

OCT. 6-8, 2019

HALIFAX, NS

# UNCHARTED WATERS

PREPARING FOR THE UNKNOWN



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# A MESSAGE FROM THE CONFERENCE CO-CHAIRS



Wendy Krkosek, Ph.D., P.Eng.



John Eisnor, M.A.Sc., P.Eng.

On behalf of the Conference Organizing Committee, we are excited to extend an invitation to you to attend the 72<sup>nd</sup> Annual Conference of the Atlantic Canada Water and Wastewater Association in Halifax, Nova Scotia from October 6<sup>th</sup> to 8<sup>th</sup>, 2019 at the Marriott Harbourfront Hotel.

The theme of this year's conference is *Uncharted Waters: Preparing for the Unknown*. Water and wastewater utilities are facing an ever increasing list of challenges including climate change, failing infrastructure, new regulations and changing technology. Utilities need to try their best to be prepared so that they can successfully navigate these challenges. The conference committee has put together a conference program that ties into this theme.

Our keynote address will be given by Carl Yates, P.Eng. Carl will be retiring as the General Manager from Halifax Water at the end of June 2019 after over 30 years of service to the water and wastewater industry in Atlantic Canada and beyond. We are looking forward to hearing Carl's insight on the industry.

Our Technical Program will be comprised of many great papers representing a diverse cross-section of the water and wastewater industry. New this

year is an early bird theme on Tuesday before the trade show. Based on your feedback, we've also added some non-technical talks this year. From the Keynote Address to *The Leadership Lineup* stream, come and learn from both seasoned and emerging leaders in the water industry.

On Monday night, we continue the tradition of *Dine on Your Own*. This will be the perfect opportunity to connect with fellow delegates in a non-formal setting and experience the fine dining that Halifax has to offer. Then finish off the evening at the ABEA Hospitality event at the Schooner Room of Casino Nova Scotia where you can kick up your heels with some local entertainment.

Once again, the ABEA Trade Show will be a great event to see the latest products and speak with suppliers. Make sure you get there early to see the "Best of the Best" Tap Water Taste Test competition. The conference will wrap up Tuesday night with the Down East Feast and the mystifying acrobatics of Atlantic Cirque.

Come early or stay late so that you take the time to get out and enjoy downtown Halifax. There is always something fun and exciting happening in the harbor city. We can't wait to see you in Halifax this fall.

# A MESSAGE FROM THE ACWWA BOARD CHAIR

As we look forward to the 2019 ACWWA Conference to be held in Halifax from October 6<sup>th</sup> to 8<sup>th</sup>, I would like to extend a cordial invitation on behalf of the board to all industry professionals to attend this top-notch event. As the theme indicates, we continue to navigate Uncharted Waters with respect to all things water, particularly considering our ever-changing physical, political, social, and economic climates. We heavily rely on our local expertise and welcome input from abroad to help solve tomorrow's issues, starting today.

Halifax is a bustling and treasured city in Atlantic Canada with much to offer for dining and beverages, entertainment, scenery, and education. Within the conference you are bound to be impressed by the Technical Program featuring over 35 presentations, a robust ABEA Trade Show, multiple Water for People activities, a Young Professionals Seminar, and endless opportunities to learn and connect with colleagues.



Jennie Rand

Join us on the Halifax Waterfront as we celebrate the resilience and innovation of the Atlantic Canada water and wastewater industry and look forward to Preparing for the Unknown.

# UNCHARTED WATERS KEYNOTE ADDRESS



**Carl Yates, M.A.Sc., P.Eng.**

Carl Yates has extensive experience in the water utility profession having served as Project Engineer, Chief Engineer and General Manager of the Halifax Water Commission from 1988 to 1996. In 1996, he was appointed General Manager of the Halifax Regional Water Commission which assumed a regional mandate after the municipal amalgamation of the greater Halifax area in 1996. In 2007, Mr. Yates oversaw the formation of the first regulated water, wastewater and stormwater utility in Canada with the transfer of wastewater and stormwater assets from the Halifax Regional Municipality. Halifax Water is a body corporate municipal utility, generating approximately 140 million dollars in annual revenue with assets of over \$2 Billion.

Mr. Yates obtained a Bachelor of Engineering from Memorial University of Newfoundland in 1984 and a Master of Applied Science from the Technical University of Nova Scotia [now Dalhousie University] in 1992. He is Past Chair of the Focus Area Council of the Water Research Foundation, Vice Chair of the Canadian Water Network, Board Director of the Alliance for Water Efficiency, and a past member of the Board of Directors of Special Olympics Nova Scotia.

# AWWA REPRESENTATIVE

Vice-President (2018-2020)  
American Water Works Association

Theresa is the Water Resources Group Manager for Crawford, Murphy & Tilly Inc. in Aurora, Illinois. With 24 years of experience in the water industry, Theresa has been an active member of AWWA since 1996.

Involved in the Illinois Section, Theresa has served two terms as Trustee – District 2, Vice-Chair, Chair-Elect, Chair and Past-Chair. On the Association level, she is serving on the Board of Directors as the Illinois Director and Vice President. She is also a member of the AWWA Engineering and Modeling Applications Committee (EMAC). She is also a member of Mid-Central Waterworks Association and Kane County Water Association. Currently, she is serving as the Resident Representative on the Will County Stormwater Planning Committee.



Theresa O'Grady

Theresa holds a BS degree in Civil Engineering with a Hydraulics & Hydrology Emphasis from the University of Illinois, Champaign-Urbana and is a licensed Professional Engineer (P.E.) in the State of Illinois. She lives in Naperville, Illinois with her husband (Michael) and two kids (Aidan and Riona).





Thomas E. Kunetz, P.E.

Thomas E. Kunetz is the 2018-2019 President of the Water Environment Federation (WEF), an international organization of water quality professionals headquartered in Alexandria, Va.

Tom is the assistant director of monitoring and research for the Metropolitan Water Reclamation District of Greater Chicago, leading the district's efforts on key strategic engineering initiatives. He has over 30 years of experience in the field of environmental engineering in both the public and private sectors, focusing on design of wastewater treatment facilities, improving the water environment, and protection of public health.

