

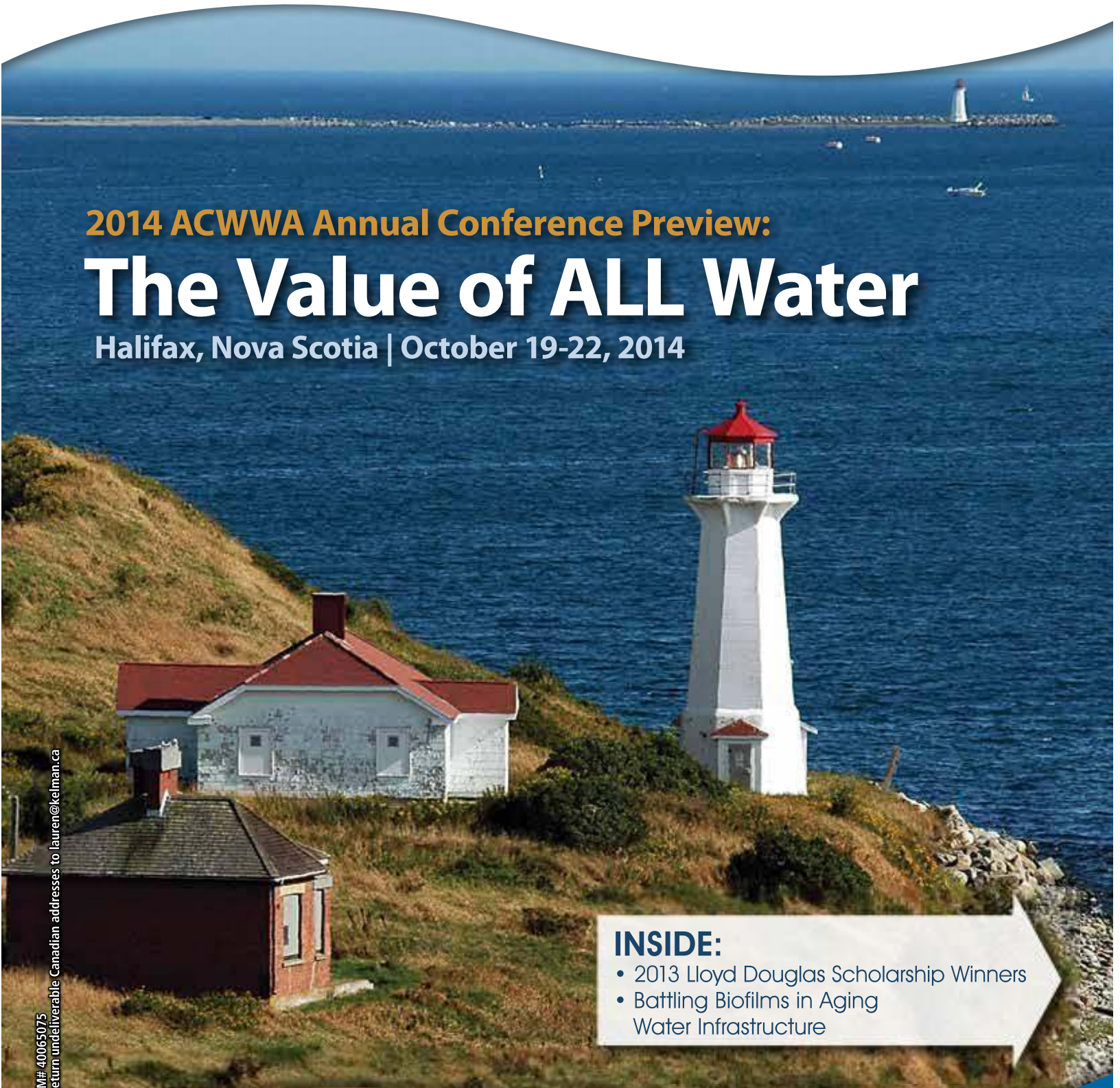
GO with THE FLOW

THE OFFICIAL PUBLICATION OF THE ATLANTIC CANADA WATER AND WASTEWATER ASSOCIATION

2014 ACWWA Annual Conference Preview:

The Value of ALL Water

Halifax, Nova Scotia | October 19-22, 2014



INSIDE:

- 2013 Lloyd Douglas Scholarship Winners
- Battling Biofilms in Aging Water Infrastructure

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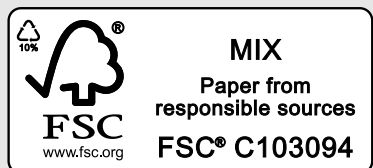


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Polar vortex & groundhog predictions

Blizzards, freezing rain, arctic blasts, polar vortex, and groundhog predictions. Winter 2014 is behind us now, which found many of us searching for our warmest coats and digging out of our driveways, over and over again. To quote Carl Reiner, “A lot of people like snow. I find it to be an unnecessary freezing of water.” For those who love winter sports and activities, it was a great old-fashioned winter. For the rest of us, perhaps watching the Olympic Winter Games in Sochi, Russia, to cheer on our Canadian athletes and catch glimpses of palm trees made the snow shovelling events in Atlantic Canada easier to get through. I am hoping that by the time this edition of *Go With the Flow* magazine hits your mailbox, we can say that Shubenacadie Sam was correct with his prediction of an early spring, and both of our Canadian hockey teams got the gold!

The ACWWA Board and Committees have kept busy over the winter months to continue providing our members the tools, knowledge, and

connections to grow our careers in the water and wastewater industry. Roll-out of our spring education program, YP events and mixers, Well Tapped *Water For People* fundraising event, review and decisions on scholarship awards and technical papers for our annual ACWWA conference are just a few examples of the work of our volunteer members over the last several months. There is a significant amount of planning and time that goes into each of the programs, outreach, and events we coordinate for our members, and I would like to thank all of our volunteers for their continued dedication to ensuring ACWWA offers all it can to our members.

This June, the AWWA Annual Conference & Exhibition returns to Boston, Massachusetts for the first time in 40 years. We are very proud to have the City of Fredericton team compete in *Top Ops Contest*, and the Halifax Water entry in the ‘Best of the Best’ *Tap Water Taste Test Finals*. In addition, Jeff Diamond of RV Anderson will be representing ACWWA section in the *Fresh Ideas* poster competition.

If you are in Boston, make sure you check out these competitions that bring together all of the AWWA sectional winners, and show your support to our ACWWA members! Our *Fresh Ideas* program at the ACWWA Annual Conference has certainly grown over the years, and we have seen excellent presentations from our Young Professionals members. We are looking forward to another excellent technical program in Halifax this fall, put together by our technical papers team of Heather Daurie, Julie Stokes, and Jennie Rand and their committees. ACWWA 2014 conference theme is ‘The Value of ALL Water’ which I am sure will deliver an engaging event for us in Halifax, Nova Scotia this October.

Do not forget to submit nominations of members in our association who you feel are deserving of one of our ACWWA Awards. The nomination sheet is included in this edition of the magazine, and deadline for submissions is May 31, 2014. Let us make sure our members get recognized for their work in the water and wastewater fields and their contributions to ACWWA! ☺

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AWWA's new initiatives

AWWA held its winter Board meeting in Austin, Texas in January. One of the highlights was the election of officers. Gene Koontz of Pennsylvania was elected as Incoming President-Elect. Gene is a Vice President with Gannett Fleming in Harrisburg, Pennsylvania. Gene takes office as President at ACE 15 in Anaheim. Tom Moulton of the Ontario section was one of five Vice Presidents elected. Pete Samson, a YP, also from the Ontario section, was elected as Service Provider Director-at-Large. Tom and Pete take office at ACE 14 in Boston.

