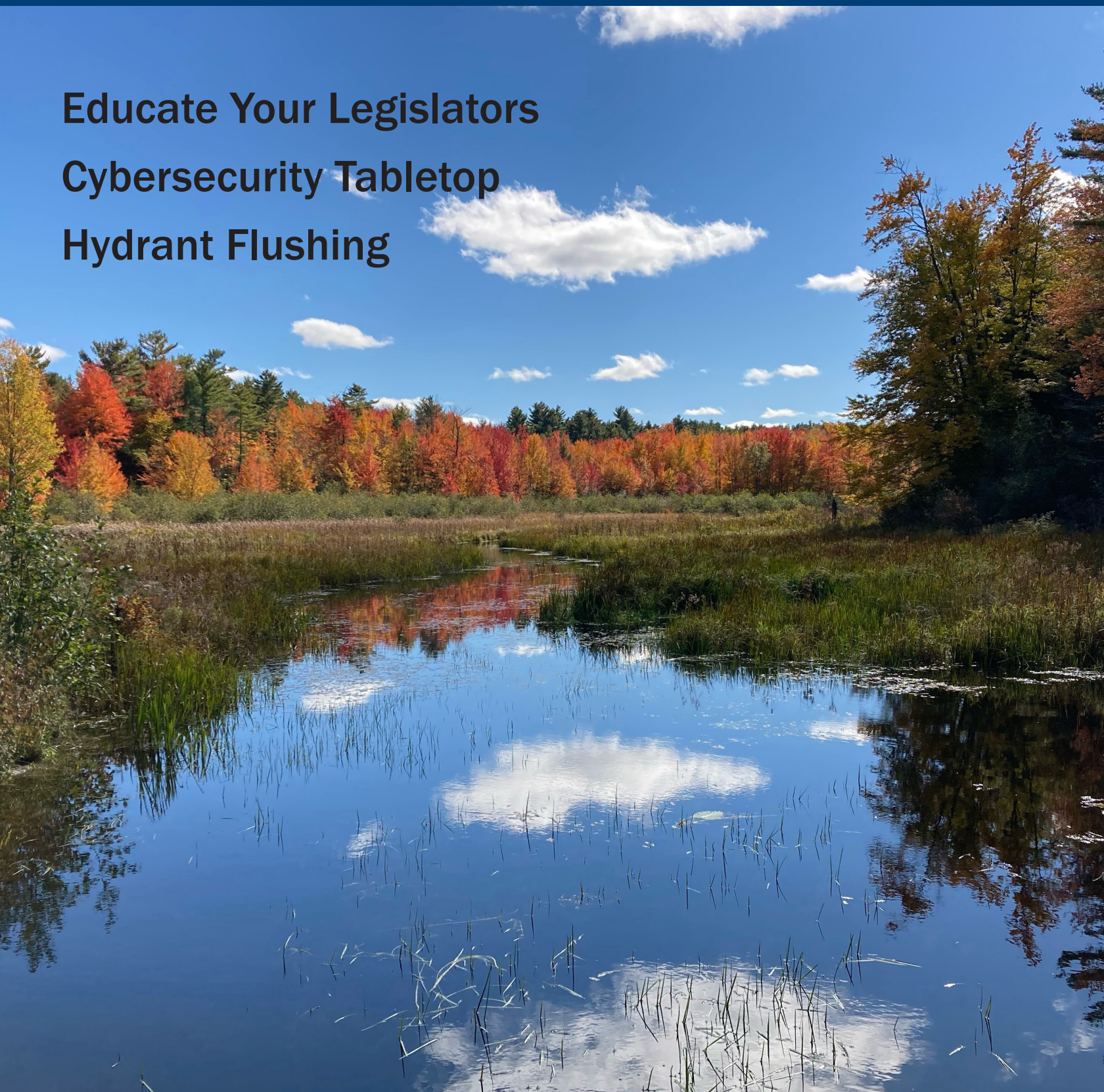


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Rural Water Association  
Fall 2025

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**Hydrant Flushing**



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The Vermont Rural Water Association promotes public health and environmental protection through technical assistance and education for drinking water and wastewater systems.