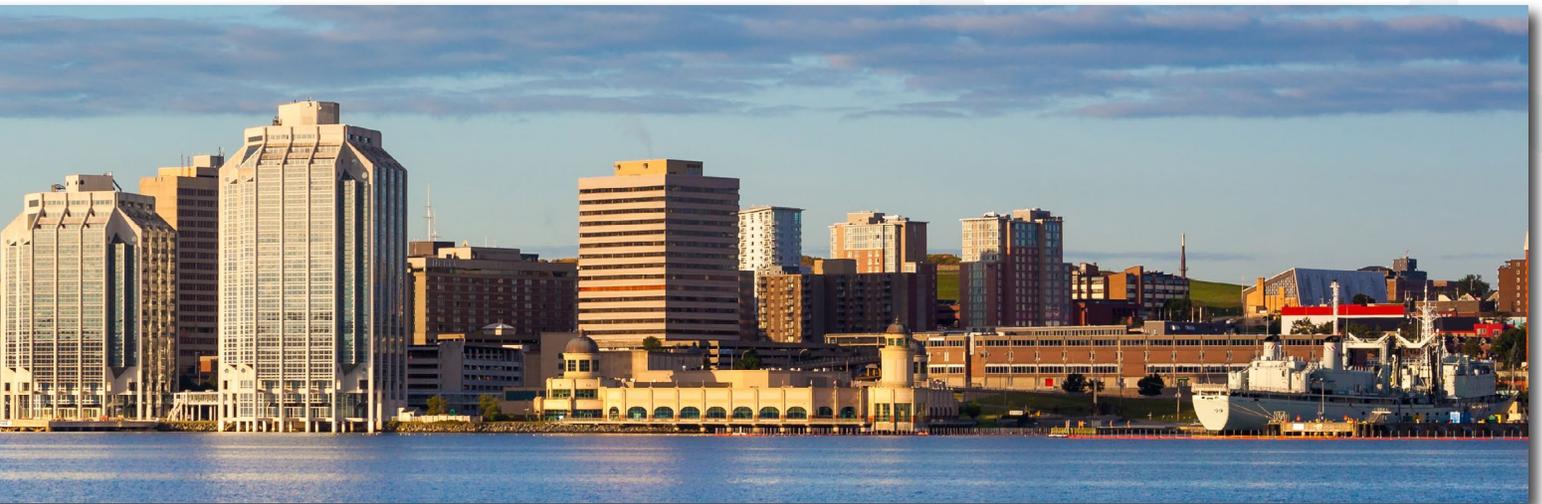
A WEF member since 1992, Tom is the past chair of the Municipal Wastewater Treatment Symposium, and served on the Program

# WEF REPRESENTATIVE

Committee, and the Municipal Water Resource Recovery Design Committee. He was a member of the Chicago WEFMAX organizing committee, and served on the Stockholm Junior Water Prize organizing committee with the Illinois Water Environment Association.

Tom is a registered professional engineer in the state of Illinois. He is a graduate of the WEF-sponsored Water and Wastewater Leadership Center at the University of North Carolina, the 2012 recipient of the Charles Walter Nichols Award for Environmental Excellence from the American Public Works Association, and a WEF Fellow. He has served as technical advisor to the student chapter of Engineers for a Sustainable World at Northwestern University, traveling to Panama with the students.

Tom earned his B.S. in environmental engineering from the Pennsylvania State University and an M.S. in water resources engineering from Villanova University.



# CWWA REPRESENTATIVE

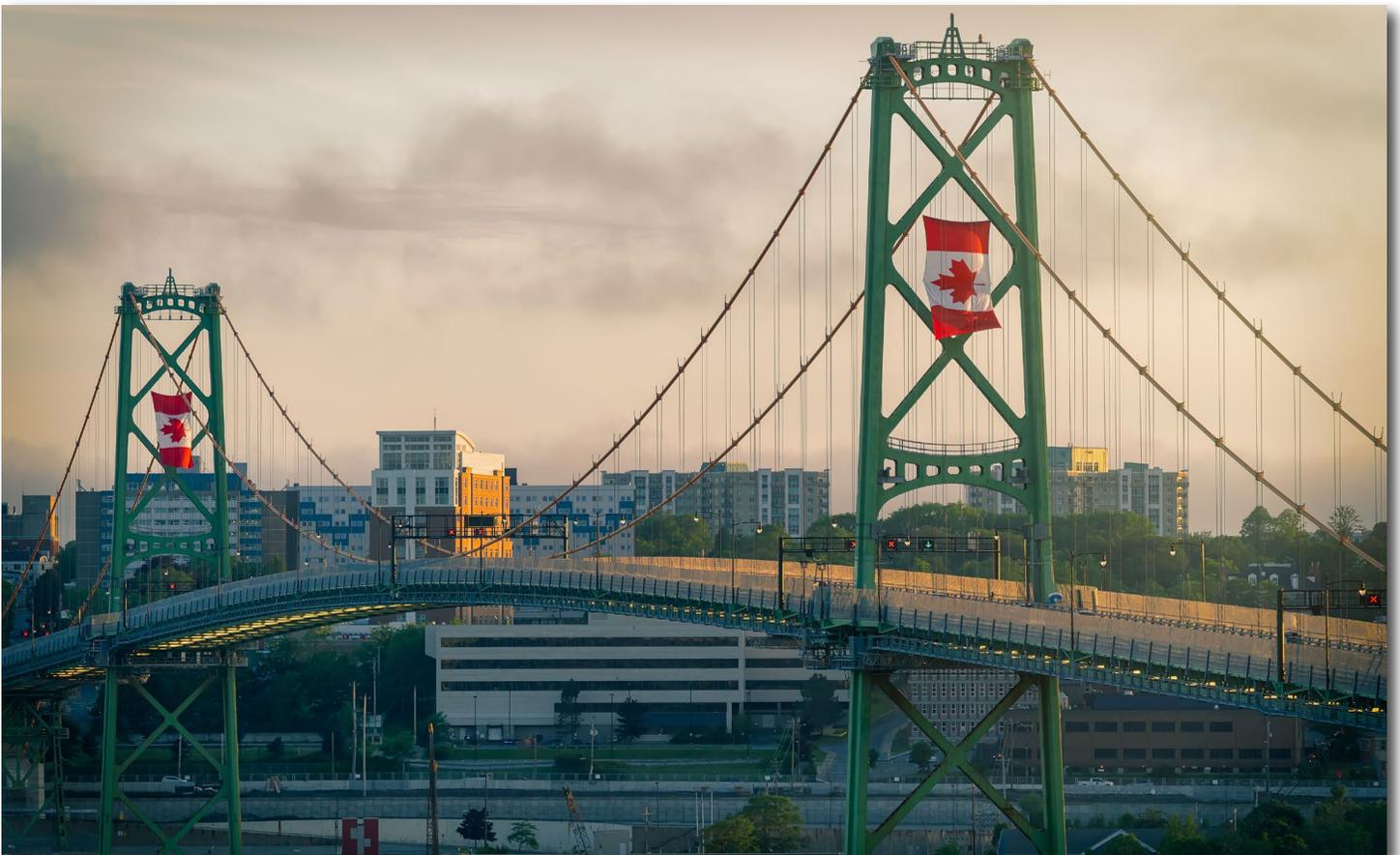
Robert Haller is the executive director of the Canadian Water and Wastewater Association, a role he took on after almost 20 years as a senior municipal administrator - most of those years serving as a CAO for small and medium-sized communities. He claims to be a geographer first, with a BA from Carleton University, followed by a Masters in Public Administration from the University of Western Ontario.