AWWA is working hard to implement its new strategic plan. At the winter board meeting, three initiatives were approved by the AWWA board, which are the first

major steps in transforming the organization.

The first of these initiatives is the formation of the Community Engineering Corp. This is a joint initiative of AWWA, the American Society of Civil Engineering, and Engineers Without Borders - USA. The goal of the Corp is to provide volunteer opportunities to AWWA members to work to improve infrastructure, including water supply, in underserved communities within the United States, such as remote small systems and aboriginal communities. While this program is specific to the United States for now, AWWA staff is aware of the interest of Canadian AWWA members to serve similarly underserved communities in Canada and will be looking for opportunities to expand it to Canada. You can learn more about

the Corp on the AWWA website (www.awwa.org).

AWWA is also in the early stages of establishing a philanthropic foundation. Early work has determined that there is significant potential in such a foundation. If established, the foundation could support worthwhile initiatives such as a greatly expanded scholarship fund for both students and AWWA. The action taken at the Board meeting was to establish an advisory committee to guide the strategic development of the foundation.

The third initiative was for the Board to approve further development of a business plan to explore the establishment of an office in India. India is a large market where AWWA products are well known and used today and where there lacks a single organization to unite the water community as we have here in North America. India is also one of the countries identified in AWWA's international strategy.

I hope as many members as possible will use the opportunity of ACE being in Boston in June to attend the world's largest drinking water conference and exposition. To that end, ACWWA has organized a bus that can take up to 50 ACWWA members to Boston for ACE. The bus cost is \$200, which is a \$500 saving over the cost of flying to Boston. Further registration discounts and meal saving provided by AWWA means you can save \$600 off the cost of attending ACE by taking the bus. The bus will make stops as necessary through Nova Scotia and New Brunswick. If cost has been a factor in you or your staff attending ACE, please contact Clara (contact@acwwa.ca) to book your seat on the bus. ☺



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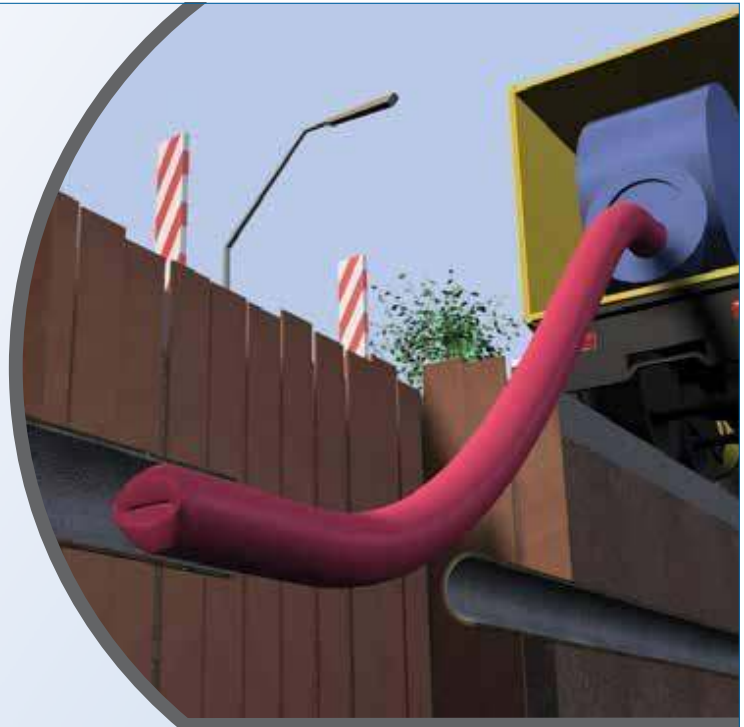
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Stop, don't flush that

WEF members work to solve nondispersibles problem

Hello WEF members in Atlantic Canada. I know nondispersibles are a big issue to all wastewater operations so I am dedicating my report to that subject this month. I am on the nondispersibles committee for WEF and want to hear from all of our Atlantic Canada members so you can tell me what you are doing to address this issue. The following is a report from our committee. Your comments and contribution to the solutions to the problem are really appreciated, so send them to me at gary.chew@sansom.ca. I will bring them to the forefront at my next committee meeting in May.

Wastewater treatment systems operate 24-hours a day, 7-days a week – that is, until an item that does not belong makes its way into the system, clogging pipes and causing headaches for operators.

Defining nondispersibles

Perpetrators mucking up the system are known as 'nondispersibles,' which currently means anything other than human waste and toilet paper that is flushed down the toilet, explained Robert Villée. He is the Plainfield Area Regional Sewerage Authority (Middlesex, N.J.) executive director and Water Environment Federation (WEF; Alexandria, Va.) Collection Systems Committee (CSC) Flushables Task Group member.

"The industry reference for dispersability is two-ply toilet paper ... [which] starts to break apart when the toilet is flushed and is



Robert Villée, Plainfield Area Regional Sewerage Authority (Middlesex, N.J.) executive director, worked with authority staff to test flushable-product claims using this system. Photo courtesy of Villée.



A DC Water (Washington) pump clogged by nondispersible items flushed down the toilet. Photo courtesy of Hiram Tanner, DC Water manager.

indistinguishable in the wastewater system in a matter of seconds," Villée said. Anything labeled as flushable should start to break apart during the flush and completely disperse within 5 minutes, he added. "Our mantra is, 'It's not flushable if it's not dispersible,'" Villée said.

Only the wastewater industry uses this definition; manufacturers will label any product capable of making it through a home's plumbing system as flushable, explained Hiram Tanner, DC Water (Washington) manager and WEF House of Delegates (HOD) Nondispersible Workgroup member. But in collection systems, treatment plants, and septic systems,

nondispersibles clog pumps, pipes, and valves; overwhelm screens and bar racks; and block sewer mains. They can cause sanitary sewer overflows and require expensive repairs and replacement of pumps, screens, and other equipment, Tanner said.

Nondispersible items also cause problems in private plumbing systems; they can cause sewers to back up into basements, leaving homeowners holding the bill for costly repairs, said Aubrey Strause, Verdant Water PLLC (Scarborough, Maine) owner and CSC Flushables Task Group member.

Misleading or absent labels compound the problem

The problem of nondispersibles in wastewater treatment systems has grown as more people use and flush such disposable toiletries as baby wipes, cotton swabs, and household cleaning wipes. One reason these nondispersible items end up in toilets is because they are mislabeled, Strause said. She explained that consumers often unknowingly flush items that collection systems cannot handle because of product packaging:

- Words such as 'biodegradable' imply that a product can be flushed.
- Labels may lack or obscure the 'no flush' logo created by manufacturer standard via the International Nonwovens and Disposables Association (INDA; Cary, N.C.).
- Products may erroneously label nondispersible items as flushable.



A senior mechanic performs routine dragging in an Orange County Sanitation District lift station pump. Photo courtesy of Ingrid Hellebrand, Orange County Sanitation District.

Devising an action plan

“The core need is to educate the public that things that do not act like toilet paper should not be flushed,” Strause said. Consumers can encourage change by educating each other and bringing complaints to the attention of manufacturers, she added.

The wastewater sector should work proactively to drive changes, taking the lead to develop standards for what is flushable, Strause said. “We need to define dispersability from a wastewater utility perspective,” Villée said. Also needed is a transparent and independent test that mimics wastewater treatment operations and confirms flushability; this “will be the cornerstone of any future legislation,” Villée said.

