

# GO with THE FLOW

THE OFFICIAL PUBLICATION OF THE ATLANTIC CANADA WATER AND WASTEWATER ASSOCIATION



## PROJECT SPOTLIGHT: NAVIGATING PEI'S DRINKING WATER

### INSIDE:

- Annual Conference Sponsorships
- ACWWA Training Opportunities

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## Many options for learning

As we approach the end of winter, many of us are happy to see the longer hours of sunlight and warmer temperatures each day to help erase the last remaining bits of winter. This is also the time that maintenance and construction activities start up again, and before things get too hectic it is a great time to take a moment and reflect on your educational requirements for the year.

Our association can assist you with achieving your goals through our own education offerings which consist of courses that are offered

on a regular basis and some that are offered on demand. However, similar to your own planning of water and sewer maintenance activities, our association needs to plan for our educational offerings, therefore we need to know what your requirements are. We are interested in hearing from all of our members so we can tailor our courses to fulfill your needs. Maybe you have a specific educational requirement or have an idea for a course in your area, or maybe you are willing to help develop a course, or even instruct a course. We want to hear from

you – please send us a message at [contact@acwwwa.ca](mailto:contact@acwwwa.ca).

In addition to our own course offerings, our member organizations – the American Water Works Association and the Water Environment Federation – may also be able to assist with your training requirements. Both of these organizations have great bookstores that offer technical manuals and course study guides.

There are also many conferences and events held throughout the year. I have highlighted the main ones below.

**AWWA ACE** – Anaheim, California. This is the premier event for the AWWA highlighting all components of the water industry in a single event. The event will be held from June 10–13, 2024; more information is available at [www.awwa.org/ace](http://www.awwa.org/ace).

**WEFTEC** – New Orleans, Louisiana. Similar to the AWWA, this is the main conference and exhibition for the Water Environment Federation. The event will be held from October 5–9, 2024; more information can be found at [www.weftec.org](http://www.weftec.org).

**ACWWA Annual Conference** – Fredericton, NB. This is our local association's annual conference and trade show, which provides the opportunity to learn about the latest technology and developments in the water and wastewater industry around the region. The event will be held from September 22–24, 2024; more information can be found at [www.acwwa.ca](http://www.acwwa.ca).

I encourage all members to consider their individual educational needs and requirements for this year and hopefully one of the conferences, events, or courses offered by ACWWA, AWWA, or WEF will satisfy your requirements. ☺

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## Spring events, and recognizing bias

As I am writing this “Spring” article in early February, I am looking out the window and all I see is a couple feet on snow on the ground and hanging off my roof. I also heard that Shubenacadie Sam has gone into the witness protection program.

Hopefully by the time this issue of the magazine hits your desk, the six extra weeks of winter have passed, and the snow has begun melting away.



WEF is celebrating the 50th Anniversary of WEFMAX (Water Environment Federation Member Association

Exchange) in 2024, so I am looking forward to the next several months being busy chairing the WEFMAX Committee. We have a great team of volunteers planning three in-person workshops this year – Alexandria, Virginia, April 10–12; Park City, Utah, May 15–17; St. Petersburg, Florida, May 29–31; plus, one Virtual WEFMAX to be held in July featuring the “Best of the Best” from the three in-person events. Our registrations are at a record level so far. This is likely going to be the largest attendance in the past 50 years. I am excited to be part of this milestone.

The WEF CAC (Canadian Affairs Council) will be attending the Florida WEFMAX Workshop, and we are very pleased that Lindsay Anderson, MASC, PhD, P.Eng, from Dalhousie University has been selected to be one on the presenters at this event. I am very much looking forward to this session.

The NL Department of Environment and Climate Change will be hosting their annual Water and Wastewater Workshop in Gander, NL March 25–27, 2024. The MPWWA is also holding their Annual Operators Workshop April 14–17, 2024, in Saint John, NB. I will be presenting a variable frequency drives (VFD) session on Wednesday morning for anyone interested in participating. The call for abstracts for the ACWWA Annual Conference in the fall are out, so make sure you get yours in. The 2024 ACWWA Conference will be held in Fredericton, NB, September 29 – October 2.



The following DE&I content has been borrowed from:



Biases can be explicit in that we are aware when we are expressing them, or implicit, that operate outside of our day-to-day awareness. Unconscious bias is another term for implicit bias. Jennifer Eberhardt writes that, “Implicit bias is a kind of distorting lens that’s a product of the architecture of our brain and the disparities in our society.”

### Unconscious bias – What is it, why should we care, and what can we do about it?

We all have preferences, or biases, based on our life experiences and belief systems. Humans are hardwired to be on the alert for danger, and just as we tend to feel safe around people we sense are familiar, we also tend to feel wary around those we perceive as different. We might have bias about someone’s accent, language, or clothing choices. We might trust someone quickly because they remind us of an old friend. We might assume they are competent because they are tall, or incompetent due to their weight.