Robert leads the CWWA as THE national voice for municipal water and wastewater and promotes collaboration between all the water organizations



Robert Haller

across Canada. Robert represents the municipal water sector to the federal government on issues such as infrastructure funding, flood risk, security, drinking water guidelines and more. He works closely with all the water associations in North America on education, communications and utility leadership and represents Canada to the International Water Association.



# CONFERENCE HIGHLIGHTS

**10.06.2019**  
SUNDAY

10.00 AM  
1.00 PM - 4.00 PM  
1.00 PM - 3.30 PM  
5.00 PM - 7.00 PM  
7.30 PM - 10.30 PM  
8.30 PM - 9.30 PM

ABEA Golf Tournament at Lost Creek Golf Club & Village  
Young Professionals Event  
Technical Tour of Lake Major Dam  
Young Professionals Meet & Greet, The Lower Deck (2<sup>nd</sup> Floor)  
Meet & Greet Reception, Sable Ballroom  
Water Tower Competition, Sable Ballroom

**10.07.2019**  
MONDAY

7.30 AM - 8.30 AM  
8.30 AM - 10.00 AM  
10.30 AM - 12.00 PM  
12.00 PM - 1.30 PM  
1.30 PM - 4.45 PM  
5.00 PM - 6.00 PM  
6.00 PM - 8.00 PM  
9.00 PM - 1.00 AM

Continental Breakfast  
Opening General Session, Nova Scotia Rooms A & B  
Technical Sessions, Halifax Rooms A, B & C  
ACWWA AGM & Awards Luncheon, Nova Scotia Rooms C & D  
Technical Sessions, Halifax Rooms A, B & C  
Water for People 5K Fun Run/Walk  
Dine On Your Own - Explore Downtown Halifax  
ABEA Common Hospitality Reception, Schooner Room, Casino NS

**10.08.2019**  
TUESDAY

7.30 AM - 8.30 AM  
8.00 AM - 9.30 AM  
9.30 AM - 10.30 AM  
10.00 AM - 2.00 PM  
2.00 PM - 4.00 PM  
6.30 PM

Continental Breakfast  
Technical Sessions, Halifax Rooms A, B & C  
"Best of the Best" Tap Water Taste Test  
ACWWA/ABEA Tradeshow, Nova Scotia Ballroom  
Technical Sessions, Halifax Rooms A, B & C  
Down East Feast, Nova Scotia Ballroom

# 2019 ABEA ANNUAL GOLF TOURNAMENT



We welcome you to join us for our Annual Golf Event being held on October 6<sup>th</sup>, 2019 and sponsored by the ABEA, and its individual members.

**Lost Creek Golf Club and Village...** "Imagine a mature hardwood forest of rolling hills, a crystal lake and a flowing river. A perfect portrait of Nova Scotia. Now imagine all of this and a championship 18 hole golf course...some say by Mother Nature's design."

**\$75** + TAX

Includes: Green Fees, Shared Cart & Range Balls

TEE TIMES COMMENCE AT:

**10:00 AM**

A Shotgun Format

Transportation & Lunch will be provided.

Put your team together, or we will be pleased to place you with a group (forward requests directly to [scotiatech.main@ns.sympatico.ca](mailto:scotiatech.main@ns.sympatico.ca)) – all ability levels welcome... rental clubs are available for an additional fee (arrangements to be made directly with the course – see contact info below).

\*\*Please note that only those registered by September 1, 2019 will be guaranteed "swag".\*\*

[lostcreek.ca](http://lostcreek.ca)

310 Kinsac Rd.  
BeaverBank, NS

(902) 865-4653



# YOUNG PROFESSIONALS SEMINAR

The Young Professionals (YP) Committee is inviting conference attendees to sign-up for the YP Seminar, which is being held from 1:00 PM to 4:00 PM on the opening day of the Conference, Sunday October 6<sup>th</sup>, 2019.

This year, the seminar is themed “How to navigate your social and professional network” and will feature presentations on topics such as professional development using social media, entrepreneurship and startups, and maintaining a work/life balance. The event will also provide an excellent opportunity to meet other YPs before everyone heads to the YP Mixer later in the evening. All attendees will receive a ticket for a complimentary drink at the Mixer.

The seminar is being organized by the YP Committee, which is an active group that offers engaging networking and volunteering opportunities for members of the ACWWA who are new to the water and wastewater industry. The group is made-up of engineers, researchers, operators, technical sales people, and managers.

# YOUNG PROFESSIONALS MIXER



Join us at The Lower Deck (2<sup>nd</sup> floor) from 5:00 PM to 7:00 PM for our Young Professionals Mixer! Both young and experienced professionals are encouraged to drop in for some snacks, refreshments, and conversation with members in our industry. This is a wonderful opportunity to meet and support our future water and wastewater leaders.



**10.07.2019**  
**MONDAY**

10:30 AM - 11:15 AM

11:15 AM - 12:00 PM

<p><b>A1</b> Technical Session <b>Halifax Room A</b></p>	<p><b>Championing Change on the LaHave River</b></p> <p><b>Stella Bowles</b> Stella Bowles prompted action for the clean up of Nova Scotia's LaHave River, which contains alarmingly high levels of fecal contamination. Because of her work, three levels of government have allocated \$15.7 million dollars to address the problem of illegal straight pipes that still drain raw sewage from over 600 homes along the river. Three years since her initial research, Stella continues to be an advocate for the elimination of illegal straight pipes province wide.</p> 	<p><b>The Benefits of Effective Leadership and Leadership Training</b></p> <p><b>Tabatha Thibault, Saint Mary's University</b> Tabatha Thibault holds a MSc in Applied Psychology focusing on Industrial/Organizational Psychology. She is currently a PhD candidate in Industrial/Organizational Psychology at Saint Mary's University as well as a part-time professor. Her research interests include leadership development, the Dark Tetrad of personality, and incivility and cyber deviance in the workplace. She has been part of a research-practitioner team that conducts leadership training workshops for the past three years.</p> 
<p><b>A2</b> Technical Session <b>Halifax Room B</b></p>	<p><b>Hydraulics of Pressure Sewer Systems</b></p> <p><b>Keith McHale</b> Environment One Corporation</p>	<p><b>Wet Weather Flow Management for Trunk Sewer Systems - City of Toronto Black Creek Sanitary Servicing Study</b></p> <p><b>Harshad Shetye</b> WSP Canada</p>
<p><b>A3</b> Technical Session <b>Halifax Room C</b></p>	<p><b>Fundamentals of Membrane Bioreactors: Facility Design, Procurement, Construction and Operation</b></p> <p><b>Chris Fahie,</b> Halifax Water</p>	<p><b>Ammonia Limits and Lagoons: Atlantic Canada's Options for Beating Effluent Limits</b></p> <p><b>Francis Bordeleau</b> Nexom</p>