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# Now is the Time to Educate your Legislators!



by Liz Royer  
*Executive Director*

Over the past five years, Vermont Rural Water has been involved in working with legislators in the Vermont State House on issues including flood response, PFAS, and workforce development.

During the 2025 session, we reached out to many representatives and senators regarding various bills on housing and development and how water and wastewater systems could be impacted by the creation of additional housing in their communities. The response we received was not encouraging. Most legislators were feeling overwhelmed and didn't have time to thoroughly research all of the issues coming before them.

It became clear that we can no longer wait and be reactive to all of the challenges facing our industry. We need to be proactive in educating our representatives and senators and directly providing the perspective of drinking water and wastewater operators.

## TALKING POINTS

Vermont Rural Water is currently working on several handouts for legislators to provide background information on drinking water and wastewater systems before the next session begins in January 2026. These documents will include talking points for water and wastewater personnel to discuss current and relevant issues with local and state officials. Here are some highlights from our document on housing and development. These facts may be commonsense to those in our industry, but are not as familiar to the general public:

**1) Invite us to the table.** Water and wastewater operators and managers are typically left out of conversations regarding housing, economic development, emergency response, and hazard mitigation, even though drinking water and wastewater are critical to development and planning.

**2) Existing systems may not be able to accommodate new development.** Just because water or sewer infrastructure exists or a pipe runs down a certain road, doesn't mean that

the water/wastewater system has the capacity to support additional connections or new development.

**3) Capacity is difficult to calculate,** so water and wastewater systems may not know exactly how much drinking water they can supply or wastewater they can treat. Factors that affect capacity include treatment processes and equipment, permitted wastewater discharge limits, seasonal fluctuations of groundwater sources, regulations on water pressure within distribution pipes, size and condition of water/sewer pipes, and age and condition of equipment and infrastructure.

**4) Increasing capacity can be expensive.** It's not as simple as withdrawing more water from a source or treating

more wastewater. New permits, new treatment equipment, and new distribution/sewer infrastructure will likely be needed.

**5) Allocations are not reliable measures.** State agencies do not track individual allocations for water and wastewater systems. Municipalities are responsible for their own allocations, but smaller systems and fire districts may not have an official allocation process. In addition, allocations may be based on hydraulic design flow for facilities, which are based on average flows and will likely be different than actual use. They do not consider the treatment capacity required for contaminants, or hydraulic capacity of

CONTINUED ON  
PAGE 13»



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# From Apprentice to Mentor: Brian Murray's Path in Water Operations



by Allison Smith  
Training Administrator

When Brian Murray first started working for the Town of Middlebury's water system, he did not know just how much it would shape his career or how soon he would become someone others look up to. After completing his water treatment apprenticeship through Vermont Rural Water's program, Brian has now taken on a new role: mentor. Following recent staff changes in Middlebury, Brian is now the Lead Operator and quickly stepped up to help train the next apprentice, passing on what he has learned and ensuring the system keeps running smoothly.

During his own apprenticeship, Brian said that strong mentorship from the Middlebury team made all the difference. His mentors, former operators Heather LaDuke and John Trombley, created an environment of rigorous learning, encouraging Brian to master the system's complexities, and take initiative over his learning. John gave Brian the confidence to "sail his own ship" while assuring him that he would not be left to fail. Heather drilled him on system details and had him walk transmission lines, get involved with mapping, and jump into hands-on components of the job, like learning about complex valves.

Support from Vermont Rural Water's apprenticeship program



Left to right: Brian Murray, Allison Smith, and Alberto Trujillo

was also key. The structure of the program, including classroom instruction, preparation for the certification exam, reading materials, and guidance from apprenticeship coordinator Paula Jackson, provided a solid foundation that helped Brian succeed. Vermont Rural Water continues to be a support now that Brian is leading Middlebury's Water Division. Brian said, "Paula has been phenomenal in thinking through situations and troubleshooting when issues in the water system arise."