Next would come uniform labeling standards for products. “Nondispersibles should have ‘Do Not Flush’ prominently displayed on the front of a package,” Villée said. Often, consumers do not see labels on products, and many products do not include a label because existing standards are guidelines and not requirements. Government officials must be asked to enact laws to help eliminate the problem, Villée said.

“Industry can educate their customers to the deleterious impact they have on the wastewater industry,

“The core need is to educate the public that things that do not act like toilet paper should not be flushed.”

which will eventually impact rates,” Tanner said. Citizens and sector leaders should encourage their national and local politicians to pass laws prohibiting discharge of products into the collection system, he added. Federal-level regulations will be more effective than state-by-state regulations and much more effective than the current voluntary guidelines for manufacturers, Strause said.

Hopefully, with laws and consumer support, manufacturers will address the issue and develop “products that truly break down in a way similar to toilet paper,” Strause said. “This technology exists and is fully possible to implement; it just needs to be made cost-effective.”



Nondispersibles found in the Kennebec Sanitary treatment District (Waterville, Maine) system during a facility inspection. Photo courtesy of Aubrey Strause, Verdant Water PLLC (Scarborough, Maine) owner.

WEF and Member Associations tackle the problem

Fixing the nondispersibles problem “will require a coordinated national effort” in which WEF works with other organizations in both the water and wastewater arenas, Strause said. While the challenges seem daunting, WEF members and WEF Member Associations (MAs) have started this work and recently have been gaining momentum. Gary Chew of ACWWA in Atlantic Canada is a member of the nondispersibles committee for WEF

and would like all WEF members, WWTP operators, and regulators to bring forward information to him in relation to Atlantic Canada. You can email him at gary.chew@sansom.ca.

WEF, the National Association of Clean Water Agencies (Washington, D.C.), and the American Public Works Association (Kansas City, Mo.) have approached the issue together. The three organizations are working to build consensus on flushable standards, educate the public about the problem, and compile information on regional efforts in North America to solve the problem, Strause said. “The next step will be for these national groups to lead the development of a definition of ‘flushable,’” she added.

WEF also has obtained permission to put the video ‘Will It Flush?’ (produced by the City of Spokane [Wash.] Department of Wastewater Management) on WEF’s YouTube Channel.

The CSC Flushables Task Group has been working to solve the problem since 2010, and at WEFTEC® 2012, the HOD Nondispersibles Workgroup was formed. “HOD is tasked with supporting the CSC by getting the MAs involved and supporting efforts to bring pressure on the nonwoven fabric industry to change business as usual,” Tanner said. Tanner explained that the HOD group is collecting and compiling information on incidents caused by nondispersibles into a database, so the information can help encourage legislators to act.

The CSC has been discussing the issue with INDA, which is working to develop the third edition of the *Flushability Guidance Document* that will set guidelines describing steps that products have to pass before being labeled as ‘flushable,’ Villée said.

In addition, the CSC has helped develop WEF outreach materials, including bill stuffers and fact sheets. Both the CSC and HOD groups have worked together to develop the *Flushable or Not? Dispersing the Non-Dispersible Problem* webcast, scheduled for June 19, to educate about the topic. A recording of the no-charge webcast will be

made available after the event.

Independently, WEF CSC members have been spreading the word on nondispersibles. They have been giving presentations at conferences and events across the country, as well as sending letters and information to and discussing the issue with government, manufacturer, and industry leaders.

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The Water Environment Federation (Alexandria, Va.) Collection Systems Committee has helped develop outreach materials including this bill stuffer.

Villée has even been working to put manufacturers' flushable-product claims to the test. He has assisted in two field studies in Portland, Maine, to see if flushable products are dispersing in sewer lines, he said. In addition, he recently worked with Plainfield Area Regional Sewerage Authority staff to test flushable-product claims. He found that 'flushable' wipes took an average of 10 flushes before pieces started to break off, and one piece remained intact for 100 flushes, he said.

WEF Member Associations also have been working on the issue. The New England Water Environment Association recently released the position paper Management of Non-Dispersibles in Wastewater (www.newea.org/Resources/GovernmentAffairs/PositionPapers/tabid/389/Default.aspx).



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CWWA announces new President for 2014 from Atlantic Canada

I am pleased to announce that I was elected the new CWWA President for 2014 during the recent *Window on Ottawa* AGM. It is a privilege and special honour for me to represent Atlantic Canada and its ACWWA members at the CWWA Board and I welcome the opportunity to continue to represent ACWWA during my term. As the national body representing the common interests of Canada's municipal water and wastewater utilities, CWWA wishes to strengthen its relationships with the Canadian sections to help lead the advancement of increasing the value of water in Canada. Many challenges and opportunities face our associations and industry, and I am excited to step up to the challenge. Thanks again to the ACWWA Board for giving me the opportunity.

CWWA Activities and News: **CWWA 2013 Window on Ottawa**

The Window is CWWA's core event with presentations from the federal government and other national organizations on national issues, priorities, and programs. Participants complimented the quality of the program and networking opportunities. Again this past year, the 2013 Window was a great success.

The *Window on Ottawa* gives an overview of upcoming initiatives and directions. This allows participants to be on the leading edge and prepared for what is coming on the national level.

Three successful workshops were held the day before the Window event:

- Climate Change-Adaption Strategies for Canadian Municipalities
- Cyber Security for Water and Wastewater Utilities

- Water Quality Workshop
The workshops are becoming more and more popular with the participants as they enhance the value of the overall event.

New By-Laws for CWWA

CWWA passed its new corporate by-laws at the AGM. The review and amendments of the by-laws were needed because of the new Canada Not-For Profit Corporations Act. We needed to fix up our by-laws a bit and have them approved by the members, and we need to submit all related paperwork by October 2014.

The biggest update to our old by-laws was the clarification of our membership categories. The final by-laws are posted on the CWWA website for your review.

New CWWA e-Bulletin

Sharing information about the water and wastewater industry is one of CWWA's primary mandates. CWWA is excited to share this new information through the new e-Bulletin. The new format is offered to non-members (potential new members) as well. This is an invitation to all who are interested to receive this information to simply follow the 'subscribe link' on the CWWA website at www.cwwa.ca, and you will automatically receive the bulletin each month at no cost. Encourage all ACWWA members to check it out.

National Education Programs

Two project concepts are currently being evaluated and developed by CWWA:

- The first involves the six regional AWWA and WEF association

partners across Canada, with support offered from both WEF and AWWA headquarters. The focus of this project is the whole municipal infrastructure issue and creating informative tools for members to use in educating their councils and decision-makers. It is planned to start the project in 2014.

- The second project is to develop a communication strategy on how we might start to change public attitudes around water.


CWWA will be seeking collaboration (non-financial) from the six associations to participate.

Upcoming Events 2014 – Mark Your Calendars:

CWWA is planning a full year of information and networking opportunities during 2014.

16th Canadian National Conference on Drinking Water

Join drinking water professionals from across the country for the 16th Canadian National Conference on Drinking Water. Taking place from October 26–29, 2014 at the Hilton Lac Leamy in Gatineau, Quebec (National Capital Region), this premiere event provides a unique pan-Canadian opportunity for water quality professionals and stakeholders to network and exchange views on current and emerging issues related to the provision of safe drinking water.

Should any other information be required on CWWA activities or initiatives, please do not hesitate to contact me directly at roland.richard@nb.sympatico.ca or visit the CWWA website at www.cwwa.ca. 



Winner of the **Silent Hero Award**, Susan MacLeod

Susan MacLeod is Manager of Water Treatment Services for the Town of Truro.