1:30 PM - 2:00 PM

2:00 PM - 2:30 PM

2:30 PM - 3:00 PM

<p><b>B1</b> Technical Session <b>Halifax Room A</b></p>	<p><b>Harvesting Nutrients for Reuse from Municipal Wastewater Using a Revolving Algae Biofilm System</b></p> <p><b>Tom Kunez</b> MWRD Chicago</p>	<p><b>The Use of Rare Earth Metals for Targeted Removals of Phosphorus</b></p> <p><b>Kevin Bossy</b> Bishop Water Technologies</p>	<p><b>Understanding Factors Influencing Harmful Algae Blooms in a Headwater Lake in Cumberland County, NS</b></p> <p><b>Baillie Holmes</b> Dalhousie University</p> 
<p><b>B2</b> Technical Session <b>Halifax Room B</b></p>	<p><b>PFAS Dark Matter: Precursors in Soil and Water</b></p> <p><b>Virgil Guran</b> Bureau Varitas (formerly Maxxam Analytics)</p>	<p><b>Ellenvale Run Watercourse Rehabilitation</b></p> <p><b>Adam Sketchley &amp; Evan Teasdale</b> DesignPoint Engineering and Surveying</p>	<p><b>Potential Corrosivity of Groundwater in Nova Scotia and its Association with Lead in Private Well Water</b></p> <p><b>Gavin Kennedy</b> NS Department of Energy and Mines</p>
<p><b>B3</b> Technical Session <b>Halifax Room C</b></p>	<p><b>Assessing Recoverable Leakage Potential Through Evidence-Based Performance Indicators</b></p> <p><b>Fabian Papa &amp; Bradley Jenks</b> HydraTek &amp; Associates</p>	<p><b>Water Loss Reduction Through Pressure Management to Save Money</b></p> <p><b>Jody Malo</b> Omnitech Inc.</p>	<p><b>Water Distribution Monitoring to Inform Non-Revenue Water Reduction</b></p> <p><b>Dr. Amis Preis</b> Visenti, A Xylem Brand</p>

3:15 PM - 3:45 PM

3:45 PM - 4:15 PM

4:15 PM - 4:45 PM

<p><b>C1</b> Technical Session <b>Halifax Room A</b></p>	<p><b>Lake Recovery Through Reduced Atmospheric Deposition: Experiences in Atlantic Canada and Key Lessons Learned</b></p> <p><b>Lindsay Anderson</b> Dalhousie University</p>	<p><b>Operational Challenges at JD Kline Water Supply Plant in Light of Lake Recovery</b></p> <p><b>Sanjeev Tagra</b> Dalhousie University &amp; Halifax Water</p>	<p><b>Decision Making in an Era of Changing Source Water</b></p> <p><b>Wendy Krkosek</b> Halifax Water</p>
<p><b>C2</b> Technical Session <b>Halifax Room B</b></p>	<p><b>PVC Watermain Pipe - 40 Years of Successful Service</b></p> <p><b>Douglas Seargeant</b> IPEX</p>	<p><b>Saving Energy and Money Through Better Wastewater Treatment Plant Mixing</b></p> <p><b>Michele Braas</b> Xylem Inc.</p>	<p><b>Operational Improvements for Small and Medium-Sized Utilities</b></p> <p><b>Darren Row &amp; Jay Shanahan</b> City of Miramichi</p>
<p><b>C3</b> Technical Session <b>Halifax Room C</b></p>	<p><b>Repair of a Critical Transmission Main</b></p> <p><b>Kevin Healy</b> Halifax Water</p>	<p><b>Twin Rivers Effluent Pipe Replacement</b></p> <p><b>Garrett Proud</b> Stantec Consulting Ltd</p>	<p><b>Minimize Metal and Concrete Damage in Water and Wastewater Applications</b></p> <p><b>Randy Nixon</b> Corrosion Probe Inc.</p>

# TECHNICAL PROGRAM

10.08.2019 TUESDAY	8:00 AM - 8:30 AM	8:30 AM - 9:00 AM	9:00 AM - 9:30 AM	
<b>D1</b> Technical Session Halifax Room A	<b>Planning for the Unknown Future and Reshaping Saint John's Water System</b>  Dean Price Saint John Water	<b>Buffalo NY: Achieving 21<sup>st</sup> Century Results with Legacy Infrastructure</b>  Dax Blake Emnet, A Xylem Brand	<b>Small Utility Tackles Full Water Meter Conversion to New Meters, New Technology, and Changing from Imperial to Metric</b>  Jesse Hulsman Municipality of East Hants	
<b>D2</b> Technical Session Halifax Room B	<b>Pilot Plant Optimization Study of Coagulation Processes in a Direct Filtration Plant for Source Water Undergoing Lake Recovery</b>  Isobel DeMont Dalhousie University	<b>Testing Ultraviolet Light Emitting Diodes (UV LEDs) Apparatus for Point-Of-Use (POU) Drinking Water Disinfection</b>  Carolina Ontiveras Dalhousie University	<b>Understanding Drinking Water Biofiltration: Monitoring and Optimization Approach</b>  Leili Abkar Dalhousie University	
<b>D3</b> Technical Session Halifax Room C	<b>MBBR Treatment in Saint John, NB</b>  Dave McKenna Dillon Consulting	<b>Understanding the Impacts of Domestic Wastewater Microbial Communities on Rapid ATP-Based Monitoring Techniques for UV Inactivation</b>  Kyle Rauch Dalhousie University	<b>EISI Upgrades Wastewater Treatment Plant at Atlantic Beef Products to First Membrane Bioreactor in Prince Edward Island</b>  Adam Ryder ADI Systems	
	2:00 PM - 2:30 PM	2:30 PM - 3:00 PM	3:00 PM - 3:30 PM	3:30 PM - 4:00 PM
<b>E1</b> Technical Session Halifax Room A	<b>Update on Health Canada's Guidelines for Canadian Drinking Water Quality for Aluminum and Natural Organic Matter</b>  Judy MacDonald Health Canada	<b>Kankakee Water Treatment Plant Improvements</b>  Theresa O'Grady Crawford, Murray & Tilly Inc.	<b>Updates and Incorporation of Climate Change into the Atlantic Canadian Water and Wastewater Design Guidelines</b>  Willard D'Eon CBCL Ltd.	<b>Gas Monitoring Requirements, Assessments and Certification</b>  Alain Hamon Hetek Solutions
<b>E2</b> Technical Session Halifax Room B	<b>Putting All the Pieces Together: More Than Just Another All-Pipe Wastewater Model Build</b>  David Blades Halifax Water	<b>Use of CFD Analysis for Secondary Clarifier Design</b>  Mike Abbott CBCL Ltd.	<b>A Proactive Approach to Transmission Main Condition Assessment - St. John's Regional Water Supply</b>  Clayton MacDougald Pure Technologies, a Xylem Brand	<b>Confirming Uncertain Ground Conditions by Analyzing Microtunnel Data</b>  Troy Bauman Robinson Consultants
<b>E3</b> Technical Session Halifax Room C	<b>The Importance of Quality Control for CIPP Rehabilitation of Sewers</b>  Kevin Bainbridge Robinson Consultants	<b>CIPP Watermain Lining - Consolidated Design and Compliance Guidance and Technical Advances</b>  George Bontus Aegion Corporation	<b>Large Diameter Watermain Lining in the City of Toronto</b>  Stewart Dickson & Patrick Lewis WSP Canada	<b>Storm Water Management: Underground Storm Sewer Treatment Unit and Canadian ETV Protocol Using Hydrodynamic Separation</b>  Philippe Losier Soleno