Now, just a few years later, Brian finds himself on the other side of the apprenticeship program, mentoring Middlebury's newest apprentice, Alberto Trujillo. He remembers that initial feeling of being overwhelmed and is determined to provide the same level of support and encouragement that he received. Brian is intentional about providing hands-on learn-

ing experiences and takes pride in watching Alberto's skills and confidence grow. "Training Alberto has been a pleasure," Brian says. His mentorship philosophy can be summed up in the statement, "There should be no secrets among the team, and everyone should be trained the same way, knowing the same things. That way everyone is an equal."

When asked what advice Brian would offer to other systems considering taking on an apprentice, he feels strongly that the mentor must be patient and willing to communicate. Brian makes an effort to include Alberto in all the conversations and experiences of being an operator, from sampling to making repairs to purchase orders. He also emphasizes the importance of providing time for apprentices to study for certification exams during the workday, even if it means taking on extra



work himself in the short term. Brian also believes that laughter and camaraderie are essential parts of building a strong team.

One of Brian's proudest moments as an operator came during a crisis in January 2024 when a water hammer caused 33 water main breaks in Middlebury. Brian worked 50 hours straight to restore service, resulting in only two service lines needing a boil water notice. "Knowing there were people, a hospital, and businesses counting on me kept me going," he said.

Brian's path to the water industry was not a direct one. He spent years working for D&M Petroleum handling tank removals, pumps, piping, and tank monitors. He then moved to a maintenance position at Woodchuck Cider. There, he worked the night shift, applying his hydraulics knowledge and working with programmable logic controllers (PLCs). When a job opened with Middlebury's water department in 2022, Brian jumped at the chance. The regular hours, retirement benefits, and opportunity to work locally were appealing, as was the essential role that he would play in the community. In many ways, the work was not so different from his past roles. Working in water is still about


moving fluids, just on a much larger scale.

Beyond the day-to-day, Brian was drawn to the water industry because of its importance to public safety. He acknowledges the responsibility that comes with providing clean, safe water but says he is not intimidated by that aspect and feels prepared because of his years working with petroleum, which can be a volatile and risky substance. "It's my duty to keep the water flowing and make sure it's good, clean, healthy, safe water," he said.

Brian takes great pride in operating Middlebury's water system. It serves not only the town's residents but also businesses, dairy farms, a hospital, retirement communities, and Middlebury College. The system spans 54 miles of pipeline, with infrastructure dating from 1901 to the present day, and a blend of soil types ranging from gravel to clay. Its largest well, which is referred to as Palmer's Springs, was established in 1965 and can produce 1,550 gallons per minute. Due to the well's generous flow and the sizing of pipe on the system, pressures regularly register above 120 psi. For Brian, the uniqueness and complexity of the system make the work both challenging and rewarding.

Brian is always looking to the future and is excited about major projects that will improve the resilience of Middlebury's water system. A recently approved bond will fund the construction of a new reservoir, increasing storage by 1.3 million gallons, which is enough to sustain the system for four to six days if the main well goes offline. He also hopes to replace the aging 1965 manual propane generator at the Palmer's Springs Well with a modern automated system, ensuring reliability for years to come.

Although the public does not often see the complexity and planning behind the scenes, Brian says it is all worth it when someone stops by during a curb stop repair just to say thank you. That recognition is a reminder that "there are people who do appreciate what we do."

If you would like to learn more about getting involved with the apprenticeship program, you can find more information at [vtruralwater.org/apprentices](https://vtruralwater.org/apprentices) 

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# Cybersecurity Exercise in Brandon



by Forest Anderson  
*Water Systems Specialist*

When Ray Counter, water superintendent for Brandon Fire District #1, reviewed a recent risk assessment, he spotted a critical gap: cybersecurity. Ray had plenty of experience dealing with the usual vulnerabilities like pumps, distribution, chemistry, funding, and regulatory compliance. But protecting SCADA systems from cyber threats? That was uncharted territory.

