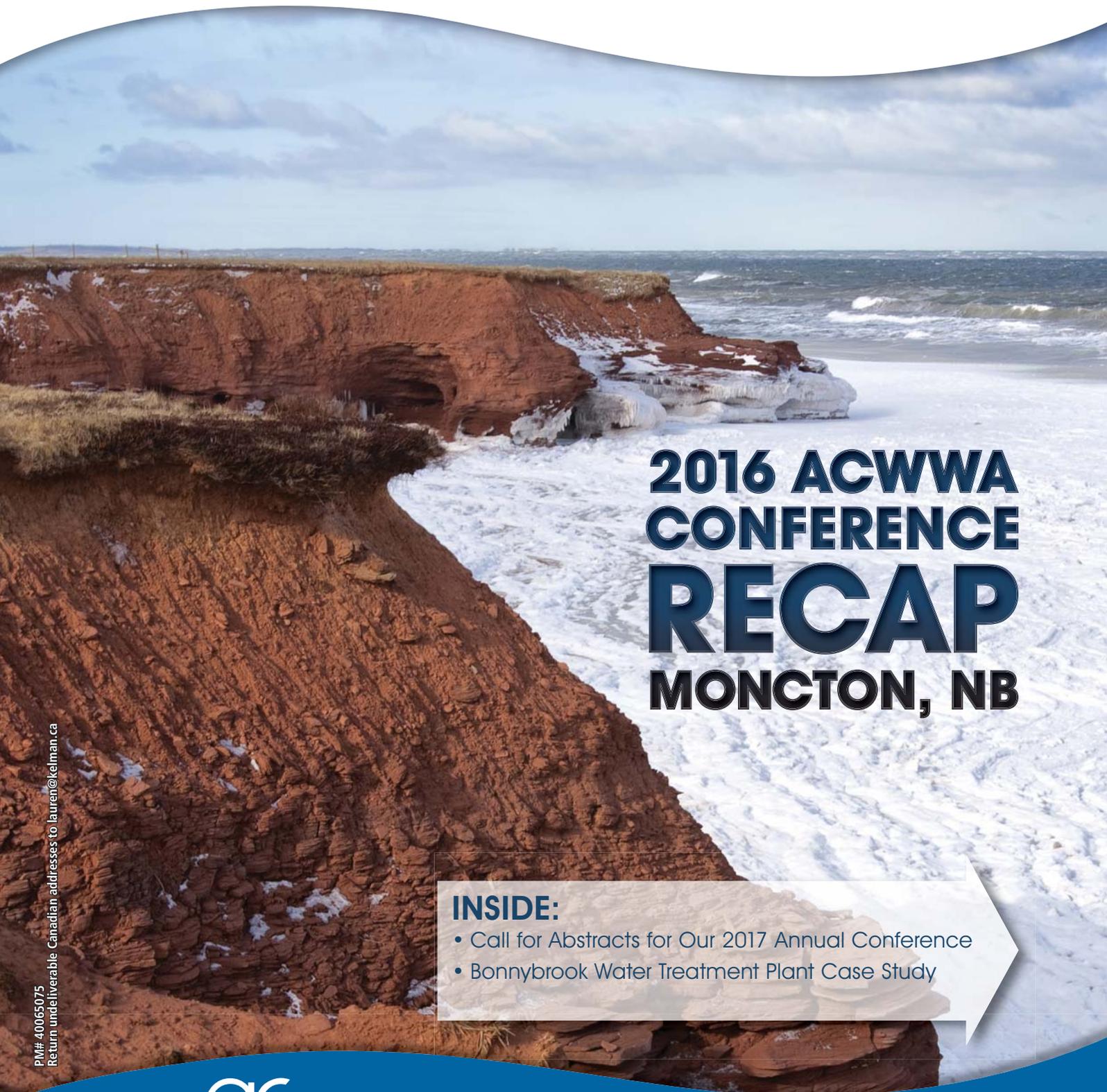


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2016 ACWWA CONFERENCE RECAP MONCTON, NB

INSIDE:

- Call for Abstracts for Our 2017 Annual Conference
- Bonnybrook Water Treatment Plant Case Study

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Infrastructure renewal

As I begin my term as the Chair of ACWWA, the section continues to maintain a strong regional presence and be the leading regional authority in the municipal water and wastewater sector. Our section membership continues to grow, and bucks the trend seen in many other regions represented by AWWA and WEF.

In Atlantic Canada, the 2016 federal budget has introduced significant new capital project funding through the Clean Water and Wastewater Fund (CWWF). The CWWF targets capital projects that are intended to renew infrastructure assets in areas of water treatment and distribution, wastewater collection and treatment, and stormwater management. Each Atlantic province has seen a significant list of projects approved under the CWWF, which will lead to

infrastructure renewal across the region and benefits to many ACWWA members. The 2017 construction season looks to be busy.

The ACWWA annual conference was hosted by the City of Moncton this past October and led by Julie Stokes. The conference continues to be a big success, with growth in our ABEA trade show and strong technical program. The annual conference serves important functions that allow delegates to stay up to date with ongoing initiatives, and maintains benefit to our section members. In 2017 our conference shifts to Charlottetown, PEI. With the historical confederation milestone upon us in 2017, hosting our conference in Charlottetown is a fitting reminder of the importance of municipal infrastructure.

The ACWWA was recently represented by myself, Jamie Hannam,

and Clara Shea at the Regional Meeting of AWWA Section Officers in Morristown, New Jersey. The meetings were a chance to receive updated information from AWWA and understand the position of sections in our geographic region. The issue of lead in drinking water, following experiences in Flint, Michigan, are continuing to dominate agendas throughout the U.S. and AWWA.

I look forward to the coming year and the challenges associated with maintaining our strong section. The board and committees met recently to review our strategic plan for 2017 and new initiatives. I hope that we can continue to improve benefits for our members and be the leading organization for water and wastewater professionals in the region. 

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Strengthening partnerships and collaborations

Welcome to the Winter 2016 edition of the ACWWA *Go With the Flow* magazine. This excellent publication continues to help connect you with the Atlantic Canada water and wastewater industry and your peers. Enjoy the read.

A very large thank you and congratulations goes out to Julie Stokes and her conference committee team for an awesome record-breaking Annual Conference in Moncton. Attendees enjoyed a great balance of technical, networking, and social opportunities. It was my pleasure to host our visiting dignitary from AWWA – Mr. Aurel Arndt, AWWA Treasurer, and his wife Jane.

In conjunction with our new Chair, Mike Chaulk, and our Executive Director, I had the opportunity to attend the AWWA Section Regional Meeting of Section Officers, held in

Morristown, New Jersey, October 14–15. The RMSO, hosted by the New Jersey Section, was a great event to discover opportunities for partnership and collaboration, proliferate ideas, and resolve challenges through Section sharing. We arrived home with new information and many innovative ideas.

The AWWA Canadian Affairs Committee held their 2016 Summit on November 17. Held every three years, The Summit identifies and confirms issues of Canada-wide importance and promotes these issues to Canadian Sections for continued collaboration. The main issues discussed this year included lead service lines, the AWWA Partnerships for both SAFE and CLEAN water, as well as industry and membership trends in Canada. The Summit outputs will guide the CAC for the next three years.