Fresh Ideas presenters are a first time Young Professional participant at the ACWWA section conference presenting a water related topic, and will be considered for the Fresh Ideas program that has been developed through AWWA's Manufacturers/ Associates Council and the Young Professionals Committee. The top presentation selected from this group of presenters will be given the opportunity to compete in the Fresh Ideas poster competition at the AWWA Annual Conference and Exposition (ACE 2020) in Orlando, FL, representing the Young Professionals of ACWWA. Along with complimentary conference registration provided by the ACE 2020 organizing committee, ACWWA will provide the winner with a stipend to assist with travel costs to the conference.

## ACWWA Conference Registration

### PART 1 – CONFERENCE ATTENDEE GENERAL INFORMATION

FIRST NAME		LAST NAME		ORGANIZATION	
MAILING ADDRESS				CITY	
PROVINCE	COUNTRY	POSTAL CODE		AWWA MEMBERSHIP NUMBER	
PHONE		FAX		WEF MEMBERSHIP NUMBER	
REGISTERED COMPANION/SPOUSE			EMAIL ADDRESS		
Check box if you would like to be added to the ACWWA email list <input type="checkbox"/> Check box if you are a first time conference attendee <input type="checkbox"/>					
Sector <input type="checkbox"/> Utility <input type="checkbox"/> Supplier <input type="checkbox"/> Contractor <input type="checkbox"/> Consultant <input type="checkbox"/> Student <input type="checkbox"/> Academic <input type="checkbox"/> Regulator <input type="checkbox"/> Other					

### PART 2A – DELEGATE REGISTRATION

Full Conference Delegate – On or Before Sept 6, 2019 - Includes all Meals	<input type="checkbox"/> Member – \$475	<input type="checkbox"/> Non-Member – \$525	\$
Full Conference Delegate – After Sept 6, 2019 - Includes all Meals	<input type="checkbox"/> Member – \$575	<input type="checkbox"/> Non-Member – \$625	\$
Companion/Spouse Program – Includes all Meals	<input type="checkbox"/> Member/Non-Member – \$275		\$
Student (Includes Meet & Greet, Breakfasts/Lunches, ABEA Reception and Trade Show) <small>Registration is free if the student is presenting a technical session</small>	<input type="checkbox"/> Member/Non-Member – \$50		\$
Monday Full Day Pass (Includes Breakfast, AGM Lunch and ABEA Hospitality Reception)	<input type="checkbox"/> Member – \$250	<input type="checkbox"/> Non-Member – \$275	\$
Tuesday Full Day Pass (Includes Breakfast, Trade Show & Lunch, and Down East Feast)	<input type="checkbox"/> Member – \$250	<input type="checkbox"/> Non-Member – \$275	\$
Tuesday 1/2 Day Trade Show Pass (Includes Breakfast, Trade Show & Lunch)	<input type="checkbox"/> Member – \$125	<input type="checkbox"/> Non-Member – \$150	\$
<b>Register before August 15, 2019 and be entered for the early bird draw</b>			<b>Part 2 – Subtotal</b>
			\$

### PART 2B - DELEGATE MEALS & ACTIVITIES NOT INCLUDED WITH REGISTRATION

<b>Sunday, October 6</b>		<b>Please indicate attendance by checking box</b>	
Golf – Transportation, Green Fees, Shared Cart and Lunch Included Indicate your shirt sizes: SM____, MED____, LG____, XL____, XXL____		___ @ \$75 =	\$
Tour of Lake Major Dam (Hard hat, safety vest, and steel toe work boots required)		___ @ \$15 =	\$
Young Professional Workshop – Registration is free – Please indicate if you are attending		Yes	No
<b>Tuesday, October 8</b>			
Down East Feast – <b>Included in Delegate/Companion</b> Registration Fees	Additional Tickets ___ @ \$75		\$
Please indicate meal choice for Down East Feast for Delegate/Companion	Salmon ___	Chicken ___	Beef ___
Please describe any dietary restrictions or other special needs you may have	<b>Part 2 – Subtotal</b>		\$

### PART 3A – TRADE SHOW BOOTH RENTAL & EXHIBITOR REGISTRATION

Booth Rental (Max 3 Booths & 2 People/Booth)	ABEA Member – ___ Booths @ \$525	Non-Member – ___ Booths @ \$900	\$
<b>EXHIBITOR'S NAME</b>	<b>EXHIBITOR'S NAME</b>	<b>EXHIBITOR'S NAME</b>	
<b>EXHIBITOR'S NAME</b>	<b>EXHIBITOR'S NAME</b>	<b>EXHIBITOR'S NAME</b>	
Extra Booth Exhibitor Registration (includes Meet & Greet, ABEA Hospitality Reception, Trade Show Lunch)	ABEA Member – ___ @ \$75	Non-Member – ___ @ \$100	\$
<b>EXHIBITOR'S NAME</b>	<b>EXHIBITOR'S NAME</b>	<b>EXHIBITOR'S NAME</b>	
<b>Part 3 – Subtotal</b>			\$

### PART 3B - EXHIBITOR MEALS & ACTIVITIES NOT INCLUDED WITH REGISTRATION

<b>Sunday, October 6</b>			
Golf – Transportation, Green Fees, Shared Cart and Lunch Included Included Indicate your shirt sizes: SM____, MED____, LG____, XL____, XXL____		___ @ \$75 =	\$
Tour of Lake Major Dam (Hard hat, safety vest, and steel toe work boots required)		___ @ \$15 =	\$