Rather than ignore this risk, Ray grabbed the bull by the horns. He contacted Vermont Rural Water and the Cybersecurity and Infrastructure Security Agency (CISA). Both organizations conducted free on-site cyber assessments for the fire

district. Our findings confirmed Ray's suspicions: the system needed to shore up some defenses.

Ray then requested something he felt would be even more beneficial—a tabletop exercise for the whole Town of Brandon to practice responding to a cyber emergency. CISA's Adam Gamelin and Vermont Rural Water worked together to make it happen.

A tabletop exercise is a structured "what-if" discussion where key personnel navigate a hypothetical crisis



Left to right: Ray Counter, Adam Gamelin, and Forest Anderson

scenario. Think of it as testing your emergency response plan without actually triggering an emergency. Participants work through their roles and make decisions step-by-step as the facilitator presents an evolving situation.

The scenario practiced in Brandon involved hackers gaining unauthorized access to SCADA systems in the early morning. The simulation escalated quickly to include both the drinking water and wastewater facilities, forcing participants to address critical questions about safety, supply, environmental risk, and public notification. How quickly could they verify the extent of damage? Who needed to be informed?

Could they maintain pressure while isolating compromised systems?

Participants in the tabletop exercise included Ray, Bradley Danforth, and prudential committee members from the fire district; wastewater operators Tim Kingston and Ian Buckley; Brandon's fire chief and town health officer; Adam Gamelin from CISA; and representatives from FBI and Vermont State Police. Guests from VT WARN, DEC, other water and wastewater systems, and other emergency management personnel also attended. Ray provided an excellent BBQ lunch complete with garden salads topped with seasonal strawberries.





Two key insights emerged from the exercise. First, response capacity is limited in a small town like Brandon. Secondly, when cyber incidents strike, the superintendent or chief operator must serve as incident commander. Nobody knows these systems better, not IT specialists, not emergency managers, not federal agents. The superintendent or chief knows their vendors and their obligations, which valve affects each road, which pumps and valves have peculiar personalities, and exactly how long the system can function without backup power. This institutional knowledge, accumulated over years, is essential during a crisis.

Implementing cybersecurity doesn't require becoming an IT wizard overnight. Start with the

basics: change default passwords, run software updates, train staff to recognize phishing emails, and develop procedures for backing up devices and data. While the upfront investment in robust intrusion detection systems or monitoring might seem steep, consider that the average cyber incident costs water utilities hundreds of thousands of dollars in recovery. Basic security measures cost a fraction of that.

There are also several free cybersecurity resources available to water and wastewater systems. Vermont Rural Water currently has a Cybersecurity Circuit Rider to bring specialized expertise directly to your facility, but the pilot program ends in October. CISA offers vulnerability alerts, assess-

ments and scanning. The FBI provides alerts and investigative support when incidents occur. The State Police and Vermont Intelligence Center maintains threat intelligence specifically for water and wastewater systems.

As water and wastewater systems increasingly rely on remote monitoring and automated controls, cybersecurity becomes just as essential as maintaining proper chlorine residuals. Ray's proactive approach of recognizing vulnerability, seeking expert assistance, and bringing stakeholders together provides a model for other utilities. Acknowledging gaps and requesting help demonstrates strength, not weakness, especially when protecting the critical infrastructure our communities depend on. 💧