### Why do we have bias?

Our brains create simplicity from chaos. They are constantly processing vast amounts of data, making meaning of different stimuli so that we can take action.



The brain's job is to keep us safe by detecting patterns, avoiding danger, and allowing us to thrive in the future. Over time, the brain notices patterns and categorizes these to remember what has kept us safe, and what has caused us pain.

"But I'm a scientist, I work with data." No-one is immune from bias. Research has shown that what we notice is impacted even when we rationally know stereotypes to be false!

Here are some common ways our brains create simplicity from chaos:

1. We fill in characteristics from stereotypes, generalities, and prior histories.
2. We notice flaws in others more easily than we notice flaws in ourselves.
3. We are drawn to details that confirm our own existing beliefs = confirmation bias.
4. We think we know what other people are thinking.

### Why is this important?

1. Our decision making is not as objective as we think it is.
2. We tend to expect people to agree with us and to hold similar sets of assumptions. If they do not, we may miscommunicate. How can we mitigate against bias?

"Neither our evolutionary path nor our current culture dooms us to be held hostage to bias. Change requires a kind of open-minded attention that is well within our reach." –Jennifer Eberhardt, PhD

1. When making decisions about people, choose measurable, consistent criteria and stick to them.
2. Become aware of your own personal biases and acknowledge where you have a preference before making a decision.
3. Talk openly about team biases, ask a group to identify any 'group think' vulnerabilities.
4. Consider a 'bias-busting' prep meeting before important discussions, to remind the team of known biases and be prepared to pause and reflect.

### Common types of bias

Which of these do you recognize, in yourself or others?

#### Type of bias – brief description

**Affinity:** Tendency to form an impression based on shared, non-relevant characteristics, e.g., speaks with a familiar accent, takes part in same community activities.

**Attribution:** Tendency to attribute credit to ourselves for successes and to outside causes for failures.

Conversely, to view others as more responsible for their own failings.

**Confirmation:** Tendency to listen more often to information that confirms our existing beliefs. Through this bias, people tend to favor information that reinforces the things they already think or believe.

**False-consensus:** Tendency to overestimate how much others agree with our beliefs, behaviors, values.

**Halo/horns:** Impression overly weighted by a single factor (either positive or negative), e.g., 'strong presenter' = top performer.

**Diagnosis bias:** Tendency to associate certain qualities with initial perceived value, e.g., height and leadership abilities; warmth and competence, obesity and low competence.

**Pattern recognition:** Tendency to sort information based on prior experience and habit; "they've always been a top performer."

### Questions for self-reflection

1. Which of these commonly occurring biases do you already recognize?
2. What early life experience, cultural values, or beliefs might explain your preferences?
3. How could you adjust for this bias, e.g., in day-to-day decision-making?
4. What bias or tendency might be an obstacle to you being perceived as an inclusive leader? Who might be impacted?

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## Promoting Canadian involvement

I hope that 2024 has been good to everyone so far. The AWWA Winter Board Meeting was held in Sedona, Arizona on January 12 and 13, 2024. I would like to extend congratulations to ACWWA's own Reid Campbell, who was elected as the incoming Treasurer for AWWA. He will assume the new office at ACE24 in June. As well, Heather Collins from the Cal-Nevada Section was chosen as the new President-Elect for AWWA.

During the Board meeting, a motion was passed that will change the composition of the AWWA Board's Director at Large positions. Currently the AWWA Board has four Directors at Large, one of which has previously been reserved for a Service Provider member. The Board approved a change to the AWWA Bylaws that will designate one of the Director at Large positions to a Young Professional. This is exciting because young professionals can bring a fresh perspective and new ideas to the table. The first Young Professional Director at Large will be elected at next year's Winter Board Meeting. If any ACWWA Young Professionals would like to get more involved with AWWA, please consider putting your name forward for the position. Feel free to reach out to me for more information.

I am the Canadian Affairs Committee's representative on the *Journal AWWA* Advisory Board. In this role I am helping to seek out Canadian content for the journal. If you are interested or know of someone who may be interested in writing an article for the *Journal* about an interesting project or water-related initiative, please reach out to discuss the process for submitting an article. This is all part of AWWA trying to get more Canadians involved with the association.

AWWA will be looking to fill some shoes this year. AWWA Deputy Executive Director Paula MacIlwaine has announced that she will retire in June after ACE. Paula has been with AWWA since 1986 and has served as the AWWA Deputy Executive Director since 2004. Paula has many years of experience in leading staff and volunteers and is recognized by staff and volunteers as placing a high value on customer service and support.

Lastly, AWWA ACE 2024 is right around the corner and will be held in Anaheim, California this year. Hopefully we will see a good contingent of Atlantic Canadians in attendance. 🇨🇦

“The first Young Professional Director at Large will be elected at next year’s Winter Board Meeting.”