1. Where do you currently live? Truro, Nova Scotia.
2. Where did you grow up? Truro, Nova Scotia. I moved here from Gander,

Newfoundland when I was 9.

- 3. When I'm not working...** I'm camping in the spring and summer, and having fun with family and friends in the fall and winter.
- 4. The accomplishment I'm most proud of is...** My two daughters.
- 5. If you could go on a road trip with any one person (living or dead), who would it be and where would you go?** My hubby Chris, to a luxury fishing cottage in the middle of nowhere.
- 6. What is your philosophy on life?** Have fun with the ones who mean the most to you.
- 7. Toughest thing about your job?** Dealing with conflict.

- 8. When you were a kid, what did you want to be when you grew up?** A paleoanthropologist.
- 9. Last book you read?** Oh no, '50 Shades of Grey.' I didn't like it.
- 10. Last movie you saw?** 'The Wolf of Wall Street.' I loved it.
- 11. What music did you listen to this morning?** 1990s R&B.
- 12. Favorite TV show?** 'Elementary.'
- 13. What was the best gift you ever received?** Healthy pregnancies and healthy babies.
- 14. What's the most useless thing you ever purchased?** A foot bath/massager thing.
- 15. Not many people know that I...** am fairly sensitive.
- 16. What is your greatest luxury?** Little family trips; I love my house but can't seem to stay put very long.
- 17. What's your favorite famous quote?** Don't have one.
- 18. Describe your perfect day.** Waking up on a perfect summer day while camping with a group of friends and having a big bacon and eggs breakfast all together.

Then all of us relaxing on the beach while all the kids play, and a deep-fried turkey dinner followed by a couple drinks around the campfire.

- 19. What three objects would you rescue from your burning house?** My two daughters and my cat. Hubby should be able to make it out on his own!
- 20. What Section would you most like to visit, and why?** I would visit OWWA because my sister lives in Ontario and I could see her and her family as well.
- 21. Who is the most influential person in your life?** My mom and dad – can't pick just one!
- 22. What is your ideal vehicle?** Honda Ridgeline (a fully loaded green one with a trailer hitch hauling a Honda Civic).
- 23. How long have you been a member of ACWWA?** I am a member with the Town of Truro and we have been a member for as long as anyone here can remember. I have been with the Town for almost 13 years. 🌊



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New for 2014

I have recently taken over the Membership Director position from John Eisnor. These are big shoes to fill. Luckily, I have a great team working with me to see how we can assist our membership within ACWWA.

Since I am new at the membership side of ACWWA, I thought I would start by answering a common question that I have been asked many times in the past few months:

What is the difference between a WEF, AWWA, and ACWWA membership?

Here is a simple answer:

- You cannot get a direct membership to ACWWA.
- If you get a membership to WEF (www.wef.org/JoinWEF/), you will also get a membership to ACWWA.
- If you get a membership to AWWA (www.awwa.org/), you will also get a membership to ACWWA.
- It is up to you to choose which association or federation is best for you. There are many people who choose to become a member of both because they enjoy the benefits of both.
- Memberships to both WEF and AWWA expire annually.

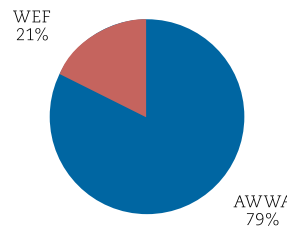
For a longer answer or a discussion on the subject, please do not hesitate to call me anytime at (506) 633-6650.

Our goal is to make sure you are happy with whichever membership you choose.

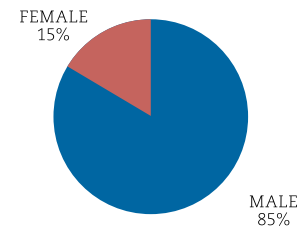
Here is snapshot of what our membership looks like.

Membership totals as of February 14, 2014	
AWWA (Active Members)	471
WEF (Active Members)	124

AWWA vs. WEF Members



Gender



We are also introducing a few contests for 2014:

1. NEW MEMBER REFERRAL – For every new member that you get to become a member of ACWWA (either through AWWA or WEF), your name will be entered in a draw for a \$50. All the new member has to do is include you as a reference. If you do not know your member number, please email me at amym@cbcl.ca and I can provide it to you. The draw will take place May 15, 2014.
2. PHOTO CONTEST – See the ad on this page.

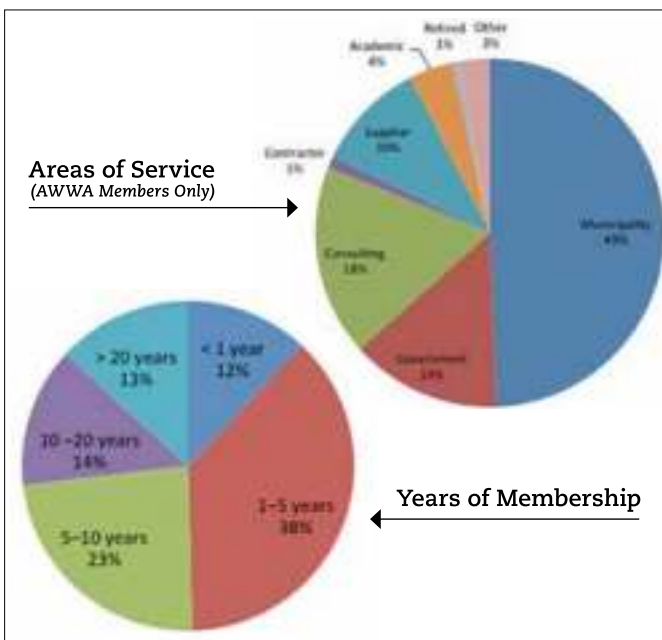


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2. Photo must include water AND a family member(s) and/or pet(s).
3. Please provide first name of those in photo.
4. Unlimited submissions.
5. Judged by Membership Committee.
6. Deadline for submission is June 30, 2014.
7. Submit pictures or questions to amym@cbcl.ca.

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World's premier water conference RETURNS TO BOSTON

Reid Campbell, AWWA Director

Water professionals will convene in Boston, Massachusetts, for AWWA's 133rd Annual Conference & Exposition (ACE), June 9–12, 2014. ACE14 is expected to draw nearly 12,000 global water professionals, who will be attending to discover Total Water Solutions®, develop skills through connecting with the brightest minds in the industry, to interact and share experiences, and learn about state-of-the-art products and services.

This year the world-class exposition will offer an experience to remember, with more than 450 leading-edge exhibitors showcasing the best water industry products and services to simplify a water

professional's job. Plus, the exposition will offer one location to network at the Career Center Job Fair, Expo Café, International Resource Center, 'Best of the Best' Tap Water Taste Test and 'People's Choice' Water Tasting, Pipe Tapping, Top Ops, World Water Cup, and Meter Madness Competitions. Come take advantage of education in the exposition, with poster sessions and the Round Table Solution sessions presented by industry experts in intimate theaters on the show floor.

Please come and show your support behind The Top Ops team from the City of Fredericton as well as Halifax Water's Lake Major Water Supply who will be competing in the 'Best of the

Best' taste test. You can also attend one of several technical papers being presented by ACWWA members.

With ACE being in Boston this year, this is a once-in-a-generation opportunity to attend ACE in our own backyard. This may be your best opportunity to attend the world's premier water conference. If travel cost is an issue, please contact Clara at the ACWWA office to find out how you can *Take the Bus to ACE*. ACWWA has arranged a bus to travel to ACE from Halifax, with stops along the way as required. At \$200, and including meal and registration incentives provided by AWWA, you can save \$600 on the cost of travelling to ACE.