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# Training Calendar

## Fall 2025

Date	Course	TCHs	Location	Cost (Member/Non)
Wed, Oct 1 9 am – 3 pm	Basic Math for Water and Wastewater Operators: Day 1	5 <b>W WW</b>	Rutland <sup>1</sup>	\$40 / \$80 Textbook sold separately
Thur, Oct 9 9 am – 12:30 pm	Regulatory Communications and Record-keeping for Small Water Systems	3 <b>W</b>	Essex <sup>2</sup>	No cost
Oct 14 – 23 9 am – 1:30 pm	Small Systems Class 2 Water Treatment Course	16 <b>W</b>	Hybrid (Zoom/Essex <sup>2</sup> )	No cost Textbook sold separately
Wed, Oct 15 9 am – 3 pm	Basic Math for Water and Wastewater Operators: Day 2	5 <b>W WW</b>	Rutland <sup>1</sup>	\$40 / \$80 Textbook sold separately
Wed, Oct 15 9 am – 3 pm	Wastewater Microbiology: A Monitoring Program for Operators	5 <b>WW</b>	Zoom	\$72 / \$144
Wed, Oct 22 9 am – 3 pm	Basic Math for Water and Wastewater Operators: Day 3	5 <b>W WW</b>	Rutland <sup>1</sup>	\$40 / \$80 Textbook sold separately
Mon, Oct 27 9 am – 12:30 pm	Generator Maintenance	3 <b>W WW</b>	Killington <sup>3</sup>	\$24 / \$48
Wed, Oct 29 9 am – 12:30 pm	Water Storage Tank Design and Maintenance	3 <b>W</b>	Essex <sup>2</sup>	\$24 / \$48
Wed, Oct 29 8:30 am – 1 pm	Class 3 Exam Preparation	4 <b>W</b>	Montpelier <sup>4</sup>	\$32 / \$64
Thur, Oct 30 8:30 am – 1 pm	Class 4 Exam Preparation	4 <b>W</b>	Essex <sup>2</sup>	\$32 / \$64
Fri, Oct 31 8:30 am – 1 pm	Distribution Exam Preparation	4 <b>W</b>	Essex <sup>2</sup>	\$32 / \$64
Wed, Nov 12 9 am – 12:30 pm	Water Treatment: Coagulation	3 <b>W</b>	Zoom	\$24 / \$48
Thur, Nov 13 9 am – 12:30 pm	Corrosion Control	3 <b>W</b>	Zoom	\$24 / \$48
Tue, Nov 18 9 am – 12:30 pm	Personal Protective Equipment, Ladder, and Electrical Safety	3 <b>W WW</b>	Zoom	\$24 / \$48
Wed, Nov 19 9 am – 12:30 pm	Water Treatment: Filtration Processes	3 <b>W</b>	Zoom	\$24 / \$48
Fri, Nov 21 9 am – 12:30 pm	Permit Required Confined Space Entry	3 <b>W WW</b>	Zoom	\$24 / \$48
<b>TCH</b> = Training Credit Hour <b>W</b> = Approved for Water Credit <b>WW</b> = Approved for Wastewater Credit				



Date	Course	TCHs	Location	Cost (Member/Non)
Tue, Dec 2 8 am – 3:30 pm	Cybersecurity for Drinking Water & Wastewater Operators	<b>New!</b> 6 <b>W WW</b>	Lyndonville <sup>5</sup>	No cost
Wed, Dec 3 8 am – 3:30 pm	Cybersecurity for Drinking Water & Wastewater Operators	<b>New!</b> 6 <b>W WW</b>	Pittsford <sup>6</sup>	No cost
Thur, Dec 4 9 am – 12:30 pm	Model Sewer Use Ordinance (SUO) and Fats, Oils, and Grease (FOG) Guidance	<b>New!</b> 3 <b>WW</b>	Essex <sup>7</sup>	No cost
Tue, Dec 9 9 am – 12:30 pm	Issuing A Boil Water Notice	3 <b>W</b>	Zoom	\$24 / \$48
Wed, Dec 10 9 am – 12:30 pm	Cross Connection Control	3 <b>W</b>	Zoom	\$24 / \$48
Thur, Dec 11 9 am – 3:30 pm	Disaster Response Training	6 <b>W WW</b>	Williston <sup>8</sup>	No cost
Tue, Dec 16 9 am – 12:30 pm	Trench and Excavation Safety	3 <b>W WW</b>	Zoom	\$24 / \$48
<b>TCH</b> = Training Credit Hour <b>W</b> = Approved for Water Credit <b>WW</b> = Approved for Wastewater Credit				