My three-year term as the AWWA Director representing the Atlantic Canada Section comes to an end at the Philadelphia AWWA ACE in June 2017. An ad-hoc committee that included the current director and two past directors managed a selection process to nominate a new Director candidate. At the ACWWA AGM, the incoming Director selection was ratified and Dr. Graham Gagnon was endorsed as the Section Director for the 2017–2020 term. We look forward to the knowledge, skills, and experience that Graham will bring to both the AWWA Board and the ACWWA Board. Congratulations Dr. Gagnon.

The AWWA Winter Board meetings are set for Scottsdale, Arizona on January 13 and 14.

I remain committed to representing our needs at the AWWA level. Please send me your comments or questions to jamie.hannam@halifaxwater.ca.

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NEWS FROM THE PANEL SHOP

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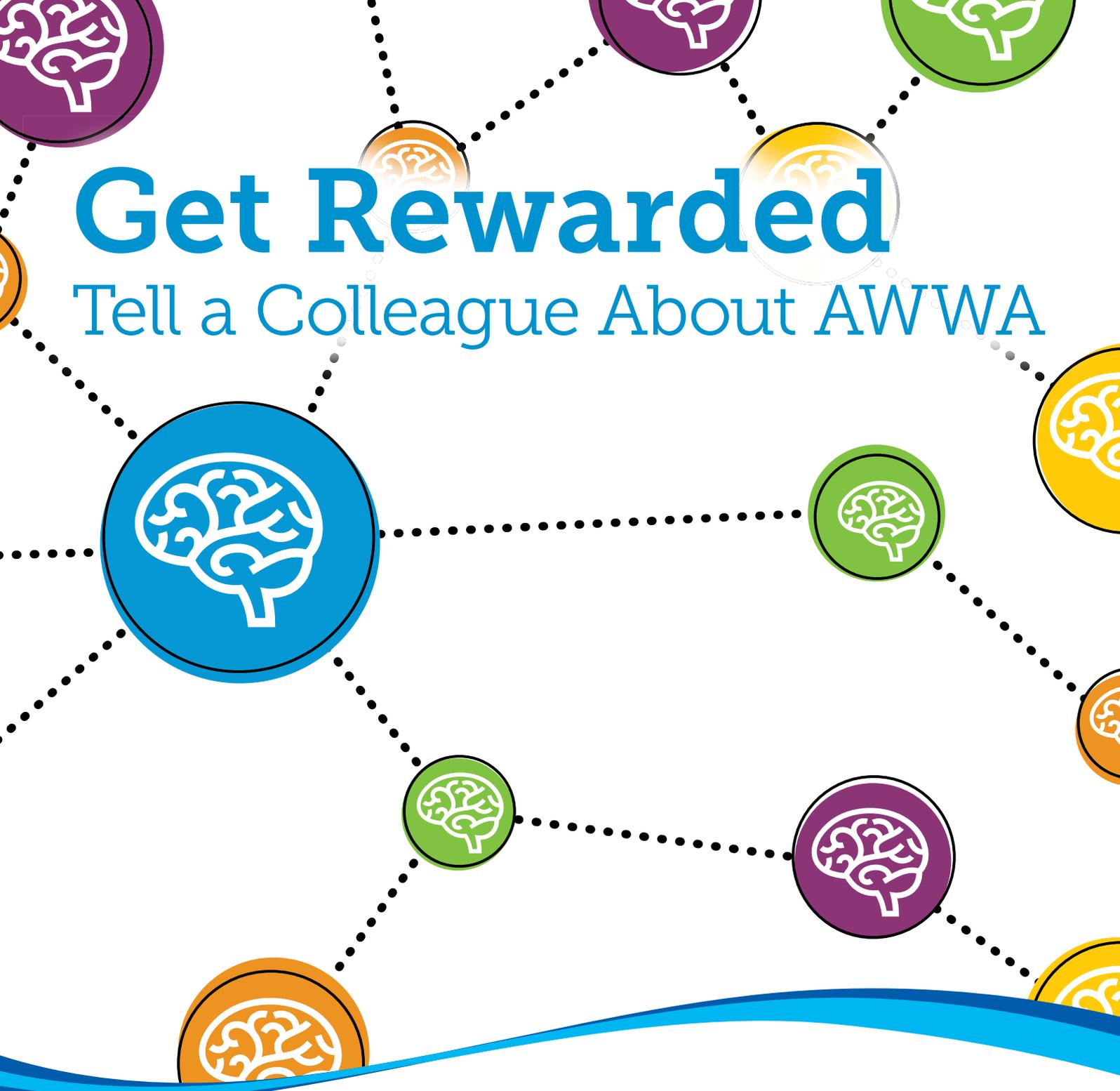
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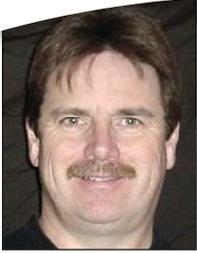


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Helping to promote water awareness

Greetings from the Water Environment Federation. As the Atlantic Canada Delegate and your representative, I figured after reading this information on the Value of Water, it would be a great re-print to publish in *Go With the Flow*. Water is very precious; on a recent trip to San Diego, I heard from the local authorities how the Colorado River is getting to critical levels and San Diego being one of the last users at the end of the river, is at all-time lows on available water to their city and outlying areas. We have been at record low levels here in Atlantic Canada this past summer and I thought this would be a good read – I hope you enjoy the facts below. Although it relates mostly to the United States, I can assure you we are not much different.

Some facts re-printed from the Value of Water Campaign – Water's Value Water and You

Water is life. It nourishes us. It cleans us and sustains us. Put simply, water is you.

- The average American (and likely Canadian) uses 176 gallons of water per day – that's 64,240 gallons a year!
- 40% of water in North America is used to produce the food we eat and the beverages we drink.
- How is water used in your home? On average, 17% goes toward showering, 27% is used by the toilet, your faucet drains 15%, your clothes washer another 22%, miscellaneous needs take up 5%, and those pesky leaks steal another 14%.
- If drinking water and soda pop cost equally, your water bill would skyrocket more than 10,000%.

Water and the Environment

Seventy percent of the Earth is water. From seas to lakes, to rivers and creeks, water is everywhere. Valuing water means valuing our future.

- 349 billion gallons of freshwater are withdrawn every day in the United States.
- 41 percent of that water (143 billion gallons) is used to produce thermoelectric power, another 37% goes to irrigation.
- 4% of US energy is used for transporting, treating, and pumping water.
- More than one-third of all counties in the lower 48 states will face higher risks of water shortages by mid-century as a result of global warming.

Water and the Community

Water connects us. Water is a ride on a boat. Water is a sprinkler, making children laugh with joy. Water brings families and friends together in countless ways.

- 22,284 – the number of gallons used per day by schools based on an evaluation done of schools in the Tampa Bay region.
- The San Antonio Zoo uses approximately 2 million gallons of water a day to care for the animals.
- The National Hockey League collectively uses more than 300 million gallons of water each season – it takes 12,500 gallons to make ice for each rink.
- Sixty-one percent of Americans rely on lakes, rivers, and streams

"The NHL collectively uses more than 300 million gallons of water each season – it takes 12,500 gallons to make ice for each rink."