<b>Exhibitor Booth registration <u>does not</u> include the full conference or meals. To attend full conference, register as a Delegate in Part 2</b>			
<b>Monday, October 7</b>			
Pick-Up Breakfast	Exhibitor ___ @ \$34		\$
Annual General Meeting Luncheon	Exhibitor ___ @ \$46		\$
<b>Tuesday, October 8</b>			
Pick-Up Breakfast	Exhibitor ___ @ \$34		\$
Down East Feast	Exhibitor ___ @ \$75		\$
Please indicate meal choice for Down East Feast	Salmon ___	Chicken ___	Beef ___
Please describe any dietary restrictions or other special needs you may have	<b>Part 3 – Subtotal</b>		\$

<b>PART 5 – FEES</b>			
		<b>Subtotal</b>	\$
		Life Members deduct \$100.00	\$
		<b>HST 15% (869 924 910 RT2)</b>	\$
Indicate your shirt size(s): SM ____, MED ____, LG ____, XL ____, XXL ____	Water for People Fun Run _____ @ \$25.00		\$
	Water for People Fun Walk _____ @ \$25.00		\$
	<b>Total Amount Due</b>		\$

<b>PART 6 - PAYMENT OPTIONS</b>			
Choose payment method. Complete as appropriate.			
<input type="checkbox"/> Cheque	<input type="checkbox"/> Money Order	<input type="checkbox"/> Visa	<input type="checkbox"/> MasterCard
Please make cheque or money order payable to "ACWWA Conference", Box 28142, Dartmouth, NS B2W 6E2			
CARD HOLDER NAME			
CARD NUMBER			EXPIRY
SIGNATURE			
Fax: 902-435-7796 or Email: <a href="mailto:contact@acwwa.ca">contact@acwwa.ca</a>		EMAIL ADDRESS	
<b>WHEN PAYING WITH A CREDIT CARD AN EMAIL ADDRESS IS REQUIRED FOR A RECEIPT TO BE ISSUED</b> By registering for this event, your contact information may be shared with exhibitors and/or sponsors.			

**Conference Information**  
Full conference has a 1.5 CEU value.

**Trade Show Information**  
Each booth measures 8' x 8'. Booth selection will be online and first come first serve. ABEA members will have exclusive access for one week prior to general public. Contact the ABEA to learn more about becoming an ABEA member (Cathy Cameron at [scotiatech.main@ns.sympatico.ca](mailto:scotiatech.main@ns.sympatico.ca)). For trade show questions contact Cathy Cameron at [scotiatech.main@ns.sympatico.ca](mailto:scotiatech.main@ns.sympatico.ca).

\*\*\*Booth registrations **must be paid** with Visa or MasterCard **at time of booth selection in order to confirm registration**\*\*\*

**ACWWA Delegate Cancellation Policy**  
Cancellations must be received in writing, on company letterhead, and faxed, mailed or emailed to the ACWWA Office. Phone cancellations are not accepted. All cancellations postmarked/fax-dated 14 days in advance of the conference start date will receive a full refund, minus a 10% administrative fee. Cancellations between 7 and 14 days of the conference start will receive a 50% refund. Cancellations less than 7 days in advance of conference will not be refunded. Please note that substitute registrants are welcome. Fax requests for substitutions or cancellations to (902) 435-7796 or email to [contact@acwwa.ca](mailto:contact@acwwa.ca).

**ACWWA Trade Show Cancellation Policy – Payment Options**  
Cancellations must be received in writing, on company letterhead, and faxed, mailed or emailed to the ACWWA Office. Phone cancellations are not accepted. All cancellations postmarked/fax-dated 30 days in advance of the conference start date will receive a 50% refund. Cancellations less than 30 days in advance of conference will not be refunded. Please note that substitute registrants are welcome. Fax requests for substitutions or cancellations to (902) 435-7796 or email to [contact@acwwa.ca](mailto:contact@acwwa.ca).

# 2019 ACWWA COMPANIONS PROGRAM

## SUNDAY, OCTOBER 6

- Golf enthusiasts can begin their 2019 Conference with a day of golf at Lost Creek Golf Course - 10:00 AM shotgun start.
- The Meet and Greet, and annual Water Tower Building Competition, will be held Sunday evening.
- The Water for People Silent Auction will be open throughout the conference, so take the time to look, see and bid (often if necessary!)

## MONDAY, OCTOBER 7

Canadian Museum of Immigration at Pier 21 & Lunch at Piatto Pizzeria + Enoteca

9:30 AM – 2:00 PM

- Visit Canada's National Museum of Immigration. The museum occupies part of Pier 21, the former ocean liner terminal and immigration shed. We will have a guided group tour of the Pier 21 Story, an orientation to the Canadian Immigration Story exhibit, and a viewing of the film "in Canada". We will meet at the Halifax Marriott Harbourfront Hotel at 9:30 AM and travel to the museum. Our tour will begin at 10:00 AM and will take approximately two hours. We will have time to visit the temporary exhibits and the lovely gift shop. From Pier 21, we will travel a short distance to Piatto Pizzeria for a delicious lunch in a private room. We will have authentic wood-fired pizza, along with dessert, tea or coffee and a glass of wine. The Seaport Farmers' Market is close by and worth exploring after lunch if you would like.
- Monday evening, join everyone at the ABEA Hospitality Suite. Schooner Room Casino NS, 9:00 PM – 1:00 AM – entertainment provided by Monkey's Uncle.



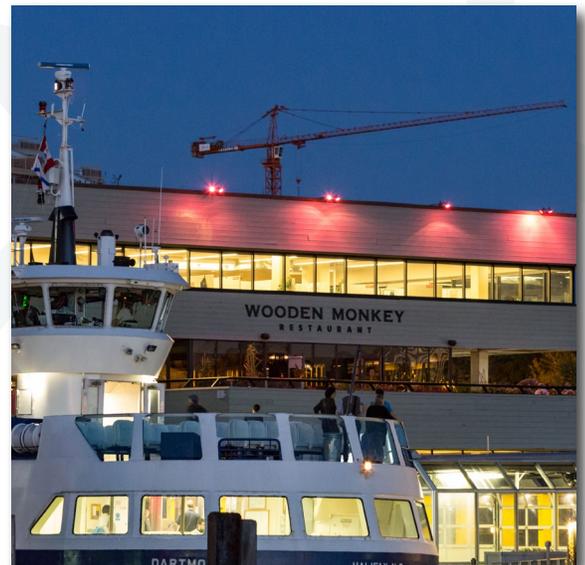
# 2019 ACWWA COMPANIONS PROGRAM CONTINUED

## TUESDAY, OCTOBER 8

Government House & Ferry to Alderney Landing for Lunch at the Wooden Monkey

9:45 AM - 2:00 PM

- Government House has hosted many Royal Visitors in its 210 year history. It remains one of the single-most important parts of our provincial and national history as the oldest consecutively occupied government residence and one of the oldest such official residences in North America. We will meet at the Halifax Marriott Harbourfront Hotel at 9:45 AM and travel to Government House for a one-hour guided tour. Following the tour, we will travel a short distance to the Halifax Ferry Terminal to take a 15-minute trip across the harbour to Alderney Landing in Dartmouth. We will have a fabulous lunch at the popular Wooden Monkey restaurant in our own private room with a view of the Halifax Harbour. Lunch will include a selection of main dishes to choose from, dessert, tea or coffee and a glass of wine. After lunch, feel free to explore the newly renovated Alderney Landing Ferry Terminal; there are local produce vendors, an art gallery, and many local artisan goods. From here we will take the ferry back to Halifax, where there are many more local shops to browse if you would like.
- Tuesday evening will be the annual Down East Feast with great food and entertainment.