## Locations

- 1. Rutland:** FW Webb – 3091 Cold River Road, Rutland, VT
- 2. Essex:** Vermont Rural Water's office – 20 Susie Wilson Rd, Suite B, Essex Junction, VT
- 3. Killington:** Killington Grand Hotel – 228 E Mountain Rd, Killington, VT
- 4. Montpelier:** Dewey Building – 1 National Life Drive, Montpelier, VT (furthest building in National Life Complex)
- 5. Lyndonville:** Public Safety Facility – 316 Main St Lyndonville, VT
- 6. Pittsford:** Vermont Fire Academy – 93 Davidson Dr, Pittsford, VT
- 7. Essex:** Police Department – 145 Maple Street, Essex Junction, VT
- 8. Williston:** Fire Department – 645 Talcott Rd, Williston, VT

**Register Online:** [vtruralwater.org/training](https://vtruralwater.org/training)

## Registration and Payments

Register online at [vtruralwater.org/training](https://vtruralwater.org/training) to pay by credit card or check. Registrations received less than 24 hours prior to class are subject to a late fee.

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## Accommodations

Call 802-660-4988 or email [info@vtruralwater.org](mailto:info@vtruralwater.org) prior to the day of class to request accommodations.



Beaver-caused tree damage in a source protection area.

## Beavers: A Hidden Challenge in Source Water Protection



by Brad Roy  
*Source Water Specialist*

As the Source Water Specialist for Vermont Rural Water, I've had the opportunity to visit and conduct field inspections in many source protection areas across the state. One trend I've consistently observed is that many of Vermont's source protection areas (SPAs) are rural and forested. These landscapes offer numerous benefits: they act as large-scale natural filters, reduce erosion and sedimentation, and help systems save on treatment costs by providing a first layer of treatment before the water even reaches a utility's infrastructure.

that is frequently overlooked and often causes significant challenges to source water: beavers.

### A RESILIENT RETURN

Nearly eliminated from Vermont by the mid-1800s due to unregulated trapping and deforestation, the American beaver (*Castor canadensis*) was reintroduced to Vermont in the 1920s and 30s. By the 1950s, they had become reestablished, and thanks to careful management and habitat restoration, beaver populations are now thriving across the state according to the Vermont Fish and Wildlife Department.

Beavers are considered a keystone species because of the profound ways they shape their environment. However, their dam-building activities—while impressive—can cause serious complications when they occur within a drinking water source protection area. Many operators and utility personnel are either unaware of beavers'

However, rural, forested landscapes also attract various user groups such as mountain bikers, skiers, and ATV riders—all of which have the potential to cause risks to source water quality. These are often noted in systems' source water protection plans.

But there's one group of users in these rural SPAs

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presence or lack understanding of the impact beavers might have on their source water and infrastructure. So, let's dive into a few potential issues to consider if your utility finds itself sharing territory with North America's largest rodent.

### FLOODING AND INFRASTRUCTURE DAMAGE

One of the most common problems beavers cause for humans is a result of their relentless modification of existing hydrology. A single beaver family can build as much as 35 feet of dam in a week according to VT Fish & Wildlife. In source protection areas, their dams can alter surface and groundwater flows, plug culverts, flood roads and bridges, and introduce sediment, nutrients, and pollutants into wells, springs, or surface water intakes.

Due to their rapid reproduction and tenacity, these issues are often recurring and can be costly for water systems to mitigate—both in time and resources. Most public works crews in Vermont have plenty of stories to tell about ongoing battles with the unwanted flooding and infrastructure damage brought by beavers, and mitigating these issues can often be expensive and laborious.



Water system personnel work to remove beaver debris from a source protection area.