Water and the Economy

Water is the lifeblood of our economy. We rely on it for manufacturing, energy production, to transport materials across the globe, and more.

- One-fifth of the US economy would grind to a halt without a reliable and clean source of water.
- 46% of water consumed in America is used to produce the manufacturing products we buy.
- 1 to 3.68 – the water jobs multiplier. Every job we create in the water sector helps add another 3.68 jobs in the national economy.
- 1 to 6 – every \$1 spent on infrastructure improvements in the US generates \$6 in returns.

as their source of drinking water. The other 39% rely on groundwater – water located underground in aquifers and wells.

In summary, water is precious and conservation is important, and I hope this article brought forward an awareness of how much we actually use in day to day life and encourage us not to waste this precious resource in our lifestyles. The Canadian Affairs Council of the WEF, which I am a member of, are currently working on the Canadianization of documents like this for our Canadian members. Hopefully in the near future, the facts and figures in an article like this can be related back to Canada; we are working on it. 



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CWWA's advocacy

This update comes just a couple of weeks after the 2016 National Water and Wastewater Conference was held in Toronto. This truly is a conference designed for everyone involved in the water and wastewater industry. The CWWA does an excellent job at attracting great papers covering key industry themes like Regulations, New Technologies, Energy, Climate, Biosolids, Infrastructure, and many others. I strongly encourage you to consider attending next year's conference in St. John's.

One of the main topics at the conference was lead in drinking water. If you thought lead issues in water distribution systems were a thing of the past, (a) you are not alone, and (b) you should make an effort to get current on the latest research. Lead issues are still prevalent in many of our communities and it is important as a water purveyor that you know

"Lead issues are still prevalent in many of our communities and it is important as a water purveyor that you know the facts."

the facts. There are a lot of resources out there to get you started (AWWA, USEPA, etc.).

The CWWA has been in contact with the federal government to acknowledge the tremendous investment it has recently pledged to support water and wastewater infrastructure (\$60 billion) including its focus on green infrastructure. As our government approaches the next phase of infrastructure investment, the CWWA has offered some comments for consideration:

- Allow local governments to help prioritize their own infrastructure investments as they know their

communities better than anyone else.

- Invest in the water and wastewater sector to help achieve energy and climate change targets.
- The federal and provincial governments should develop asset management tools and programs for small and mid-size communities rather than rely on each community to develop their own asset management programs.
- Consider more flexible timeframes in which the federal infrastructure funding needs to spent.
- Consider extended timelines for achieving the WSER requirements and focus more on better solutions and results for the money spent.
- Provide more support for those communities willing to try innovative solutions.

More information can be found in CWWA's paper, "Advocacy and the Federal Budget" on the website, at www.CWWA.ca.



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Appreciating our membership

I would like to begin by introducing myself as your new Membership Director. My name is Julie Stokes and I am a supervisor in the Water & Wastewater Department for the City of Moncton. Many of you may recognize me as past technical paper chair (2012–2015) with ACWWA and most recently as the conference chair for the ACWWA Conference in Moncton, which was held this past September. With my past roles, I have learned a lot about all of the benefits that are available to us as AWWA and WEF members and I am confident that I will be able to pass along some great information to you. In continuation with Amy's hard work, the Membership Corner will continue in our quarterly magazine as well as our annual photo contest. If you have any questions regarding your membership and its benefits, please do not hesitate to contact me at Julie.stokes@moncton.ca or (506) 877-7702.

A warm welcome

A big welcome to our new members over the past few months:

Name	Company	
Aaron Comeau	Macdonald Applicators	AWWA
Jeffrey Knapp	Halifax Regional Water Commission	AWWA
Shannon Grant	ADI Systems	AWWA
Scot Fredericks	L.J. Fredericks Investments Limited	AWWA
Barb Tilley	Town Council of Pouch Cove	AWWA
Royata Amadou Sibide	Veolia	AWWA
Andrea Trask	Municipality of East Hants	AWWA
Town of Portugal Cove-St. Philips		AWWA
Leah Power	Town of Portugal Cove-St. Philips	AWWA
Brett Penney	Dalhousie University	AWWA
Paul Currie	Lindsay Construction	AWWA
Hong An Nguyen		AWWA
Sadman Soumik	Dalhousie University	AWWA
Chris Clarke	Town of Parrsboro	AWWA
Caroline Stratford		AWWA
Randell Dillon	Town of Happy Valley-Goose Bay	AWWA
Tony Barron	Town of Gander	AWWA
Gaylon Giggie	GEMTEC Limited	AWWA
Peter Maynard	Halifax Water	WEF
Patricia Isnor	Halifax Water	WEF
Dave Galbraith	Sansom Equipment Limited	WEF
Kevin Gray	Halifax Water	WEF
Mike Chaulk	CBCL Limited	WEF

As of October 20,2016,

Total AWWA members: **426** | Total WEF members: **109** 

2016 AWWA Photo Contest Winners



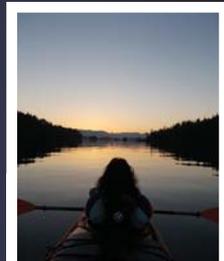
Top Prize:
Valérie Michaud
(Ville de Dieppe)



Runner Up:
Dave Parsons
(CBCL Limited)



Runner Up:
Anthony Mazzoca
(CBRM)



Runner Up:
Kyle MacIntyre
(Dillon Consulting)



Winner of the **Silent Hero Award**, John Lyons



1. **Job title?** Water and Wastewater Operator.
2. **Who do you work for?** Town of Oromocto.
3. **Where do you currently live?** Fredericton NB.
4. **Where did you grow up?** Doaktown, NB.
5. **When I'm not working, I'm...** Sleeping
6. **The accomplishment I'm most proud of is...** Raising my children.
7. **What is your philosophy on life?** Be grateful for what you have. If you want more, work for it. If you don't like something, change it. Stop stressing and complaining.
8. **When you were a kid, what did you want to be when you grew up?** That was so long ago I can't remember.
9. **Last book you read?** I wouldn't stop to read.
10. **Last movie you saw?** Been so long ago I don't remember.
11. **Favourite TV show?** I can't sit long enough to watch TV.
12. **What was the best gift you ever received?** I would sooner give than receive.
13. **What's the most useless thing you ever purchased?** A diamond.
14. **What's your favourite famous quote?** "A family is a gift that lasts forever."
15. **Describe your perfect day.** Get up early, go for a run, work on my stock car, nice meal for supper, and work in the shop again until the early morning.
16. **Who is the most influential person in your life?** My father.
17. **What is your ideal vehicle?** A truck.
18. **How long have you been a member of ACWWA?** 10 years.

"I just enjoy working all the time; my hobbies are woodworking and owning and driving a stock car,

both involve a lot of work. I'm a single parent with one child still at home, so I love spending time with her. I stay very focused on

my work and strive to do everything to the best of my ability and my standards tend to be higher than most." 