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## Canadian events and recent activities

During the months since our last issue of this magazine, I participated in a meeting of the Canadian Affairs Committee (CAC) of the AWWA and the CWWA National Water and Wastewater Conference (NWWC). The CAC Committee meeting was held in Denver, Colorado on December 5 and 6. These meetings help to coordinate the efforts of the Canadian AWWA sections as they relate to government affairs at a national level. They are held a few times a year and are particularly helpful to increase the impact of the smaller member associations in responding to national issues as part of the CAC instead of as an individual section. This year Canadian involvement in the AWWA was highlighted, emphasizing the need for Canadians on technical committees and increased Canadian content in AWWA publications.


The NWWC conference took place in Niagara Falls, Ontario from November 12–15. The conference highlighted a lot of the recent committee and advocacy work that is ongoing at CWWA including:

- Discussions with the Canadian Infrastructure Bank (CIB) calling for access by municipal utilities, lower cost thresholds, and the introduction of the concept of innovation assurance.
- CWWA and the Climate Change Committee were part of national working groups that made submissions regarding the potential Canada Water Agency. Funding was secured in the federal

budget, and the Parliamentary Secretary responsible for the Agency (Terry Duguid) announced the appointment of staff and that offices are now established in Winnipeg. Throughout the process, it had been expected that there would be an Advisory Group to the Agency and that CWWA would be an advisor; however, it now appears that there will not be any advisory group.

- The Federation of Canadian Municipalities (FCM) held a summit of the Big City Mayors to discuss the cities of the future. CWWA was invited to participate and contribute on behalf of all municipal utilities.
- The Drinking Water Quality Committee was very busy responding to a few reviews for Health Canada and the Canada Drinking Water Guidelines. The committee submitted formal comments concerning the guidelines for PFAS – noting concerns for both drinking water and in biosolids. This committee and the Biosolids Committee have each developed draft position statements on PFAS – both to be reworked into one position for the CWWA. The committee and staff also quickly responded to a CTV News program setting off fears concerning asbestos-cement pipe. Speaking notes were prepared and distributed to all utilities and regional associations in advance of the airing of the program. A further “Best Practices

for A-C Pipe” is being developed with staff.

- The Ministry of Environment and Climate Change Canada (ECCC) presented amendments to the Wastewater Systems Effluent Regulations (WSER) in January and June as they consider new protocols for planned releases of sewage. The Wastewater Committee of CWWA has been following this. The consultation period has ended, and the amendments will return for final approval and assent.
- Flushable wipes – CWWA's formal complaint to the Federal Competition Bureau concerning misleading marketing on products inappropriately labelled flushable was rejected by the Bureau and an appeal also rejected by the minister. However, the IWSFG PAS-3 (a standard developed by global wastewater associations) has been gaining acceptance and agreements with several of the largest wipe's manufacturers. The CWWA Flushability Committee prepared a Position Paper on Flushability and the CWWA Board adopted that position, thus recognizing the IWSFG-PAS3 standard. The committee is now working to have this recognized as a Canadian standard and will soon be commencing a renewed effort calling for funding from our members to support the costs of these efforts. 



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## Expanding our networking opportunities

Once again this year, I had the opportunity to represent ACWWA at the AWWA Membership Summit that was held in Denver, Colorado January 24–26 alongside Clara Shea. As always, the Membership Summit is a few days where we can share our ideas and knowledge amongst other membership committee members/ executive directors from across North America to help us better serve our membership. Kevin Coates was the guest speaker, and his story was truly inspiring. He shared with us his life story about what it was to be at the bottom with little expectations to accomplish anything in life according to his community and role models. Through strong mentorship mostly due to basketball coaches, he was able to persevere and not become another statistic. Today, he spends a lot of his time contributing back by being a mentor for other people who may otherwise not have had a positive outcome in life or ideal role models.



ACWWA was the recipient of a membership award for achieving growth in our membership. This could not have been possible without our Membership Committee which is comprised of Gabriel Belliveau, Brandon Howard, and Aaron Ryan as well as our members. Thank you!

This upcoming year, the Membership Committee will continue to expand on member networking opportunities to help with member engagement, reach out to small communities and small systems who could benefit from the

Association, as well as continue to help with social media within our Association.

**New to 2024:** The refer a member contest that is held quarterly will be increased to a \$100 gift card(s) of choice – a change from \$50. Don't forget to refer a member for your chance to win. **The 2024 Spring refer a member contest winner is Mike Pigott from the City of Charlottetown.**

### Did you know?

ACWWA has more than 150 books and videos on various topics that can be borrowed for a period of three weeks at no additional cost to you as a member. Maybe you need a safety video for a safety talk, are preparing for a certification exam and would like one of the certification study guides, or are re-evaluating your utility rates. Take advantage of this great library and resources provided to you as a benefit of being a member. For the complete list of books and videos, please refer to [www.acwwa.ca/resources/section-library](http://www.acwwa.ca/resources/section-library) or contact ACWWA at 902-434-6002.