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For more information, please phone 902-434-6002 and speak with Clara Shea.

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AWWA Annual Conference | Boston, Massachusetts | Monday, June 9 | 5:30 p.m. - 7:30 p.m.

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One Faneuil Hall Marketplace

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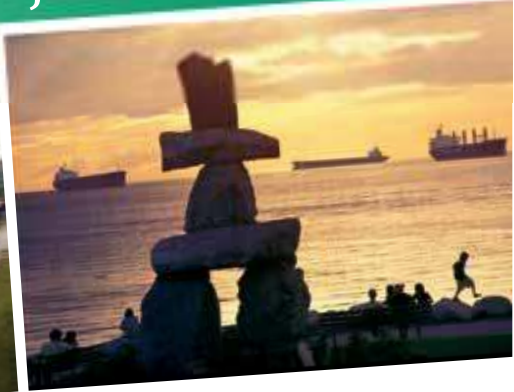
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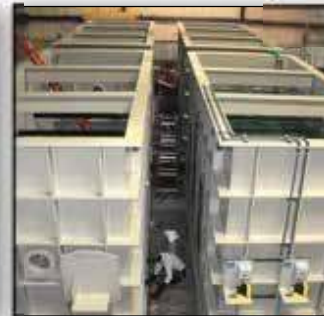
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Water plant benefits from UV and ozone solution

Martine C. Warda, BComm, Market Manager, Treatment, Xylem Inc.

Located northeast of Montreal, Canada, the city of Terrebonne needed to upgrade its water treatment plant to increase capacity and meet environmental regulations. The plant is the last drinking water intake of the many cities along the Rivière des Milles-Iles (River of the Thousand Islands). Given the effluent waters from the cities upstream, the plant needed a treatment process that ensured optimal water quality.

First established in 1861, the Terrebonne treatment plant has evolved tremendously in recent years and has required new infrastructure to serve the constantly growing population. Today the RAIM treatment plant (La Régie d'aqueduc intermunicipale des moulins) distributes high-quality potable water to 125,000 users in the cities of Terrebonne and Mascouche.

Efforts to modernize and expand the plant began in 2008, and involved the addition of a new state-of-the-art innovative multi-barrier process to treat the water. Due to constantly changing waters coming from the Rivière des Milles-Iles, a multi barrier approach was required to ensure that the drinking water met the high standards in place. The combination of ozone and UV disinfection was an integral part of the plant's new treatment process.

Running smoothly since its completion in 2011, the plant now has a capacity of 120,000 m³/d, allowing RAIM to serve more than 250,000 consumers in the fifty years to come.

A successful multi-barrier process

While only minor civil work was required, the upgrade was a sound investment for RAIM in collaboration with the partnering municipalities. The ozone solution helps lower operating expenses and energy consumption (see below), and the UV disinfection solution surpasses environmental requirements.

The log reduction for cryptosporidium, giardia, and viruses are regulated

to be 2, 5, and 6 logs, respectively, but at RAIM, the use of this multi-barrier approach has led to the plant achieving log reduction levels far beyond the indicated regulations. Given these results, the plant has since established its own objectives and benchmarks.

Gilles Comtois, Director of RAIM, reported that, "The success of this multi-barrier process is due to the fine-tuning of the operators, but the effectiveness of the UV disinfection stage is also a major factor in surpassing the required objectives by such a wide margin."

How the ozone and UV solution works

Water passing through the plant using the new solution takes four to six hours from intake to the final treatment step. Here is how it works:

1. The process includes a grit removal phase, followed by raw water pumping of 160,000 m³ per day and three sand ballasted clarification systems settling out suspended matter from the water.
2. Two ozone generators oxidize organic compounds, and 11 biofiltration basins digest the sugars and eliminate micro-particles.
3. A UV disinfection step eliminates pathogenic microorganisms and feeds a 19,000m³ reserve stored in three underground reservoirs.
4. Three pumping stations feed the distribution network covering 35 kilometers serving the area's needs.

The solution: ozone oxidation

The use of ozone following clarification serves a number of purposes, primarily to break down organics into more simple and biodegradable products, which are then readily removed by subsequent treatment steps such as biofiltration. An additional benefit is that ozone breaks down the heavy polymer used in the flocculation step of the sand ballasted


clarifiers. This significantly reduces the quantity of chemical products reaching the biological filters, which helps to prevent fouling and extends carbon lifetime.

To ensure continuous flow and supply to the residents, there are two ozone generators at the facility, one in constant operation and one on standby. The ozone generators are fed by liquid oxygen (LOX), housed outside the plant, and servicing is performed two times per year by the equipment manufacturer. Using ozone at Terrebonne results in efficiently oxidizing organics and reducing chemical usage, which provides for longer carbon lifetimes and reduced wash frequency. This also lowers operating expenses and reduces the overall energy consumption at the drinking water treatment plant.

The solution: UV disinfection

Ultraviolet (UV) disinfection is the first step of disinfection performed following biofiltration. As the filtered water circulates through the UV reactors, the UV light penetrates the cell walls of bacteria and viruses to permanently alter the DNA of the microorganisms, rendering them 'inactivated' and unable to reproduce. The consulting engineers on the project selected ultraviolet disinfection for its effective results and low operating expenses.

Nine UV reactors are installed at RAIM: five 32 lamp units and four 18 lamp units, all with automatic wipers preventing fouling of the lamps. The units installed are u-shaped closed-vessel technology for water and wastewater applications with capacity up to 14.7MGD (55,000 m³/d), and a UVT range of 80% to 98%.

Liquid chlorine residual is then added as a second step of the disinfection process. Finally, the pH levels are corrected to meet the required standards to the treated water. 

BATTLING BIOFILMS

in aging water infrastructure

Fred Reiff, P.E.

Microbes' propensity to attach to both living and inanimate surfaces improves their likelihood of survival and proliferation. They produce a sticky material that binds them together and anchors them to the surface forming dense, complex colonies of microorganisms known as biofilm. Biofilms are very common in nature¹, especially on water- and food-contact surfaces. The interiors of almost all water distribution systems eventually develop biofilms that may harbor pathogenic microbes and promote metal pipe corrosion, scaling, and sediment buildup. Biofilms can discolor water or cause it to take on disagreeable tastes or odors. As the North American drinking water infrastructure ages, biofilm control has become a more pressing public health concern.

A recent article in the American Water Works Association journal, *Opflow*², notes that monitoring and controlling biofilms is a sustainable practice that helps water treatment plant operators lower both capital and operational costs, maintain aesthetic water quality, and ensure regulatory compliance. The article describes several strategies used to keep biofilms in check. These consist of chemical and physical methods briefly summarized below.

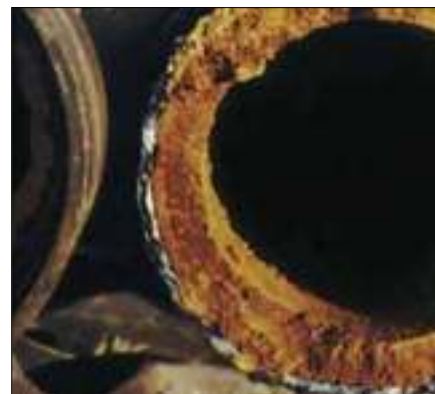
Battling Biofilms with Chemistry

A residual level of disinfectant is essential to help control biofilms, but disinfectant alone cannot penetrate or dissolve a biofilm mass. Reducing

levels of nutrients in water can help reduce biofilm growth. 'Booster disinfection' could help maintain disinfectant levels throughout the water system and help remove ammonia, which supports the growth of certain bacteria. Changing the disinfection method also could be helpful in controlling biofilms. Chloramines are commonly added to drinking water as a secondary disinfectant to protect water as it journeys from the treatment plant to the tap. More research is needed to ascertain the effectiveness of chloramines on biofilms³.