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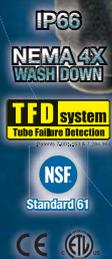
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2016 in review

As we bring the year to a close we would like to highlight the 'Annual Attendance Grant' in its inaugural year. The purpose of the Grant is to encourage participation, and allow those with economic constraints, to have another venue for funding that would allow them to attend the Annual ACWWA Conference and reap its benefits. This past year we were privileged to support three candidates. Municipality of Kedgwick, NB was given funding to send two participants. The third attendee was from NL.

"Thanks to the ABEA I was able to attend this year's conference and I would not have been there without their support. The ABEA grant was the perfect opportunity for me... The grant process was very seamless and headache free, I was given a grant based on my needs...

...I was able to reunite with friends and colleagues and meet new people to have an open discussion about the challenges in the water and wastewater industry. I gained a great deal of knowledge to take back to the office through the technical sessions, I got to see some technologies up close at the tradeshow, and I gained numerous contacts to follow up with after the conference as I work on my projects. This experience was truly invaluable for me and my career." – Gary Caul, RV Anderson, NL

This year, the Trade Show boasted a full house with 77 exhibitor booths. The attendance was robust throughout.



Our golf tournament was well attended with 18 teams playing Fox Creek Golf Course in Dieppe, NB. We would like to take this opportunity to thank all of our individual hole sponsors and the ABEA membership, as a whole, without whose support this event would not be the premiere event it has become in the recent past.



The Monday evening ABEA Common Hospitality Event was held at McSweeney's on Main St. Raglan Road provided the Celtic flavour and a good time was had by all!

We would like to remind and encourage both ABEA and ACWWA members to revisit the scholarship opportunities available to our next generation. The ABEA offers 4 x \$1,000 scholarships annually. For more information or application requirements visit www.abea.biz.

2016/17 ABEA Executive

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 Past President.....Rowena Patenaude
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For other updates on the ABEA, its members, and its affiliates, please check out our Facebook, Twitter, and LinkedIn pages, where you can find the most up-to-date information.

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Recap – Source to/ Source Moncton, NB, September 18–21

By Julie Stokes
2016 Conference Chair

The 69th ACWWA Annual Conference was held at the Delta Beauséjour in Moncton, NB between September 18 and 21. The theme for the conference was *Source to/à Source*.

Once again, the technical program was filled with high-quality technical presentations. This year's program featured 42 technical presentations, technical tours to the Greater Moncton Water Treatment Plant and the TransAqua Wastewater Treatment Facility, as well as a hands-on demonstration led by the City of Fredericton. In keeping with this year's theme, the committee focused on providing its audience opportunities to attend presentations on various projects, and attendees heard solutions on topics ranging from the source of our potable water to the effluent discharged into our water source, and everything in between!

Delegates, suppliers, and companions started the conference at noon on Sunday by enjoying the spectacular scenery and radiant greenery as they golfed at the Fox Creek Golf Course. No rain showers were going to stop these golfers from having a great golf day. On Sunday evening, Gusto hosted the Young Professional Mixer, where young or mature alike shared great stories and knowledge. Attendees then reconvened at the hotel for the Meet & Greet where they were able to network with friends and colleagues, as well as partake in the first ever Water Tower Building Competition, sponsored by Greatario. This was a sure hit where many of the teams were successful at completing the task at hand – but not without a few struggles, brain storming, nor without getting wet! Greatario was also able to take note of those who may not be great additions to their company... Hopefully this activity will be seen again at future conferences!

On Monday morning, the conference officially began with the Opening General Session, which included the presentation of the George Fuller and Ira P. MacNab awards. The Keynote Speaker, Martin Latulippe, certainly left attendees inspired and energized, keeping their full attention while making them laugh with his inspiring life-touching stories. Monday afternoon, more than 30 attendees participated in the annual Water For People 5km run/walk along our riverfront trail. Monday's activities ended with the ABEA Hospitality event at McSweeney's Dinner Theatre, where many delegates/companions/suppliers were seen showing off their dance moves while being entertained by Raglan Road.

Tuesday morning began with the Best of the Best Taste Test where the City of Miramichi took first place, the City

of Moncton took second place, and the City of Fredericton took third place. The judges certainly had a difficult task at hand with 19 samples being submitted. The rest of the morning was followed by the ABEA Tradeshow where suppliers were able to showcase many of their products and network with attendees. The tradeshow was one of the largest, with 77 booths. Tuesday wrapped up with the Down East Feast where entertainment was provided by comedian Julien Dionne and music by Big Bad Party Band. The conference came to a close on Wednesday with the Awards Breakfast (see award recipients below).

The Companion Program once again had no shortage of activities. They were able to experience a winery tour and luncheon at the Magnetic Hill winery as well as a Gastro tour where they experienced Moncton's culinary treasure hunt.

We would like to thank all who were able to join us in Moncton for the conference and also a special thank you to the conference planning committee who worked very hard at delivering another successful ACWWA Annual Conference.

George Warren Fuller award (AWWA award)

The George Warren Fuller Award is awarded by the American Water Works Association (AWWA) and may be presented annually to a member of ACWWA for distinguished service in the water supply field in commemoration of the sound engineering skill, the brilliant diplomatic talent and the constructive leadership that characterized the life of George Warren Fuller. The award was established in 1937 in memory of Mr. Fuller who, besides being identified with several important sanitary engineering advances, is given much of the credit for AWWA's development from a social group to its present high standing as a technical organization.

Peter Hanlon graduated with Honours from Concordia University in 1978 with a Bachelor of Engineering Degree. After a brief period working in the pulp and paper industry and later in manufacturing with Michelin Tires, he returned to Saint John, New Brunswick in 1979, his home city, and began his career as a Design Engineer for the Engineering & Works Department with the City of Saint John, NB where he worked for 24 years. He held a variety of positions in the water and wastewater departments including Operations Engineer, Manager of Water and Sewage Services, and Chief Water Quality Inspector. Although he served in several management roles he was always known for his strong technical abilities and his sound engineering skills. In 1993, he undertook research in conjunction with the Saint John District Medical Health

Officer on the correlation between water lead levels and blood lead levels in individuals serviced by lead service lines. The outcome of this research was the establishment of an advanced lead service line replacement program in Saint John.

He conducted significant research on fluoride issues and oversaw fluoridation of the City of Saint John's water supply and arranged training programs for water plant operators through the Centres for Disease Control in Atlanta, Georgia.

He collaborated with NB Community College instructors to develop a training program for water utility workers that lead to certification of operators and distribution personnel. The program has since grown significantly and has helped provide training to hundreds of operators since.

Peter retired from his career about six years ago, but continues to serve... whether it is his service to his community or our industry, he continues to contribute in any way he can. A great example of this is the fact that he presented a paper at this conference in Moncton, helping to spread the message about the good work Water For People is doing around the world. He is a true steward of our industry. The Atlantic Canada section is very proud of him, and grateful for the contributions he has made to the water industry across Canada.



Ira P. MacNab award (ACWWA award)

The Ira P MacNab Award is awarded by ACWWA and may be presented annually to a member of the ACWWA

for outstanding service to the water industry in Atlantic Canada. The award was established in 1957 when the ACWWA was called the Maritime Branch of the Canadian Section AWWA. It is in honour of the late Dr. Ira MacNab, P.Eng., the first president of the Maritime Branch, for his untiring efforts and wise council during our formative years and to recognize his outstanding service and interest in the local water utility field.