### Welcome to the following new members:

Name	Organization	Membership
Reham Hamed	Dalhousie University	AWWA
Logan King	Designpoint Engineering & Surveying Ltd.	AWWA
Jerry Patterson	North Shore Mi'kmaq Tribal Council	AWWA
David Pearce	Wolseley	AWWA
Aaron Ryan	Dalhousie University	AWWA
Theresa Afi	Dalhousie University	AWWA
Jody McPhail	Atlantic First Nations Water	AWWA
Verna Langley	Atlantic First Nations Water	AWWA
Patrick Lanteigne	J.R. Daigle Engineering Ltd.	AWWA
Scott MacEachern	Public Service Commission of Bridgewater	AWWA
Ryan Swinamer	Dalhousie University	AWWA
Serge Gionet	Ville De Belle-Baie	AWWA
Trevor Douthwright	Village of Salisbury	AWWA
Jacob Steele	Dalhousie University	WEF
Aaron Ryan	Dalhousie University	WEF
Carolina Ontiveros	Dalhousie University	WEF

### As of February 16, 2024

Total AWWA active members: **448**  
 Total AWWA late members: **14**  
 Total active WEF members: **121**  
 Total WEF late members: **7**

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## We are here for you

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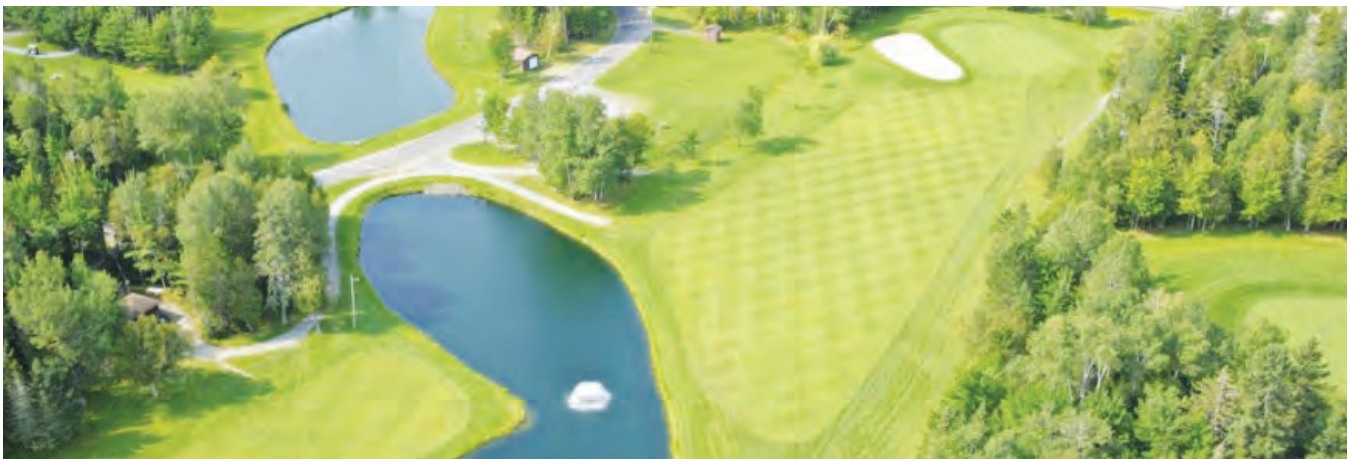
Planning is well underway for the **2024 ACWWA Annual Conference** – September 22–25 in Fredericton, NB. Mark your calendars!

The **ABEA golf** tournament has been booked at Mactaquac Golf Course on Sunday September 22, with a 9:00 am shotgun start.

The **Monday evening ever-popular Hospitality Night** will be held at Dolan's Pub from 8:00 pm – 1:00 am. Nibbles and entertainment for all ages and palates.

The main event **Trade Show will be held on Tuesday** from 10:00 am – 2:00 pm; lunch will be served during the event. Come meet and greet, and see what's new in the industry to solve your most troublesome problem.

Education is always a hot topic, and our membership continues to find ways to assist their customers with creative delivery methods to keep them informed of changes in the industry. If you have a need, please feel free to reach out. [📧](#)





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We are eager to welcome you again to beautiful Fredericton this coming September, with a new edition of the ACWWA conference. The conversation this year will focus on **“A Growing Concern – Adapting for the challenges of tomorrow.”**

Help us create the right environment for participants to share their experience and knowledge on how our communities are dealing with this growth in demand and expansion of water and wastewater systems.

We will let you in on a never-before-known, juicy piece of information – for the occasion, our mascot is bringing the whole family!

## THE OPPORTUNITY

The success of this conference is made in part by the generous support of national, regional, and local

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\*Insertion in magazine will be logo only; names and contact info not included.