### PATHOGENS IN SOURCE WATER

Beavers are known carriers of *Giardia lamblia* and *Cryptosporidium*, both of which can cause serious waterborne illness. According to the Mayo Clinic, giardiasis (an intestinal infection caused by the microscopic parasite *G. lamblia*) is one of the most common causes of waterborne disease in the U.S. *Giardia* can be spread through beavers' fecal matter and

be transmitted to humans, aptly earning the infection its nickname "Beaver Fever".

*Cryptosporidium* oocysts, which can also be shed from beaver feces, are also widespread and persistent in the environment and require only a small dose to infect humans. These organisms are of great concern to water utilities, as their small size and resistance to disinfectants like chlorine makes them

particularly challenging to treat. The most notorious outbreak occurred in Milwaukee in 1993, when an estimated 400,000 people became ill after *cryptosporidium* oocysts passed through the filtration system of one of the city's water treatment plants, according to the US EPA.

Although most modern treatment systems are designed to remove these pathogens, elevated concentrations in source water increases the risk of contamination in the event of treatment failure or system compromise.

### IMPACTS ON WATER QUALITY

Beaver dams flood the upstream flow area, slowing water movement and increasing water temperature. This inundation causes a release of dissolved organic carbon that was previously bound in the soil and also floods terrestrial vegetation, leading to an accumulation of leaves, debris, sediment, and organic matter that would otherwise be flushed downstream (Was et al., 2025).

With a surge of organic material beginning to decompose in the new beaver pond, oxygen demand increases significantly in the now-stagnant, warmer pool. This can cause anaerobic conditions, leading to the production



## SOURCE WATER

of methane and other unwanted compounds—similar to processes we seek to avoid in a wastewater treatment plant (Johnston, 2013).

Additionally, beaver activity increases nitrogen and phosphorus cycling. These nutrients fuel algal blooms, which further complicate water chemistry and treatment downstream and in our facilities (Brazier et al., 2020).

### EROSION AND VEGETATION LOSS

Beavers primarily feed on trees' cambium, the soft inner bark layer. To reach the cambium, they must fell trees.

In source protection areas, this is cause for concern. Trees play a vital role in stabilizing stream banks, hillsides, and soils. When beavers fell these trees, it destabilizes the root systems that hold soil in place. Over time, this can lead to increased erosion, sedimentation, and loss of bank structure.

In sensitive areas, the destruction of tree networks may result in long-term damage to water quality, flood resilience, and infrastructure integrity. All are major issues for water utilities to be aware of and mitigate when possible.



A culvert plugged with beaver debris.

### BALANCING ECOSYSTEM HEALTH AND PUBLIC SAFETY

Beavers are remarkable animals, and their role in ecosystem restoration is invaluable. We continue to learn new ways in which they contribute positively to important ecological functions like biodiversity, wetland health, and water storage. Their resurgence in North America is a conservation success story, and we are fortunate to have robust populations throughout North America once again.

happening in your SPA is a critical first step.

In my field visits, I've often found that systems are unaware of the extent to which beavers may be impacting their infrastructure or water quality, or that they are even there in the first place. It is important to diligently monitor your system's SPA and remember that an ounce of prevention is always worth at least a pound of cure. Identifying and mitigating potential hazards at the source (or before) is far more effective than trying to solve problems with treatment technology and infrastructure.

If you have concerns about wildlife activity in your source protection area, please contact me at [broy@vtruralwater.org](mailto:broy@vtruralwater.org) to schedule a site visit. I can provide tools, tips, and technical guidance to help manage the situation safely and effectively. 💧



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However, as both beaver and human populations expand, it's important for water professionals to be aware of the risks beavers pose to drinking water systems. Protecting public health must remain a top priority, and being aware of what's



## EDUCATING LEGISLATORS

» CONTINUED FROM PAGE 3

pipings such as systems with combined sewer overflows. Municipalities may have projects on the books for several decades that have never been constructed—so it can be very difficult to know the current situation in terms of allocations and overall capacity.