Greg Penney has worked for the water utility in the Cape Breton Regional Municipality for the past 26 years. Prior to amalgamation, Greg worked for the City of Sydney, and then the Cape Breton Regional Municipality in the role of Operations Manager. Greg has been a member of ACWWA for more than 20 years. In that time Greg has been involved in a range of roles and responsibilities, and has been a constant attendee of both the sectional ACWWA conferences and broader level AWWA conferences including ACE. Greg's wife Shelley, and his two children Brett and Brianna, have been carried from coast to coast attending various AWWA events over the last 20 years. As described by his own utility staff, Greg is a person you can depend on. He has been a supporter of AWWA and ACWWA for two decades. He continues to encourage new and younger utility staff to join the ACWWA and attend training sessions and conference events. For example, Greg wasn't planning to attend this years' ACWWA conference in order to allow the bulk of his younger utility staff to have the opportunity to enjoy the benefits of the organization. In recognition of his long-standing support for the organization and contribution to the expertise in managing a complex multi-system water utility in the region, the ACWWA is proud to award Greg Penney with the 2016 MacNab Award.



Silent Hero Awards:

The Silent Hero Award is awarded by ACWWA and may be presented annually to recognize outstanding contributions of water and wastewater operators in each of the four Atlantic Canada provinces.

NB Silent Hero

Gabriel Belliveau is described as indispensable by his colleagues with the City of Dieppe. His expertise, good humour, and trouble-shooting skills make him a remarkable person. For many years, Gabriel has participated on Moncton's Top Ops team and this year led

the sponsorship program for the 2016 ACWWA Conference, making it one of the most successful programs to date. It should also be noted that he has great collaborative skills when building a water tower out of sticks and straws.



NS Silent Hero

Francis Romard is the Lead Operator in the CBRM water treatment department of Cape Breton Regional Municipality (CBRM). He is a wealth of knowledge with more than 35 years of experience, and has been an important component to the growth and modernization of CBRM water treatment plants and operations.

PEI Silent Hero

Greg Jay started work with the Town of Souris as Maintenance Assistant 2006 and in January of 2016 he was promoted to Supervisor of the Maintenance Department. In his off-time hours he works as a Certified Operator for the Community of St Peter's looking after their collection and wastewater treatment systems. Greg is a level II certified WD, WWT, WWC operator and holds several safety-orientated certifications.

He is keen to attend training seminars and workshops whenever possible to stay on top of new regulations and policies in the water distribution, wastewater collection, and wastewater treatment area.

As an employee of the Town of Souris, Greg has demonstrated solid skills and abilities. He is knowledgeable in all aspects of his job, especially in



the water and wastewater department. His friendly personality makes him a favourite with all of our residents, staff, and Councillors. He is praised for his fast, efficient and first-class completion of every task he takes on. He can put his hand to just about anything, from carpentry to mechanical, plugged sewer lines or water breaks – you name it, Greg is the guy.

Greg is also a Certified Volunteer Fire Fighter with the Souris Fire Department and a First Responder.

NL Silent Hero

Wayne Tait began working with the Town of Grand Falls – Windsor in January 2003 and since 2011 he has the position of Supervisor of Engineering and Works and is the Manager of the Exploits Regional Services Board Water Treatment Plant. This plant services the communities of Grand Falls – Windsor, Bishop's Falls, Botwood, and Peterview. He communicates with all of these communities on a daily basis and reviews daily chlorine residuals to balance chlorine outputs for their mutual protection.

Wayne encourages all operators under his supervision to partake in all available educational and training opportunities. Wayne intends to write his Water Treatment Level IV certification exam in the very near future. Wayne has made significant operational changes in the water treatment plant resulting in reduced maintenance costs and chemical consumption, which is a big factor in why they have seen an improvement in water quality. Under Wayne's supervision, the communities have seen a reduction in their disinfection byproduct formation and the town's Drinking Water Quality Index has been excellent.

Wayne is a valuable asset to the Town's management team and is available any hour of the day to provide his professional insight on any issue that may arise.



Fresh Ideas Winner

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), representing the Young Professionals of ACWWA. Along with complimentary conference registration provided by the ACE organizing committee, ACWWA will provide the winner with a stipend to assist with travel costs to the conference.

Born in West Africa in Mali, Royata Amadou Sibidé spent a major part of her childhood in the Capital of Bamako. She has always been fascinated by the environment but mostly hydraulics, hydrology, and water treatment. Because of this, in January 2011 Royata enrolled at the University of Moncton in Civil Engineering where she graduated with Honours.

In June 2014, she completed an internship with “Société des eaux de Marseille” in France. This opportunity permitted her to familiarize herself with troubleshooting water quality parameters in potable water reservoirs as well as in the field hydraulic calculations in the watershed.

Finally in June 2015, she accepted a position with Veolia as a Water Treatment Plant Operator and Safety Officer for the Greater Moncton Water Treatment Plant. She works as a treatment plant operator under the lead operator to oversee the daily operations within all facilities, performs laboratory testing, monitors process waters and making the necessary adjustments to meet and exceed effluent limits, performs monthly safety meetings, and completes minor maintenance and work orders on equipment/analyzers. Her role as an operator, as well as her training, remind her every day the value and importance of safety at work while delivering a high-quality service to the tri-community by ensuring the best quality potable water.



Young Professional Award

The Young Professional Award recognizes a Young Professional within the Atlantic Canada Water & Wastewater Association for outstanding contributions to the water & wastewater industry, and to the ACWWA Young Professionals' committee.

This year's winner, Brad McIlwain, was nominated by multiple colleagues. According to one of the many nominations, “Brad’s energy and passion for the tasks he was involved with is infectious.” His positive attitude and contributions during strategic planning were well received

and forward thinking.” Brad is an engineer with CBCL Limited in Halifax and a graduate of Dalhousie University.



Volunteer of the Year Award

The Volunteer Recognition Award is awarded by ACWWA and may be presented annually to recognize outstanding contributions by an individual or a group of individual volunteers to ACWWA programs and/or the water industry throughout Atlantic Canada.

Shawn MacDonald graduated from the University College of Cape Breton in 1990 with a Diploma in Civil Engineering Technology and Construction Engineering Technology. He joined Halifax Water in 1992 and early in his career became the utility’s Cross Connection Control Technologist. Shawn was instrumental in the development and implementation of Halifax Water’s Cross Connection Control program modelling industry best practices. Leveraging his skills and experience in CCC, Shawn volunteered to join the ACWWA CCC Committee and has been a key member and driver within this group for many years. His biggest contribution to the CCC community and ACWWA has been in his ongoing role of CCC Certification Officer. In this role Shawn manages the process to accredit Educational Institutions to deliver Cross Connection Control Courses, and manage the monitoring and approval of certification of individuals successfully completing the CCC Specialist and/or the Surveyor courses.

For his significant dedication and advancement of Cross Connection Control in Atlantic Canada, Shawn MacDonald was awarded the 2016 ACWWA Volunteer of the Year Award.

Project of the Year Awards

The project of the year award is an Engineering Award/ Environmental Award and is awarded by ACWWA to a Municipality or Utility and their Consultant, one of which is a member of ACWWA, to recognize outstanding projects in Atlantic Canada that demonstrate innovation and state-of-the-art technology in water or wastewater projects. This year we had a recipient in both the small and large utility categories.