Physical Options for Addressing Biofilms

Physical methods can be effective, especially in addressing 'mature,' well-developed biofilms. Flushing water through pipes at high velocities, for example, can help remove biofilms from smooth pipe interiors, such as PVC. Biomass may be more difficult to address in pipes with rough interior surfaces or tuberculation. In those cases more aggressive physical methods are used to scour pipe interiors. Pushing a flexible swab with an abrasive outer coating (commonly referred to as a pig) through a pipe by means of hydraulic pressure is one of the most common methods employed to physically remove scale and biofilm. Pigs are currently available in various forms to serve specific purposes including, but not limited to, cleaning, scraping, wiping, brushing, DVD inspection, gauging, and batching. 'Ice pigging' is a recently developed technique



Biofilm in a water pipe
Photo courtesy of Utility Service Group

that uses plugs of ice to scour biofilm, scale, and sediment from water main interiors. An advantage of ice over conventional pigs is that ice cannot become stuck in a restriction in the pipe bore; it simply melts in a relatively short period of time.

Tackling Biofilm in Aging Infrastructure

Drinking water quality is influenced by many factors

You Can't Put Lipstick on This Pig

The term 'pig' may have initially been used in reference to the filthy condition of the emerging swab. Wikipedia informs that it may have originated from the squealing noise made by early 'pigs' – bundles of straw wrapped in wire – as they were forced through pipe. Wikipedia also notes that 'pig' has become a 'backronym' for 'Pipeline Inspection Gauge' or 'Pipeline Intervention Gadget.'

1 Biofilms even exist in the human body in the intestinal tract and as dental plaque.

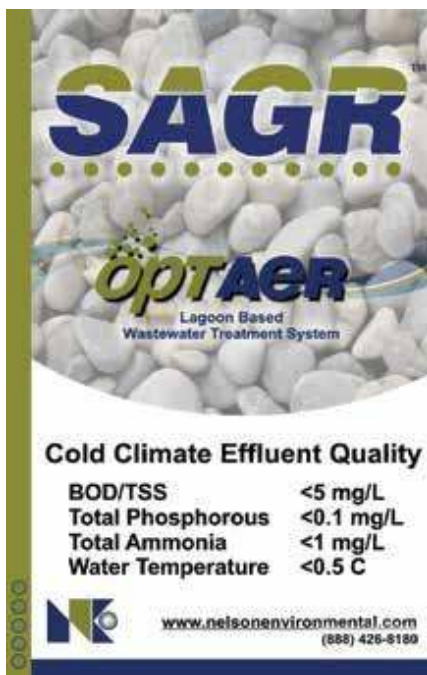
2 Miller, R., Friedman, M., Koci, D. and Moore, R., "Biofilm Control: compliance," *Opflow*, v. 39, no. 9, September, 2013.

3 Biofilm research is a priority at Montana State University's Center for Biofilm Engineering where biofilm control measures are being studied as well as beneficial applications of biofilms in industry, medicine and other areas.

including the characteristics of the source water, treatment methods, and distribution system characteristics. Older water infrastructure is usually more vulnerable to contamination through leaks and breaks, which increases the possibility of pathogenic microbes such as *Legionella*, *Giardia* and certain amoeba—including possibly *Naegleria*—entering and becoming established in biofilms and being released into the water supply on an intermittent or ongoing basis.

Controlling biofilms is an important step in delivering high-quality water. Given the advanced age of much of our nation’s water infrastructure, it is becoming ever more important. 🌊

Fred Reiff, P.E., is a retired official from both the U.S. Public Health Service and the Pan American Health Organization, and lives in the Reno, Nevada area.



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Development of new 'ISO Guidelines for Treated Wastewater Reuse for Irrigation'

Roland P. Richard, P.Eng., FEC, ACWWA /Government Relations Director

The Standards Council of Canada (SCC) is one of the official members of International Organization for Standardization (ISO), which is currently participating in the development of new International Guidelines for 'Treated Wastewater Reuse for Irrigation.'

The development of a renewable water source such as the re-use of treated municipal wastewater for irrigation purposes is considered as a viable solution. Globally, we are facing severe water shortages, water contamination, as well as increasingly densely populated urban areas where the demand for water continues to increase at alarming rates along with intensive irrigated agriculture. To prevent adverse effects on public health and the environment including soils and crops, the development of these guidelines is essential and timely.

For many countries approaching the limits of their available water supplies, the beneficial use and recycling into the environment of treated municipal wastewater can be beneficial if the proper conditions and guidelines are followed. Canada



Standards Council of Canada
Conseil canadien des normes

may not be approaching its limits of available water supplies however, in view of the continued increase in water demand, climate change, and the sustainable development challenges, the potential re-use of treated municipal wastewater for irrigation purposes is definitely considered as a renewal source of water. The shortage of freshwater availability is always a possibility throughout this vast country of ours resulting from a number of reasons. Safe renewable water sources must therefore be developed in order to ensure sustainability.

Potential applications for the use of municipal treated wastewater for irrigation include agriculture irrigation and landscape irrigation (golf courses, cemeteries, roadside



**International
Organization for
Standardization**

plantings, public parks, etc.). The new guidelines being developed will not cover all the possible uses of treated municipal wastewater, but will only include uses intended for restricted and unrestricted crops, gardens, and urban uses.

These guidelines are intended to match the quality of supplied treated municipal wastewater with the possible uses according to crop sensitivity, water sources, and the soil. The guidelines will refer to all factors involved in a project, regardless of size, location, and complexity. The guidelines will be applicable to all intended uses of treated wastewater in a given project for irrigation, even if such uses will change during the project's lifetime. The purpose of the International Guidelines is to

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“To prevent adverse effects on public health and the environment including soils and crops, the development of these guidelines is essential and timely.”

recommend specifications for all elements of a project using municipal treated wastewater for irrigation purposes, including design, materials, construction, and performance.

The re-use of municipal wastewater for irrigation purposes must be used only when environmentally acceptable and agriculturally beneficial. Wastewater suitability must be based on a select set of water quality parameters to be tested before and during their release. Wastewater irrigation as a municipal wastewater dispersal option is an activity that must require authorization from the appropriate local regulatory body.

The development of these International Guidelines highlights the use of treated wastewater for irrigation purposes as a growing interest around the world, including Canada. As water quality standards for municipal wastewater discharges to surface bodies become more stringent, the associated treatment costs correspondingly escalate, resulting in the treated wastewater becoming a valuable water asset. Effective in 2012, Canada (Environment Canada) adopted the new Wastewater Systems Effluent Regulations (WSER) with the objective to have all treated wastewater effluent reach higher levels of treatment before discharge into the environment. Irrigation with treated wastewater will no doubt become a potential alternative for wastewater effluent disposal for some communities across Canada.

In June, Canada hosted a meeting in Calgary of the ISO-TC 253 technical committee members developing the new guideline, including participation from Israel, France, Japan, and Canada. All participating members at the meeting expressed their deep gratitude for the efforts of the City of Calgary, the Western Canada Water Association (WCW), and the Canadian Water and Wastewater Association (CWWA), to carry out and conduct


the meeting in Calgary even though a dramatic flood had severely disrupted many services in the City of Calgary.