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# PROJECT SPOTLIGHT

## Navigating PEI's drinking water

A pragmatic shortcut to GUDI analysis in Prince Edward Island (PEI)



Authors: George Somers, Ethan Taweel – Reviewers: Ben Lanigan, P.Eng., Morley Foy, P.Eng.  
PEI Department of Environment, Energy and Climate Action | Drinking Water & Wastewater Management

### Project overview

A two-year study assessed the degree of influence surface water has on nearby water supply wells and, by proxy, the risk posed by pathogenic protozoa present in surface water to municipal drinking water quality. It is suggested the results of this study may be extrapolated Island-wide due to the uniform hydrogeology found in PEI. This approach is not intended to replace a full-scale groundwater under the direction influence of surface water (GUDI) assessment – but to provide insight as to whether more detailed or long-term studies are necessary. Findings across the study indicate that the risk of protozoa due to infiltration of surface water into municipal supply wells is low, even during high seasonal surface water flow and peak run-off periods. These results are consistent with the lack of evidence for water-related cases of giardiasis or cryptosporidiosis attributable to municipal drinking water in PEI. While additional testing could confirm results, both campaigns indicated a low risk of surface water influence on PEI municipal wells, suggesting further testing for current sites might be unnecessary but could be considered for new well commissioning processes.

### Background

Protozoa, particularly Giardia and cryptosporidium, present significant health risks when consumed

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through contaminated drinking water. While hydraulic pathways connecting surface water and groundwater enable their entry into groundwater, protozoan levels in surface water fluctuate significantly due to environmental conditions and processes, challenging short-term sampling's efficacy.

GUDI assessments traditionally employed for wells might not be suitable due to PEI's relatively homogeneous aquifer dynamics. Moreover, chemical similarities between surface and groundwater impede correlation efforts, while drawdown effects confound stream stage comparisons.

Thus, this research focuses on empirical evidence of surface water influence on nearby municipal wells, aiming to assess protozoan contamination risk pragmatically, albeit with a less comprehensive sampling schedule than traditional GUDI assessments. These methods primarily rely on evidence from analyzing other microorganisms and



particles to determine potential protozoan infiltration risks.

### Methods & results

Initial steps involved identifying test sites representative of watercourse influence on municipal well quality. Parameters relevant to the study were determined, followed by testing in two campaigns during late summer 2021 and early spring 2022 to reflect minimum and maximum stream-flow regimes.

### Site selection:

- Criteria included municipal production well sites, capture

zones, floodplains, wetlands, watercourses, contours, and soil type.

- Wells within 100m of watercourses were chosen based on distance, topography, and feasibility.
- 16 sites were chosen across PEI.

### Selection of analyses:

- Main analyses included Microscopic Particulate Analysis (MPA) and Aerobic Spore-Forming Bacteria (ASFB), supplemented by in-situ measurements and general major element chemistry.
- Total coliform and E. coli analysis during the second

**Findings** across the study indicate that the risk of protozoa due to infiltration of surface water into municipal supply wells is low, even during high seasonal surface water flow and peak run-off periods.



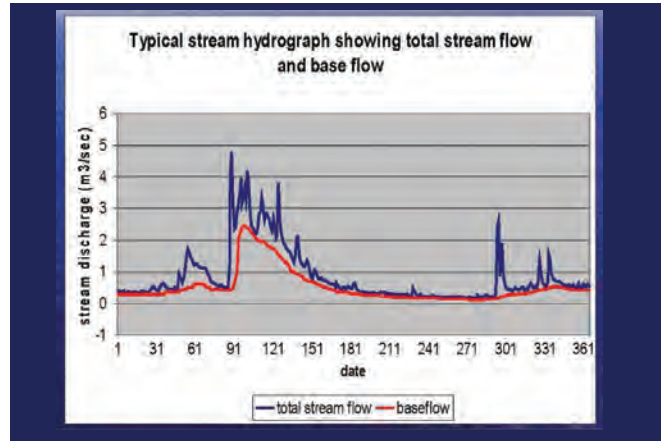
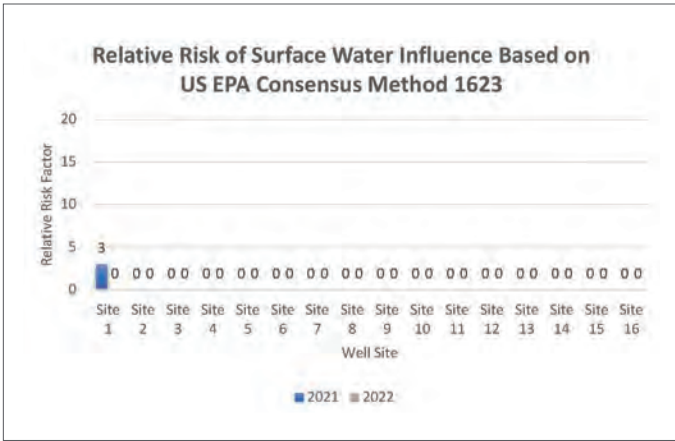
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campaign augmented the interpretation of ASFB results, which were found to show notable differences in surface and groundwater bacteria levels.

**Microscopic Particulate Analysis (MPA):**

- MPA quantified key indicators of surface water influence on well water samples, akin to step 3 of a traditional GUDI process.
- All locations across PEI were found to be of low risk based on EPA methodology.