Large Project of the Year (more than 25,000 customers)

A Halifax Water project, the Lake Major Dam is a rock-filled timber crib structure built in the 1940s at the outlet of Lake Major, the water supply for the Lake Major Water Supply

Plant. A 2012 dam safety review found that the dam was at the end of its life and recommended the construction of a new dam. Planning began immediately to replace the dam. During a significant rain storm in December 2014, a limited structural failure occurred in the timber fish ladder and the dam was at risk of failing. An emergency operation to stabilize the fish ladder with rock was successfully completed in January 2015. As a result of this work, fish passage up to Lake Major was blocked. Halifax Water was mandated by Nova Scotia Environment and the Department of Fisheries to provide ongoing fish passage. Halifax Water investigated various options to maintain fish passage. The option that was selected was the use of a fish pump. The fish pump works by drawing water and fish under vacuum into a holding tank from the downstream side of the dam. Once the tank is full, the vacuum is reversed and pressure pushes the fish out of the tank to the upstream side of the dam. The fish pump that Halifax Water purchased was manufactured in Bedford, Nova Scotia. Halifax Water hired a local environmental consulting firm to operate the fish pump during the fish migration season. During both the 2015 and 2016 fish migration seasons, more than 30,000 fish were lifted over the Lake Major Dam. It is anticipated that the fish pump will be required for another two fish migration seasons until a new dam and fish ladder are constructed. Using a fish pump for this purpose is not

common. However this project has demonstrated that a fish pump can be used as an innovative and viable means to move fish across obstructions such as dams in waterways.

Small Project of the Year (less than 5,000 customers)

The Rural Community of St-André, NB saw the replacement of a facultative lagoon with a new wastewater treatment facility discharging to a small tributary of the Saint John River. The new wastewater treatment facility includes integrated screening and grit removal, a moving bed bioreactor (MBBR), Actiflo clarification, and UV disinfection. This project also has an additional feature of maintaining the facultative lagoon to handle clarifier backwash, with the supernatant discharging into the headworks of the wastewater treatment facility. Additionally, a new lift station was designed and constructed. The innovative design for this lift station sends any excess flow to the lagoon where it is kept in temporary storage until the wastewater treatment facility can treat the wastewater, enabling the facility to avoid short circuiting or bypasses during mechanical breakdowns, power outages, or large precipitation events. This project has successfully resulted in a greatly improved effluent quality and the ability to eliminate treatment bypasses due to creative engineering design. The project was led by the engineering consulting firm Boissonault McGraw. 



ACWWA 2016 Companion Program



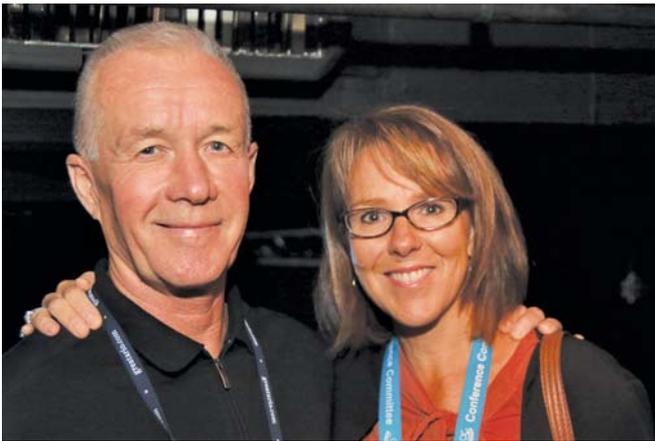
Companion Program attendees enjoyed the Monday Luncheon - hosted by Janet Everett of The Magnetic Hill Winery.



We would also like to thank our Tuesday Luncheon Hostess, Tammy Brideau of Goute Ca (Taste This!).

Conference Highlights







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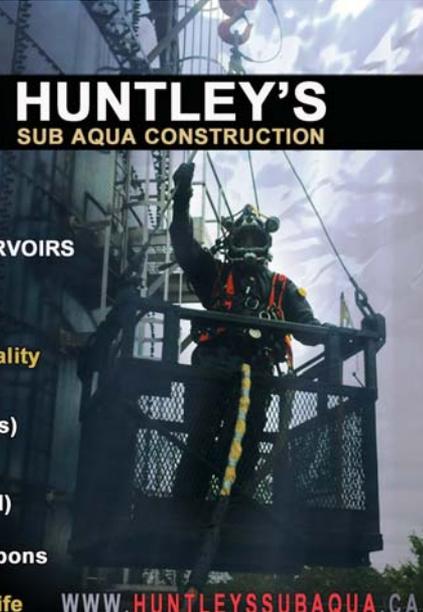
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Call for abstracts – “Serving Our Nation”

ANNUAL CONFERENCE

Come celebrate Canada’s 150th anniversary in the cradle of confederation at the 2017 Atlantic Canada Water and Wastewater Association conference in Charlottetown, PE. The committee is targeting a first-class technical program for the 2017 ACWWA Annual Conference, being held for the first time at the PEI Convention Centre located on the beautiful Charlottetown waterfront and

surrounded by some of the city’s best shops, restaurants, and pubs.

It is fitting that in the city where our nation was built, the theme of the 2017 ACWWA conference highlights how the water and wastewater industry is “Serving our Nation” with the supply of safe drinking water and development of innovative and sustainable wastewater solutions. Please join us in Charlottetown to share your experiences and expertise and show

industry professionals how you are “Serving Our Nation.”

Share our island hospitality with friends and colleagues at the kitchen party and discuss the many issues, challenges, and successes we as water and wastewater professionals have had in the production, treatment, and conveyance of water and wastewater. The conference will feature technical sessions, the ABEA tradeshow, networking opportunities, and the ever popular ‘Top Ops’ competition.

ORAL PRESENTATIONS

The ACWWA is inviting abstract submissions for the 2017 Conference in Charlottetown, PE. All topics related to the water and wastewater profession will be considered. Presentations will be 20 minutes in length with 5 minutes for questions.

INSTRUCTIONS FOR SUBMITTING ABSTRACTS

Please submit an abstract (maximum length of 300 words), a presenter biography (maximum length of 200 words), and copyright release form at www.acwwa.ca by **March 3, 2017**.

Also, please indicate if the presenter (oral presentation or poster) is a first-time Young Professional participant at the ACWWA section conference, and would like to 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 2018) in **Las Vegas, Nevada**, representing the Young Professionals of ACWWA. Along with complimentary conference registration provided by the ACE 2018 organizing committee, ACWWA will provide the winner with a stipend to assist with travel costs to the conference.

SELECTION CRITERIA

Submissions will be reviewed based on the significance of the work/content to a broad audience, originality of the work, new concepts, improvements or new data, technical content, the status of the completeness of the work, and the relevance to the theme of the conference if applicable. Case studies on new technologies and industry presentations that are innovative/educational are encouraged, however submissions that appear to be marketing material for a particular product or company will not be accepted.

Authors will be notified of the selection of their abstracts for presentation by the end of May 2017.