### TOURS

Before the next legislative season begins, the Green Mountain Water Environment Association (GMWEA) and Vermont Rural Water are planning to invite legislators out to tour wastewater treatment facilities. It is important for legislators to understand the operations of what is arguably the most expensive asset their community owns and maintains.

Of particular concern is the management of PFAS in biosolids. Vermont has some of the toughest screening standards in the country when it comes to PFAS in residual materials intended for land application, and a bill discussed in the Vermont Legislature's House Environment Committee this spring proposed to ban the land application of "septage, sludge, and biosolids" and prohibit the sale of "compost or other agricultural products containing or

produced from septage, sludge, or biosolids." This would pose significant challenges and expense for Vermont's wastewater facilities that currently dispose of biosolids through land application.

In developing talking points for the tour guides, GMWEA hopes to inform smart policies that will reduce PFAS concentrations in residuals while maintaining and increasing in-state end-use options.

We are encouraging every water and wastewater system in the state to work together to educate our local and state officials. 💧



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# Benefits of Flushing Fire Hydrants



by Harry Dunn-Davenport  
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**F**ire hydrants are some of the biggest assets to small water systems, yet they are also some of the largest liabilities. As all operators know, flushing fire hydrants can be a little anxiety-inducing. “Is it going to flow like it did last year?” “Is this hydrant going to close all the way?” “Why does water pour out of the ground when I open the hydrant?” “Why are we doing this on a Friday?” These are just a few of the most common concerns I hear about flushing hydrant systems.

Proper hydrant maintenance is important to a well-run water system. For a firefighter, a well-maintained fire hydrant can be

the difference between saving a building and watching it burn to the ground. For a water operator, routinely flushing fire hydrants can provide valuable information about the water system.

Since I started working for Vermont Rural Water in February, I have assisted in town-wide hydrant flushing tests. These tests do more than just move water through the system.

Flushing fire hydrants can provide a lot of information about a water system that we may not



Eric DePhillips (left) and Josh Brace flush a hydrant in Arlington, VT.

know and can also confirm what we already do know, like main pipe size and rate of tuberculation build-up. It can also help determine if flushing has been frequent enough to minimize customer complaints about dirty water. Lastly, hydrant flushing can help operators develop asset risk assessments based on the condition and age of hydrants being tested.

I recently had the opportunity to work in Arlington with chief operator Josh Brace and representatives from Otter Creek Engineering, Zach Golden and Eric DePhillips, P.E. Arlington had hired the engineering firm to conduct a comprehensive hydrant flow study.

Eric and Zach set up pressure data loggers on specific fire hydrants. The loggers collected pressure along with flow data from the flowing hydrant. When plugged into a hydraulic model, the data shows whether the pipe size indicated on the system’s mapping records is accurate. An accurate map is an indispensable resource, and as all operators know, water system maps are not always accurate or up-to-date.

Having a complete hydraulic model approved by an engineering firm can move a system up the priority list for receiving state and federally funded grants. As the saying goes, “You gotta spend money to save

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Tuberculation build-up in a water pipe.

money,” and this rings true when conducting a flow study and creating a system hydraulic model.

In my previous role with Simon Operation Services, I had the privilege of learning proper and very thorough fire hydrant maintenance and flushing technique. Keeping a record and recording new data can tell you a lot. I have put together some Excel spreadsheets to help keep track of hydrant flow data and maintenance. These spreadsheets have been added to Vermont Rural Water’s website ([vermontruralwater.org](http://vermontruralwater.org)) under “Drinking Water Links and Downloads.” If you have any questions or need any help, please don’t hesitate to call or email. 💧



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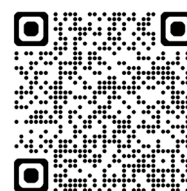
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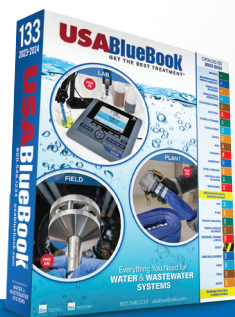
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