# 12<sup>TH</sup> ANNUAL ABEA COMMON HOSPITALITY RECEPTION

The Atlantic Branch Equipment Association cordially invites all ACWWA Conference delegates and attending members to join us for an evening of music, mingling and munchies at **Casino NS - Schooner Room, on Monday October 7<sup>th</sup>, 2019.**

Festivities run from **9:00 PM – 1:00 AM**, with music supplied by **Monkey's Uncle** – a local favourite.



Check out Monkey's Uncle on Facebook and Twitter: @monkeysunclehx

What better way to meet and greet your ABEA Equipment Suppliers, old friends and introduce yourself to someone new.

**Please remember your "delegate badge" for admittance to this ABEA member sponsored premiere/private event.**





# 2019 ACWWA & ABEA TRADESHOW

The 2019 Trade Show will be held Tuesday morning, October 8<sup>th</sup>, 2019, beginning at 10:00 AM, offering 80 booths.



2018 Tradeshow Turnout

**DON'T MISS THIS**

## Hands-On Technical Demo

**Safe and Efficient Measures When Hot Tapping Pressurized Watermains – Large Diameter**

12:30 PM

ABEA Tradeshow Space (Nova Scotia Ballroom)

Presented by Mueller and the City of Charlottetown

This popular event provides the equipment suppliers an opportunity to showcase their products and services, and delegates the opportunity to network with both participants and colleagues.

Prepare to be introduced to the latest technologies and services available to the Waterworks Industry.

The Trade Show will kick off upon the completion of the “Best of the Best” Tap Water Taste Test. At noon lunch will be served, and your ABEA Host Suppliers will provide each attendee with a token of appreciation. This year we will be providing an offering from Acadian Maple Products – continuing our mandate of supporting local artisans.

Allow time to explore and engage... there is something for everyone and more...

# 2018/19 ABEA HOST SUPPLIERS



We would like to take this opportunity to acknowledge, and say “Thank You” to the many suppliers who support the Atlantic Branch Equipment Association and its many endeavours...

ADS	Flowstar Ind.	Primus Line
Atlantic Purification Systems Ltd.	Greatario Storage Systems	Prominent
Anthrafilter	Gorman Rupp	Pure Technologies
Aqua Data Atlantic	H2Flow	The Panel Shop
Avensys	Hetek	Royal Pipe Systems
Armour Valve Ltd.	Honeywell	Saunders
BioMAXX Wastewater Solutions	John Brooks Company Ltd.	Sansom Equipment
Birksco-Aqualoader	Integrity Pipeline Products	Scotia Tech
Bibby Ste-Croix	Ipex Inc.	Sulzer
Concord Supply	Itron Canada Inc.	SIGMA Corp.
Chloratech	Kemtag Enterprises Ltd.	Soleno
Cambridge Brass	KSB Canada	Star Pipe Canada Inc.
Campbell’s Concrete	K&D Pratt	Sensus (KTI)
Canada Pipe	Landmark	Shaw Resources
Coastal Controls & Instrumentation	Maritime Infrastructure Technologies	Source Atlantic
Chemline Plastics	McLennan Sales	ShadComm Ltd
Clow Canada	Mueller Canada	REHAU
Denso NA-Can	Nulantic	Urecon
Denyg Mechanical	Neptune Technology Group	Utility Supply Corp.
DLR Piping Solutions	Novatech Analytical Solutions	Veronics
EEP Technical Solutions	Opus International Consultants Ltd.	Veolia Water Solutions & Technologies
EPG	Omnitech	Wolseley Waterworks Atlantic
Ford Meter Box		Xylem

## Current ABEA Board

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**Mike McDonah**  
**Eric Landry**  
**Ryan McCashion**  
**Andrew Duguay**  
**Steve Philpott**  
**Kyle Gracie**  
**Catherine Cameron**

Contact information for our members, and applications for our Scholarship and Grant Program can be found on [www.ABEA.biz](http://www.ABEA.biz)



# WATER TOWER BUILDING COMPETITION

This year, one of the old favourites is back. The Greatario Water Tower Building Competition will take place during the Sunday evening Meet and Greet Reception (Sunday, October 6<sup>th</sup>, 2019 from 8:30 PM to 9:30 PM). This activity will allow participants the opportunity to better understand how, in this environment of fiscal restraint, utilities manage to solve problems with creative solutions. It will bring out the Mr(s) Fix-it in all of us!

Each team will be given identical materials. The goal of the activity is to build a tower able to balance a 250 mL (8 oz) container of water for 30 seconds. Who will build the tallest, the most creative, the most entertaining? This activity guarantees to challenge your ingenuity while meeting new people.



# ACWWA BEST OF THE BEST TASTE TEST



Join in as we celebrate the 7<sup>th</sup> annual “Best of the Best” Tap Water Taste Test competition.

Our judges will be looking for the “Best of the Best” tasting water here at the Conference in Halifax, NS. So, bring a sample of your hometown water that you supply to your customers and see where it stacks up against your neighbouring communities.

Atlantic Canadian municipal utilities are invited to submit a water sample to be judged by a panel of water professionals. Samples will be judged on their appearance, odour, taste and overall impression.

The competition, beginning just before the ACWWA/ABEA Tradeshow, will take place from 9:30 AM to 10:30 AM on Tuesday, October 8<sup>th</sup>, 2019. The first-place winner will have the opportunity to represent ACWWA at the AWWA Annual Conference and Exposition (ACE) “Best of the Best” Tap Water Taste Test in Orlando, Florida in 2020.

Come and find out who has the best tasting water in Atlantic Canada!

Entry forms, rules, and judging criteria are available on the ACWWA Conference website at [www.acwwa.ca](http://www.acwwa.ca). Entry forms are due by September 27<sup>th</sup>, 2019.

For more information, please contact Brad McIlwain at [brad.mcilwain@luminultra.com](mailto:brad.mcilwain@luminultra.com) or (506) 471-2591.