POSTER SESSION – NEW

ACWWA is pleased to announce an opportunity for students and young professionals (YPs) to present a poster at our 2017 Annual Conference to share the results of their work and/or academic projects/research. This is a great opportunity to learn about our evolving water and wastewater industry and network with peers and industry professionals.

Abstracts for the poster session will be reviewed by the same Selection Criteria as listed for oral presentations. When submitting an entry form, please follow the Instructions for Submitting Abstracts but be sure to toggle to 'poster presentation.' NOTE: If you are a Fresh Ideas delegate, please indicate when submitting your entry form and your poster will be judged as part of the Fresh Ideas competition. Best poster at the conference will be awarded a prize of \$250.

Thank you for your submissions and we look forward to seeing you in Charlottetown! 🌊



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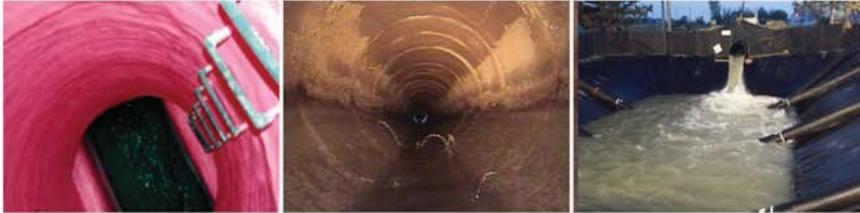
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Managing lead in drinking water distribution systems

Lunch & Learn Highlights

On October 24, the ACWWA Technical Knowledge Committee hosted its first Lunch and Learn. Ben Trueman (PhD Candidate, Dalhousie University) and Dr. Wendy Krkosek (Water Quality Manager, Halifax Water) gave talks on **managing lead in drinking water distribution systems**. These presentations highlighted results from a research partnership between Dalhousie University and Halifax Water through the NSERC/Halifax Water Industrial Research Chair in Water Quality and Treatment Program lead by Dr. Graham Gagnon.

Ben and Wendy talked in detail about all things lead, including: full and partial lead service line replacements, use of phosphate as a corrosion inhibitor, the correlation between cast iron mains and lead release, at-the-tap sampling/monitoring strategies for lead exposure, and exposure reduction initiatives post-disturbance/construction. Highlights from these talks include:

Lead Service Line Replacement

The industry is moving toward removal of all lead service lines, both public and private. Data from

Halifax shows that partial lead service line replacement is not a reliable strategy for lead reduction. As a result, Halifax Water stopped conducting partial lead service line replacements in 2012.

Sampling Strategy

Current Health Canada Guidelines outline 1-L, first draw samples after 6-hours stagnation for residential corrosion control compliance. Profile sampling in Halifax shows that this sampling protocol does not capture peak lead concentration at the tap. Halifax Water now uses profile sampling (4 x 1-L samples and a 1-L flush sample post 6-hour stagnation) to understand lead exposure at the tap.

You can also read more about Ben's work in *Environmental Science & Technology*:

- Trueman, B. F. and Gagnon, G. A. (2016). Understanding the Role of Particulate Iron in Lead Release to Drinking Water. *Environmental Science & Technology*, 50 (17), pp. 9053-9060.
- Trueman, B. F., Camara, E. and Gagnon, G. A. (2016). Evaluating the Effects of Full and Partial Lead Service Line Replacement on Lead Levels in Drinking Water. *Environmental Science & Technology*, 50 (14), pp. 7389-7396.

If you would like to view the recorded presentations, visit the Technical Knowledge Committee on YouTube: <https://www.youtube.com/channel/UCVw28diBru2wBlhXkkQbqw>

The Latest in Lead Resources from AWWA and Beyond

Journal AWWA:

- **Quantifying Lead-Leaching Potential from Plumbing Exposed to Aggressive Waters.** Pieper et al., September 2016, 108 (9), pp.



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E458-E466, DOI: <http://dx.doi.org/10.5942/jawwa.2016.108.0125>

- **Typical Kitchen Faucet-Use Flow Rates: Implications for Lead Concentration Sampling.** Gregory, W., July 2016, 108 (7), pp. E374-E380, DOI: <http://dx.doi.org/10.5942/jawwa.2016.108.0085>
- **Why Flint Matters.** Rothstein E. P., July 2016, 108 (7), pp. 36-42, DOI: <http://dx.doi.org/10.5942/jawwa.2016.108.0136>
- **Roundtable – The Flint Crisis.** McGuire et al., July 2016, 108 (7), pp. 26-34, DOI: <http://dx.doi.org/10.5942/jawwa.2016.108.0137>
- **Open Channel – Restoring Faith.** LaFrance, D. B., April 2016, 108 (4), pp. 10, DOI: <http://dx.doi.org/10.5942/jawwa.2016.108.0068>
- **National Survey of Lead Service Line Occurrence.** Cornwell et al., April 2016, 108 (4), pp. E182-E191, DOI: <http://dx.doi.org/10.5942/jawwa.2016.108.0086>
- **Copper Corrosion Under the Lead and Copper Rule Long-Term Revisions.** Roth et al., April 2016, 108 (4), pp. 56-61, DOI: <http://dx.doi.org/10.5942/jawwa.2016.108.0062>

Water Research Foundation:

- **Lead and Copper Corrosion: An Overview of WRF Research.** Cuppett, J., October 2016 Update, www.waterrf.org/resources/StateOfTheScienceReports/LeadCorrosion.pdf

Opflow:

- **Customer Service Drives Quest for Lead-Safe City.** Verna et al., September 2016, 42 (9), pp. 12-14, 16, DOI: <http://dx.doi.org/10.5991/OPF.2016.42.0052>
- **Utility Adopts a Complete Lead Service Line Replacement Strategy.** Krkosek, W., August 2016, 42 (8), pp. 12-15, DOI: <http://dx.doi.org/10.5991/OPF.2016.42.0046>
- **Get the Lead Out!** Roost, R., July 2016, 42 (7), pp. 10-13, DOI: <http://dx.doi.org/10.5991/OPF.2016.42.0039>

Upcoming Webinars:

- **Distribution System Management: Water Quality Monitoring and Response**
Date: December 7, 2016
Time: 11:00 am – 12:30 pm MT
Register: www.awwa.org/store/productdetail_event.aspx?productid=59969686

US EPA:

- **Lead and Copper Rule Revisions White Paper.** US EPA, Office of Water, October 2016, Washington, DC 20460. https://www.epa.gov/sites/production/files/2016-10/documents/508_lcr_revisions_white_paper_final_10.26.16.pdf

Have more questions about lead? Visit AWWA's **Lead Resource Community** at www.awwa.org/resources-tools/water-knowledge/lead



Have topics that you would like to see highlighted by the ACWWA Technical Knowledge Committee? Contact Committee Chair, Amina Stoddart, at amina.stoddart@dal.ca.

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Case study: Heavyweight grit removal system for Calgary wastewater treatment plant

Co-author: Zorica Knezevic, Senior Project Engineer, City of Calgary Water Resources

The City of Calgary's largest wastewater treatment plant is investing in a high-performance Advanced Grit Management® system from Hydro International that will effectively remove large amounts of grit as an essential contribution to operating efficiency.