**Aerobic Spore-Forming Bacteria (ASFB):**

- ASFB served as an additional indicator of surface water influence on well water, strongly correlating with GUDI scenarios.
- All ASFB results reinforce the results of the MPA in that protozoan infiltration is of low risk at the time of testing.

**Supplementary parameters:**

- General physical, major ion chemical, and microbiological characteristics of well

and surface water bodies were compared.

- In-situ measurements including temperature, dissolved oxygen, conductivity, and pH.
- The chemistry between surface and groundwater was found to be similar as expected, with groundwater showing higher concentrations of major ions than surface water, consistent with a groundwater origin for surface water. The same general conclusions were made for in-situ parameters. 



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# ACWWA TRAINING OPPORTUNITIES

From the Education Committee

**A**CWWA offers training opportunities for water and wastewater professionals across Atlantic Canada. With offerings including in-person courses, online courses, and self-directed online study, there are training options to suit individual needs. Courses and workshops are typically a half-day to four days in length. A list of in-person courses is provided below.

All registrations and payments can be completed online at [www.acwwa.ca/education/acwwa-courses](http://www.acwwa.ca/education/acwwa-courses). Please check the ACWWA website for new course listings.

March 25–28, 2024	Water Distribution	Halifax, NS
April 8–11, 2024	Wastewater Treatment	Kings, NS
April 22–25, 2024	Wastewater Treatment	Halifax, NS
June 3–5, 2024	CCC Surveyors Course	Dieppe, NB
June 4–5, 2024	Chlorine Handling	Sydney, NS
September 16–19, 2024	Water Treatment	Halifax, NS
November 18–21, 2024	Wastewater Collection	Halifax, NS

We are also excited to announce a new course, **Introduction to Emergency Management**, provided by Kildoon + Intellection Emergency Management in May 2024. A summary of the course follows below. Please visit our website for more information.

**Summary:** This course provides an introduction to the field of emergency management, including the fundamentals of emergency management as an integrated system, as well as how the resources and capabilities of all functions at all levels can be networked together in all phases for all hazards.

**Description:** The course provides participants with a

better understanding of today's robust emergency management world and is aimed at those individuals with limited or no emergency management experience. The course will discuss the main focus areas for all emergency management programs and will demonstrate how a well-designed emergency management system will allow agencies to better mitigate and prepare for emergencies and to prevent loss of life or injury, as well as other health impacts, damage to the environment or property, loss of livelihood and services, or social and economic disruption.

- What are the components of an effective emergency management program
- What are the major components of a strategic emergency management plan
- Describe the interdependent risk-based functions of emergency management: prevention, mitigation, preparedness, response, and recovery
- The value of undertaking a Hazard, Risk, Vulnerability Assessment
- What is an environmental scan and how it provides critical information for emergency management planning
- How training and exercising contribute to organizational and personal resiliency
- Standard based emergency management program evaluation
- What is an incident management system
- A hierarchy of responsibilities, federal, provincial, municipal and first nations

**Learning objectives:** The course objective is to enable participants to demonstrate basic knowledge of emergency management processes.

**Duration:** 6 hours &



## AWWA Board of Directors selects Heather Collins as next president-elect

In January, the American Water Works Association's (AWWA) Board of Directors selected Heather Collins from Los Angeles as the Association's next president-elect. The Board also selected AWWA's next treasurer, three vice presidents and a director-at-large during its annual winter meeting in Sedona, Arizona.

Collins will begin her term as president-elect in June at the conclusion of AWWA's Annual Conference & Exposition (ACE24). Her term as president begins in June 2025 following that of current President-elect Cheryl Porter.

Collins is assistant chief of operations for the Metropolitan Water District of Southern California, where she has worked since 2011. She currently sits on AWWA's Board of Directors and is a member of the Water Utility Council. She previously served as an AWWA vice president

and member of the Technical and Educational Council. Collins has been an active member of the California/Nevada Section since joining in 1992. She holds a master's degree in civil engineering from Loyola Marymount University and a bachelor's degree in civil engineering, environmental option, from California State Polytechnic University in Pomona.

The Board selected Reid Campbell as treasurer. Campbell is the director of engineering and technology services in Halifax, Nova Scotia, where he has served since 1998. He has been actively involved in AWWA's Atlantic Canada Section since joining in 1989.