# TECHNICAL TOUR: THE NEW LAKE MAJOR DAM

The existing Lake Major Dam is a rock-filled timber crib structure which was originally built for a private milling operation in the 1940s. After years of growth, the City of Dartmouth took ownership of the Lake Major Dam, transitioning Lake Major to the primary source of potable water for Dartmouth. In 1996, through the amalgamation that formed the Halifax Regional Municipality, Halifax Water assumed ownership of the dam.

In 1999, the Lake Major Water Supply Plant was constructed, bringing the treatment process closer to the supply. In 2012, as part of Halifax Water's Dam Safety Program, a study concluded that the Lake Major Dam needed to be replaced due to its age and location.



Starting in 2014, Halifax Water began the concept design and environmental approvals process in to complete the replacement project. Construction approval from the regulatory bodies was received in

May 2018 with construction starting early June 2018. The dam was designed to be constructed in two halves with the third phase of the project being removal of the existing structure and reclamation of a new stream channel. Halifax Water is currently in the second phase of the construction with scheduled completion in August 2019.

The new dam is a concrete structure, complete with a labyrinth spillway, adjustable weir fish ladder and two low level sluice gates. The dam will be able to maintain a water level of 19.5m, which is approximately 0.5m above the existing dam crest.

Transportation will be provided.



# DOWN EAST FEAST ENTERTAINMENT



Atlantic Cirque Ltd. has operated in HRM since 2002. It is the biggest circus school east of Montreal and is Atlantic Canada's first school of Circus Arts and Artist Agency.

The goal of Atlantic Cirque is to introduce circus arts to anyone who is interested. The circus school offers students the opportunity to develop and hone aptitudes like coordination, strength, flexibility, concentration and creativity in a structured and safe environment under the instruction and supervision of circus professionals who trained and performed in Canada, the United States, Asia, Central America, Europe and India.



At Atlantic Cirque offers an incredible range of performances, such as: aerial (trapeze, cerceau, diamond, flying rope, silks, straps), acrobatics, contortion, trampoline, human pyramids, handstand, juggling, hula hoop, unicycle, stilts walking and much more. Join us for a night of wonder filled with exquisite performances by Atlantic Cirque.

Bienvenue au Cirque!

# OUR VENUE: MARRIOTT HARBOURFRONT HOTEL

Elevate your experience in Nova Scotia's bustling capital city with a stay at Halifax Marriott Harbourfront Hotel. Perfectly positioned along the scenic downtown waterfront, offering a seamless blend of style, substance and award-winning service. Contemporary



rooms and suites boast pillowtop beds, mini-refrigerators, marble bathrooms and complimentary Wi-Fi access, as well as TVs with streaming capabilities. Fuel up for a busy day in downtown Halifax with a cup of Starbucks® coffee at Balancing Rock Coffeehouse, and enjoy a meal at harbourstone sea grill & pour house for seasonal dishes sourced from here in Nova Scotia. Additional hotel amenities include a tranquil on-site spa, an indoor swimming pool and a fully-equipped gym. Those in Halifax to attend an event can take advantage of our expansive venue spaces, including the largest pillarless ballroom in the city. Thanks to our convenient downtown hotel location, you're perfectly placed to explore Scotiabank Centre, Casino Nova Scotia and more.



# WATER FOR PEOPLE

Water for People – Canada (1995) is a charitable, non-profit, international humanitarian organization dedicated to the development and delivery of clean, safe water in developing nations.

Each year, at the Annual ACWWA Conference, funds are raised through various activities to assist with the many projects that are sponsored. These fund-raising efforts have gone a long way to make Atlantic Canada stand out as a tremendous donor among AWWA sections with the Atlantic Chapter, on average, raising approximately \$20,000 annually.



Annual events organized by the ACWWA to raise funds for Water For People include the annual Well Tapped Pub Night, The WFP Softball Tournament, and the Charity Silent Auction held each year during the ACWWA conference.

The 72<sup>nd</sup> Annual ACWWA Conference will host the ever popular Charity Silent Auction. This year, the auction items will be open for viewing throughout the conference, however bidding will only occur during the ABEA tradeshow (Tuesday, October 8<sup>th</sup>, 2019 from 10:00 AM to 2:00 PM) and will close prior to the technical sessions on Tuesday afternoon.

On Sunday evening during the Meet and Greet Reception (October 6<sup>th</sup>, 2019 from 7:30 PM to 10:30 PM) we will be creating a fundraising activity around the friendly Greatario Water Tower Building competition.

On Tuesday night, don't forget about the annual auctioning of tables at the Down East Feast. Those tables with the deepest pockets will be awarded by being served first for the meal!

Do not forget to sign up for the 2017 Fun Run/Walk when registering for the conference! The 5km Fun Run/Walk will be held on Monday at 5:00 PM leaving the Halifax Marriott Harbourfront Hotel and proceeding around the Halifax Waterfront Boardwalk before turning back to the hotel in time for supper on your own.

We look forward to seeing all the attendees at the Conference, and being able to share our passion for such a worthy cause – and thank those who have supported our charity and its past activities.



water for people  
EVERYONE • FOREVER



# ACWWA 2018 FRESH IDEAS WINNER

James MacKinnon is the Director of the Housing & Infrastructure Department at Atlantic Policy Congress of First Nations Chiefs Secretariat (APC). James began working at APC as a Junior Policy Analyst in 2012 and has worked diligently to bring awareness to the housing and infrastructure challenges of Atlantic First Nations. Currently, James is working toward a Master's Degree in Public Administration at Dalhousie University, and holds Bachelor of Science (Chemistry & Sociology) from Dalhousie. Before working at APC, James



James MacKinnon

spent time as an Assistant Chemical Safety Officer with Dalhousie University's Environmental Health and Safety Office and as a Technical Officer in a Natural Products Chemistry Lab at the National Research Council of Canada.

# ACWWA 2019 FRESH IDEAS COMPETITION

The Atlantic Canada Water & Wastewater Association holds a presentation competition each year at its Annual Conference. All topics must be related to the water and wastewater profession. We look forward to this years exceptional presentations!

The Fresh Ideas program has been developed through AWWA's Manufacturers/Associates Council and the Young Professionals Committee. The top presentation selected from this group of presenters will be given the opportunity to compete in the Fresh Ideas poster competition at the AWWA Annual Conference and Exposition (ACE), representing the Young Professionals of ACWWA.

## Past ACWWA Fresh Ideas Winners Include:

2017 - Dewey Dunningham  
2016 - Royata Sidibe  
2015 - Stefana Egli  
2014 - Timothy Bachiu

2013 - Jeff Diamond  
2012 - Ramona Doyle  
2011 - Amina Stoddart  
2010 - Krysta Montreuil







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