Following the meetings a first class one-day technical workshop, attended by over 45 delegates, was held and organized under the leadership of Duncan Ellison, Chair of the Canadian Delegation, and supported by WCW and CWWA. Experts in irrigation and wastewater treatment from around the world, including experts from Canada, presented their experiences and projects in the use of treated wastewater for irrigation.

The final version of these guidelines is anticipated to be completed and available in 2014/2015. The use of these guidelines will be encouraged globally to ensure consistency within a sector engaged in the use

of municipal treated wastewater for irrigation purposes.

Future work by ISO will consider other proposals to set guidelines and standards for wastewater re-use within the larger urban context. Guidelines for urban water reuse, evaluation of water reuse and possibly water reuse by industry will be developed.

Should any other information or inquiries be required on the development of this guideline or other initiatives, and if you are interested in participating as experts in the development of these standards, please contact me directly at roland.richard@nb.sympatico.ca. You can also contact the Chair of the committee, Mr. Duncan Ellison, at duncan.ellison@videotron.ca. 

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Spring sessions

Access to a quality education program is very important to water/wastewater professionals. Whether for certification requirements or professional development, water/wastewater professionals seek opportunities for learning. In preparation for planning our spring sessions, the ACWWA education committee engaged its members through the Needs Assessment Survey and has done its best to meet your education requirements. We present the course calendar for spring 2014 in this issue of *Go with the Flow*. Please review this course list, and as a friendly reminder please sign up well in advance of the course(s). This will help the course organizers prepare course materials, select a classroom size, and arrange catering for your participation.

As always, if you have specific training requirements that are not covered by our standard curriculum please contact the ACWWA. In the last calendar year we have offered multiple custom courses as requested by our members. You can contact the ACWWA either by email, contact@acwwa.ca, or by telephone at (902) 434-6002, and we will be glad to assist in any way we can to facilitate training for you.

The following is a list of the ACWWA spring courses. Please check our website for online registration and course details, at www.acwwa.ca.

ACWWA spring education sessions		
April 1	Customer Service for Water and Wastewater Operators	Dartmouth, NS
April 2	Customer Service for Water and Wastewater Operators	Moncton, NB
April 3-4	Drinking Water Quality	Bathurst, NB
April 7-10	Water Treatment	Moncton, NB
April 11	Drinking Water Security	Moncton, NB
May 5-8	Wastewater Collection	Charlottetown, PE
May 6-9	Water Distribution	Halifax, NS
May 8	Pipe Tapping & Service Line Connections	St. John's, NL
May 9	Regulation Clarification and Service Line	St. John's, NL
May 14	Basic Water Analysis	Dartmouth, NS
May 15	Process Instrument Verification	Dartmouth, NS
June 11	Centrifugal Pumps	Gander, NL

2013 ACWWA Lloyd Douglas scholarship winners

Jennie Rand, Technical Director



Conor Flanagan (NL)

Conor Flanagan was born in St. John's as the eldest of five children. Today he is a third-year civil engineering student of Memorial University of Newfoundland. His first two work terms were with Nalcor Energy and PCL Construction, and his current employment is with CBCL Limited. He has a great interest in municipal water and sewer systems and intends to pursue this as his career.



Ingrid N. Lozada (PEI)

Ingrid N. Lozada was born in Bogota, Colombia. In 2002 she graduated as an Environmental Sanitation Technologist from the Universidad Distrital de Bogota. Then she continued her studies in Environmental Management and Energy planning. She has been working on some environmental projects in Morelos, Mexico. In 2012, she moved to PEI with her family. Currently she is a second-year student in the Environmental Applied Science Technology at Holland College in Charlottetown, PEI. Her goal is to pursue a career in the water treatment industry in Atlantic Canada and to contribute with her professional experience to the service of the community.



C. Ellen O'Hara (NS)

Ellen O'Hara grew up outside Halifax in the community of Sambro, Nova Scotia. After completing the Foundation Year Programme at the University of King's College, she enrolled in Dalhousie's Bachelor of Engineering program in civil engineering. She spent a year working in Yellowknife where she lived in a broken down RV, played roller derby, and travelled around Nunavut in very small planes. She is now home to stay in Nova Scotia where she hopes to find work in the water and wastewater industry.



Katuscya Gauvin (NB)

Katuscya Gauvin was born in Fredericton. She is currently a fifth-year student in civil engineering at University of Moncton. She has been subject to many different types of engineering practices. However, her interest has always been on a water and wastewater standpoint. She has worked with GENIVAR and gained experience in municipal engineering. She has an ambitious future goal in the water/wastewater industry; it would be to, one day, make sure that everyone can have potable water at their fingertips. When not studying she is living a healthy and active lifestyle. She is an avid rugby player and loves to keep herself active by running or exercising.

ABEA: Scholarships and conference tips

Sean Chilibeck, ABEA Vice-President

The Atlantic Branch Equipment Association (ABEA) is currently accepting application for four (4) \$1,000 academic scholarships for individuals attending post-secondary education in 2014–2015 (college or university level). If you are trying to learn, we are trying to give you a hand. The deadline for this year's applications is June 15, 2014. Detailed application information can be found at abea.biz/scholarship-program.

The scholarship was established to promote and stimulate the exchange of ideas concerning water supply systems and the science and engineering industry within Atlantic Canada. ABEA consists of a wide variety of members, and understands the need to encourage local students in the pursuit of a higher education. The scholarship is open to any full time student whose parents are a member of ACWWA and/or ABEA. Although preference is given to students intending to pursue a career related to the water/

wastewater industry we understand that few of us set out for this trade from high school, and thus the scholarship is available for any student. We are giving this money away, so please get your applications in!

ABEA was also a proud supporter of Water for People this year at the 2013 ACWWA Conference, where ABEA and its members were able to contribute \$10,000 to fund a WFP project, in addition to our annual \$2,500 funding.

We are currently in the planning stages for our annual hospitality evening at the 2014 ACWWA Conference being held in Halifax, and are looking forward to another successful tradeshow (which is being moved to the Tuesday morning). We will be opening the sign-up for the tradeshow booths in June (sign up fast – last year was a record number of booths), and are looking to team up with the Young Professionals group to encourage interaction between members at the conference.



ACWWA invites submissions for **Award Nominations for 2014**

If you know someone who has made a contribution to the water and/or wastewater industry, don't let his or her efforts go unnoticed. The following awards are eligible for presentation at the ACWWA Conference in Halifax, NS, October 19–21, 2014. **Please note that the deadline for 2014 award nomination submissions is May 31, 2014.**

Silent Hero Award

- **One award each for New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland**
- **Nominee must be a member of AWWA or WEF**

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.

Laboratory Analyst Award

- **Nominee must be a member of WEF**

The Laboratory Award is awarded by the Water Environment Federation (WEF) and recognizes individuals for outstanding performance, professionalism, and contributions to the water quality analysis profession.

Criteria:

- Member of the Water Environment Federation.
- Candidate must be employed at an educational facility laboratory, industrial, commercial, or municipal laboratory that performs wastewater-related analysis, and must have direct analytical responsibilities.
- Candidates are eligible for this award only once.
- Qualifying criteria may include:
 - a. Membership and involvement in professional associations. Examples: Water Environment Federation Committees, Standard Methods Joint Task Groups, MA committees and conferences, and conference activities.
 - b. Outstanding efforts in the area of wastewater and environmental aquatic analyses, including such items as innovative sampling techniques or solutions to a treatment, analytical, or environmental problem.
 - c. Involvement in community activities or public relations.
 - d. Presentations at professional conferences, meetings, etc., relevant to water quality analysis.
 - e. Professional certifications.
 - f. Continuing education.
 - g. Contributions that have been beneficial to the nominee's facility.
 - h. Unusual initiative or performance 'beyond the call of duty.'