The Board selected the following three vice presidents:

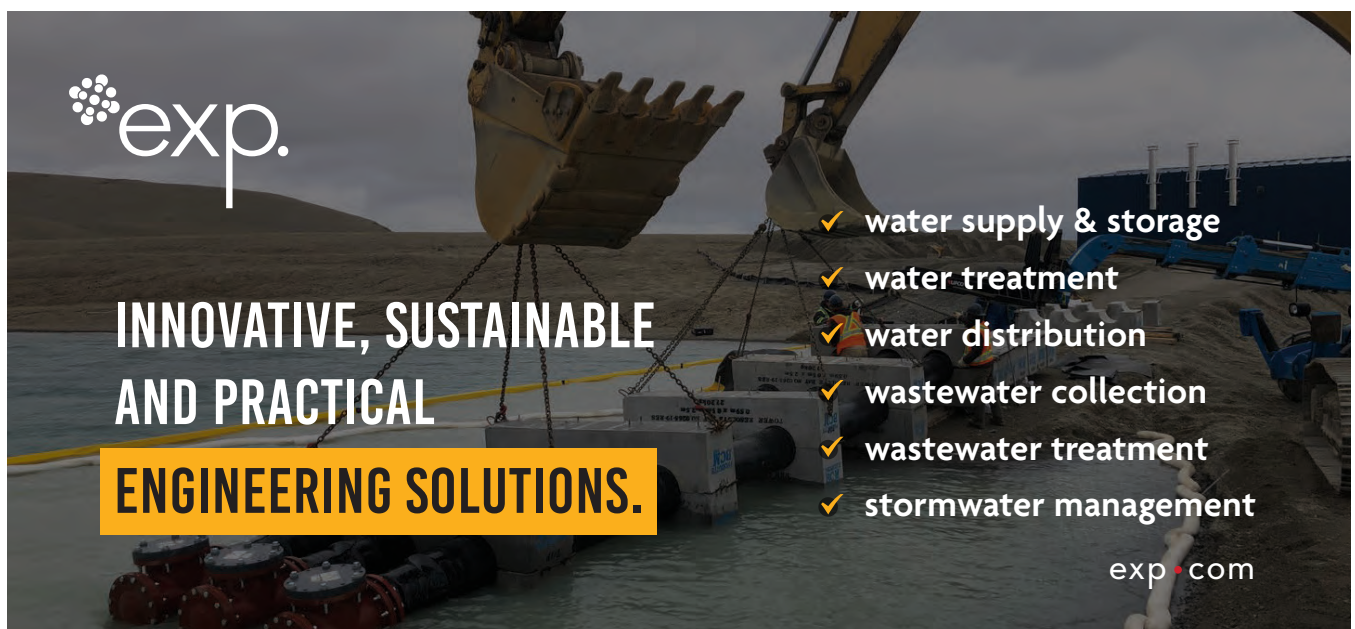
- Ken Kawahara, president and chief executive officer at Akinaka & Associates in Honolulu. He has


been actively involved in the Hawaii Section since joining in 1992.

- Rebecca Venot, senior civil engineer at CRW Engineering Group in Anchorage, Alaska. She has been actively involved in the Alaska Section and joined AWWA in 2007.
- Carol Walczyk, vice president, process efficiency analytics at Veolia North America in Paramus, New Jersey. She has been actively involved in the New Jersey Section since joining in 1989.

The Board selected Andrea Odegard-Begay as director-at-large. Odegard-Begay is a senior associate at Hazen and Sawyer in Goodyear, Arizona, where she has worked since 2021. She has been actively involved in the Arizona Section since joining in 2000.

The new officers will begin their terms in June at the conclusion of ACE24. 





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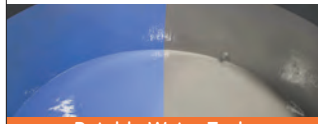
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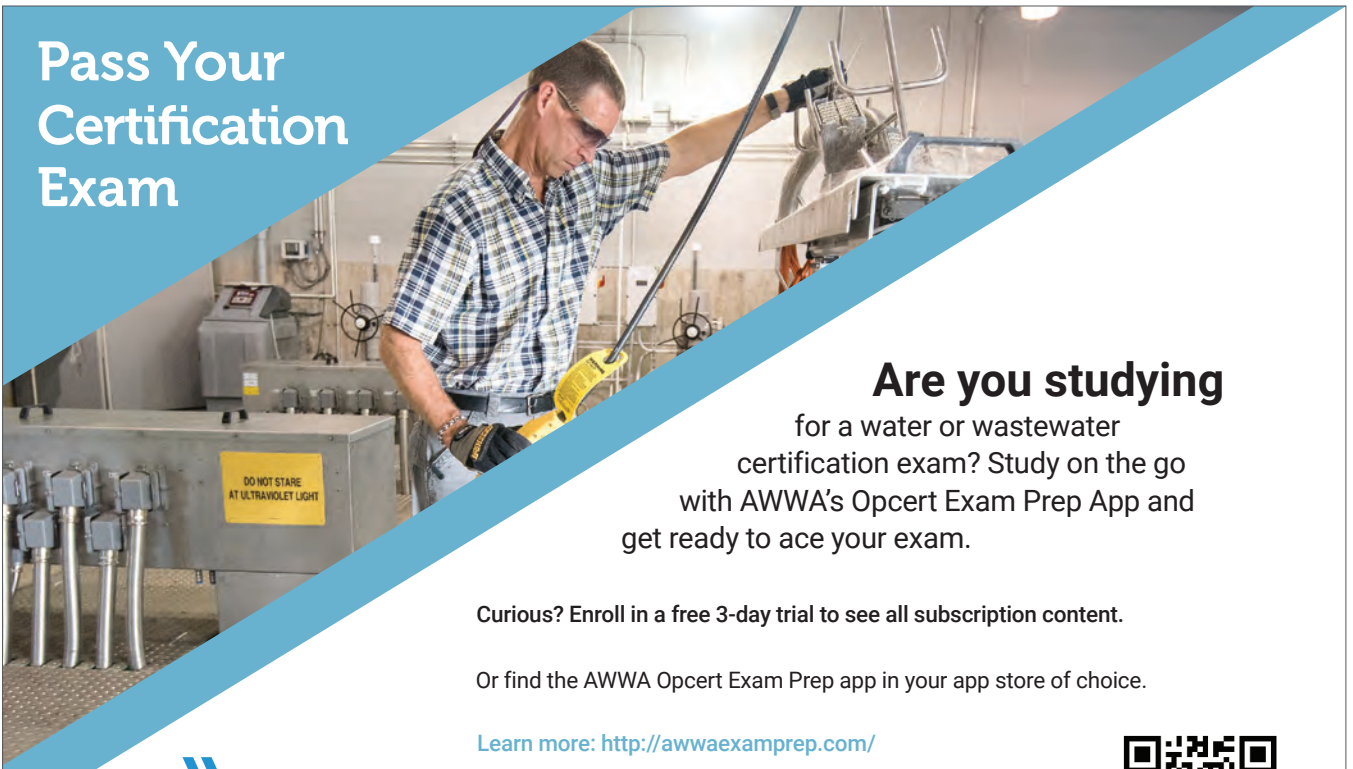
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American Water Works Association