The City of Calgary has installed the world's largest ever HeadCell® grit removal, classifying, and dewatering system to protect downstream processes at the Bonnybrook WWTP from abrasion and grit deposition and thereby reduce maintenance and operating costs. The new system is designed to treat a peak flow rate of 1,390 megaliters/day (368 MGD).

Bonnybrook, one of Calgary's three wastewater treatment plants, is being upgraded to serve the City's growing population. The new system had to be built in the limited space available and still cope with the unique characteristics of the influent wastewater at Bonnybrook, including wide variations in flow caused by dry summers and peak winter thaw.

BONNYBROOK'S GRIT CHALLENGE

"High performance grit removal is important to achieve lower operation and maintenance costs and retain the specified capacity of downstream process units, such as bioreactors, fermenters and digesters," says Senior Project Engineer Zorica Knezevic, City of Calgary Water Resources. "For example, we had noted that up to 20% of the digesters' tank volume was taken by settled

grit with the previous technology. Wear and tear on equipment was also a factor, and removing grit was part of periodic maintenance; we estimated it at approximately 6,000 man hours annually."

CLIMATE-DRIVEN GRIT HEADACHES

Adequate grit removal is particularly important to Calgary's wastewater treatment given the city's location and topography. The largest city in Alberta and the fourth largest in Canada with over one million people, Calgary is situated on the confluence of the Bow and Elbow Rivers. Warm dry summers produce plenty of wind-blown dust and sand and in the severe northern prairie winters, heavy ice and snow are frequently interrupted by warm Chinook winds that sweep up from the south as the Arctic fronts temporarily retreat.

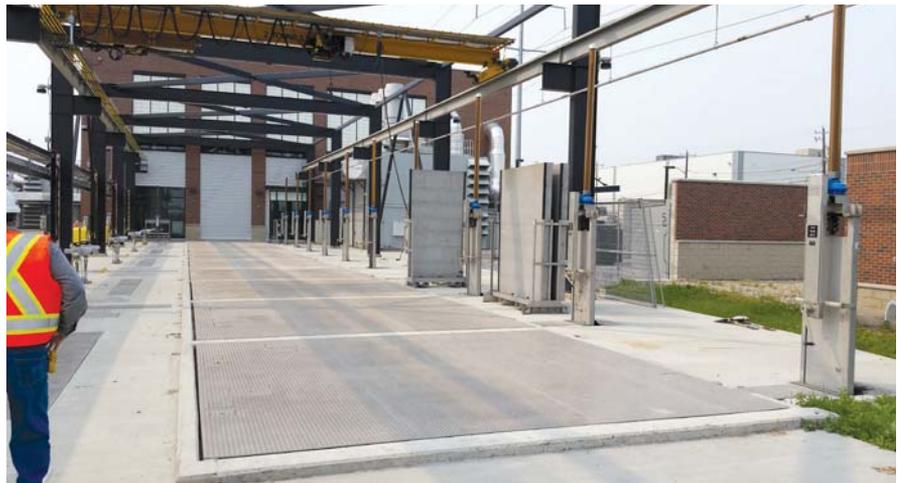
The resultant rapid thaws can leave the streets awash with runoff and sand used for winter road safety.

While much of Calgary's sewer system is sanitary sewer, significant portions of the old sewers are combined stormwater and sanitary systems. The collected wastewater leads to high concentrations of grit in the raw sewage as well as much additional grit carried in highway runoff.

EQUIPMENT SELECTION

Consultant engineering firm Stantec was hired to design the new headworks and pre-qualify the suppliers.

Ryan Roberts, P.Eng., PMP, Vice President – Water at Stantec, comments: "The Bonnybrook WWTP project is a complete replacement of the headworks



Hydro International's HeadCell® grit removal units are installed under protective covers

facility. Other, separate projects are in hand to upgrade other plant facilities, including many new processes.

“For the headworks project, we included maintenance costs in the lifecycle evaluation of technology options and project justification. The project scope includes screening and grit removal; screening, washing, and compacting; grit classification and dewatering; solids conveyance and storage; and flow distribution and measurement.

“As the removal efficiency of the existing aerated grit tanks was low, and passed on much grit to accumulate in downstream processes, grit characterization had already been assessed by the City in a separate exercise. This was necessary to develop an accurate design basis for a cost-benefit evaluation of the various treatment alternatives considered.”

The grit characterization study determined the plant influent grit gradation and settling velocity as well as evaluating the performance of the existing aerated grit chamber system.

The study found that the existing grit system was removing only 26–29% of the influent grit. It also identified the reason: virtually all of the influent grit had a settling velocity lower than a 212 micron sphere of silica sand, a conventional design point, for which the original plant was designed.

Pat Herrick, Regional Sales Manager for Hydro International, added: “Grit characterization to determine the size distribution and settling velocity

profile of the influent grit is essential when designing a new grit removal system for a plant of this size.

“By having the grit characterization data available, Stantec was able to work with the City to determine the grit removal system performance requirements that formed part of the system specification. These requirements were part of a pre-selection Request for Quotation that was written by Stantec.”

The Request for Proposals package included the native grit characterization data, project performance requirements as well as performance testing and penalty requirements. Hydro International was pre-selected based on its ability to remove grit particles as fine as 75 micron along with other performance and operational features, together with a proven track record at other regional installations with similar performance requirements.

The grit removal system was pre-selected by the City and later novated to the general contractor. As a part of pre-selection requirements, Hydro was under obligation to provide equipment shop drawings, based on which Stantec developed the tender package for the General Contractors. During the design phase, CFD analysis was performed to determine optimum influent channel design for the ten HeadCell® units.

BIG PROTECTION, SMALL FOOTPRINT

The complete headworks process includes new 6 mm bar screens, screenings washer/compactors, and

new screenings conveyors. Each of the ten HeadCell® units then removes and concentrates fine grit, which is pumped to a SlurryCup™ classifier unit that cleans the grit to minimize the associated organic material. Washed out organic material is returned to the treatment plant.

The washed grit slurry flows by gravity to a Grit Snail® dewatering unit to produce a dewatered grit with an average of no more than 20% volatile solids by weight and greater than 60% total solids. There are five Grit Snail® units, each with two SlurryCup™ units mounted on top. This configuration saves space and capital cost.

Washed grit is disposed of to landfill. It has to pass the standard ‘paint filter’ test – an assessment of free-draining liquid from waste solids through standard filters.

GUARANTEED GRIT REMOVAL RATE

Each of the ten HeadCell® units supplied to the upgraded Bonnybrook WWTP meets the peak flow specification of removing 95% of all grit at 150 micron and larger, at Specific Gravity (SG) 2.65, at a flow of 1,390 Megalitres/day (368 MGD) from screened sewage. At the normal flow design maximum of 418 ML/d (110 MGD) the units will remove 95% of all grit of 75 microns (SG 2.65) and larger from screened sewage. The first sewage began to flow through the system in late August 2014.

Commissioning included successful performance testing of the Hydro grit removal system by an independent third party.

Zorica Knezevic concludes, “After commissioning, the Bonnybrook grit removal plant continues to perform well.”

For further information, email wastewaterinquiry@hydro-int.com, visit www.advancedgritmanagement.com or www.hydro-int.com, or call (503) 615 8130. 



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