## Accommodating growth

By Adam Sketchley, P.Eng., M.A.Sc. – DesignPoint Engineering & Surveying Ltd.

Many local governments are putting strategies in place to address the current housing crisis. With population growth outpacing housing supply and increasing prices, there is a need to rapidly increase housing supply in a cost-effective manner. Some smaller regions are reviewing proposed developments with populations larger than the existing population, while others are considering increasing allowable density in existing areas by encouraging taller multi-unit buildings with more units or allowing multiple residences on a single-family lot.

It is extremely important to increase the housing supply as quickly as possible, and the use of a combination of strategies to achieve that goal is important. In order to accommodate the projected growth, it is crucial to be mindful of the impact to existing municipal infrastructure. Significantly increasing density in

existing areas will add more users to the system, demanding more water and generating more wastewater. Often, the infrastructure servicing existing populations does not have the capacity for substantial growth. In some cases, the infrastructure does not provide the expected level of service to existing customers. Investment into this infrastructure is essential to providing the housing we need.

Linear and vertical infrastructure must be able to both provide the required level of service to customers as well as meet environmental and municipal regulations. The required investment rapidly grows with the scale of growth proposed. When trunk infrastructure, allowable water withdrawal rates, or treatment capacity become affected, the scale of the investment becomes substantial.

There are many cases where infrastructure is already close to non-compliant, such as when wastewater overflows are a frequent occurrence.

In these cases, upgrades of the systems are required at some point in time anyway just to be able to get to a point where growth can be considered. Add to this the desire to grow the community, and the necessary upgrades can be overwhelming.

Addressing incoming growth requires high-level strategies which will evolve as growth locations are more clearly identified. This requires identifying potential growth centres, selecting a design population, and confirming the required level of service. Targeting infrastructure to assess and preparing a growth management plan is essential to serving the needs of communities which are growing faster than ever.

Do you have a topic for a future Back to Fundamentals article? Email [adam.sketchley@designpoint.ca](mailto:adam.sketchley@designpoint.ca) or [contact@acwwa.ca](mailto:contact@acwwa.ca) and we will do our best to cover it! 📧

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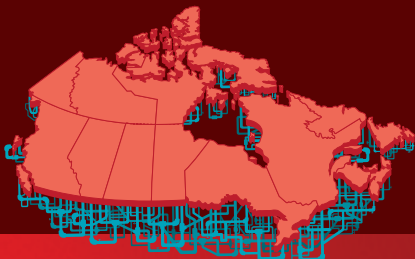


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Ongoing access to clean, safe water is critical to our economy, health, and way of life. Although we live in different parts of the country, Canadians are united in our dependence on water and the infrastructure that connects, protects, and supports it.




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The average Canadian uses about **251 litres** of water and generates about **668 litres** of wastewater per person, per day.

## WE ALSO VALUE WATER



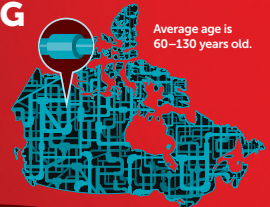
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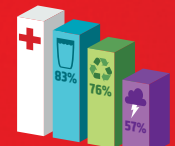


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**150,000 km** of wastewater pipes


American Water Works Association  
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