Fuller Award

- **Nominee must be a member of AWWA**

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.

Bedell Award

- **Nominee must be a member of WEF**

The Bedell Award is awarded by the Water Environment Federation (WEF) and may be presented to a member of ACWWA to acknowledge extraordinary service to a WEF Member Association. The award is named for Arthur Sidney Bedell, WEF's second president, for his long devotion and service to the New York Sewage and Industrial Wastes Association, now the New York Water Environment Association. He was Chief of the Bureau of Sewage and Waste Disposal of the New York State Department of Health.

Criteria:

- i. Member of the Water Environment Federation.
- ii. Organizational leadership, administrative service, membership activity, stimulation of technical functions, or similar participation.

MacNab Award

- **Nominee must be a member of AWWA or WEF**

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.

Burke Award

- **Nominee must be a member of WEF**

The Burke Award is awarded by the Water Environment Federation (WEF) and recognizes a municipal or industrial wastewater facility for establishing and maintaining an active and effective safety program. This award was established in 1982 in honour of George W. Burke, Jr., for his many years of service to both the water environment field and WEF as staff manager of technical services. Mr. Burke was instrumental in developing WEF's annual safety survey and assisting in the production of several safety training aids and promotional packets. The purpose of this award is to encourage an active and effective safety program in municipal and industrial wastewater facilities.

Criteria:

- Documented and illustrated safety program and safety record of the facility for the preceding calendar year.

Volunteer Recognition Award

- **Nominee must be a member of AWWA or WEF**

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.

Young Professional of the Year Award


- **Nominee must be a member of AWWA or WEF**

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

Project of the Year – Engineering Award/ Environmental Award

The Project of the Year – Engineering Award/Environmental Award 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.

Awards may be presented in each of the following three categories:

- Small Utility – fewer than 5,000 customers
- Medium Utility – between 5,000 and 25,000 customers
- Large Utility – more than 25,000 customers 

Nominations Procedure

Where applicable, an awards committee has been established for the specific awards. The awards committee shall select the recommended candidate for the award from the nominations received, and shall present the award to the recipients during the ACWWA annual conference.

The recipient of the Fuller Award receives a pin at the ACWWA conference, and the actual Fuller Award is presented at the following AWWA Annual Conference and Exhibition.

All other awards are presented at the ACWWA conference.

The deadline for submissions will be **May 31, 2014**, for Awards to be presented at the **ACWWA Conference** in Halifax, NS on **October 19–21, 2014**.

Individuals wishing to nominate an individual or group for an award should complete below or contact the ACWWA office and request the applicable nomination form.

Contact:

Clara Shea, Executive Director
Telephone: 902-434-6002
Email: contact@acwwa.ca
Home page: www.acwwa.ca

Nominee's Full Name: _____

Nominee's Title: _____

Nominee's Phone & Email: _____

Award: _____

Submitted by: _____

Phone: _____

Email: _____

- For individual awards, please provide a short write-up that outlines the contribution of the nominee.
- For project awards, please provide a short write-up that outlines the specifics of the project being nominated and identifies the primary people involved with the project.
- Please fax your nominations to ACWWA **902-435-7796** or send by email to contact@acwwa.ca.

Fuller Award Winner Graham Gagnon



1. **What is your job title?** Professor
2. **Who do you work for?** Dalhousie University
3. **Where do you currently live?** Halifax, NS
4. **Where did you grow up?** Guelph, ON
5. **What's the toughest thing about your job?** Not having enough time to spend with students.

Finish these sentences:

6. **“When I’m not working, I’m...”** With my family or running.
7. **“The accomplishment I’m most proud of is...”**
Completing the Boston Marathon with my friends John Young and David Kachan while my dad and my son, David, cheered me on.
8. **“When I was a kid, I wanted to be _____ when I grew up.”** A farmer.
9. **“Not many people know I can...”** Curl (I played on my university team during my undergrad).

What is...

10. **the last book you read?** Calico Joe
11. **the last movie you saw?** Captain Phillips

12. **your favourite TV show?** Recently it has been Hell on Wheels, but I will always watch a clip of SNL.
13. **the best gift you’ve ever received?** I received a Sapporo one year and it was pretty special.
14. **your guilty pleasure?** Chocolate covered almonds.
15. **the song or story you remember from the radio this morning?** Listened to an interview with TJ Oshie on Mike and Mike. He struck me as a very humble person that loves hockey and his family.
16. **the most useless thing you’ve ever purchased?** The box of CDs that sit in my basement.
17. **If you could go on a road trip with any one person, living or dead, who would it be and where would you go? (and what would be in the CD player).**
I recently had a road trip with my mom and my kids in Colorado. It was great, but this time I would make sure my dad, Ruth, Anna, and Kathryn were with us. I am thinking that we would travel to the Carolinas – we would drive in the van that I grew up in (the van is now dead). We would listen to a playlist that has Zac Brown Band, Bruce Springsteen, Roy Orbison, and Kathleen Edwards. 🎧

Congratulations to Dr. Graham Gagnon and his research team

Dr. Gagnon’s team won the ‘Best Paper,’ that was published in *Journal AWWA* in 2013, from the Distribution System and Operations Division of the American Water Works Association. *Journal AWWA* is one of oldest peer-reviewed water research journals and it is celebrating its 100th anniversary in 2014.

For Dr. Gagnon’s team this publication was a joint effort between his Master’s student Eliman Camara and Halifax Water staff. This article examined the contribution of iron particles as a carrier of lead in drinking water and a portion of his research was published in *Journal AWWA* in August 2013 (Camara et al., 2013). The article has identified how water mains may contribute to lead in the tap.



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The Value of ALL Water

John Eisnor, P.Eng. & Rob Gillis, P.Eng., 2014 ACWWA Annual Conference Co-Chairs

Please join us in Halifax from October 19 to 22 for the 2014 ACWWA Annual Conference. This will mark the 67th year for the conference, which is the marquee must-attend event for the association. The Halifax conference committee has been working hard to produce a top-notch conference program targeted to all sectors of the water and wastewater industry in Atlantic Canada. As we look to continuously improve and grow the conference, we have listened to our members and have extended the schedule into Wednesday morning. The result is new programming and even more opportunities to network with water and wastewater professionals.

The 2014 Annual Conference will be held in the Halifax Marriott Harbourfront Hotel, which overlooks beautiful Halifax Harbour and is only steps away from the vibrant downtown, where you will find an abundance of dining, entertainment and shopping opportunities. Recent renovations at the hotel have transformed the lobby area into a Great Room, which includes lounge areas, meeting space and a new restaurant, all of which are meant to bring people together, much like our conference.


Atlantic Canada is blessed to have an abundance of fresh water sources. However, this is something that should not be taken for granted. This year's conference theme is *The Value of ALL Water*. What does *The Value of ALL Water* mean to you? Have you ever thought of the essential role that water plays in our daily lives? Some take for granted the quality and safety of tap water. Few give much thought as we flush water from our homes, businesses and factories. How we extract, use, and return this valuable resource has a significant impact on our communities, environment, and the economy. It is our job to teach current and future generations, not the price of water, but its true value as an essential and irreplaceable asset.

The conference committee is very excited about this year's program. The conference will start on Sunday with technical tours and golf in the afternoon followed by the Meet and Greet in the evening. On Monday morning, during

"It is our job to teach current and future generations, not the price of water, but its true value as an essential and irreplaceable asset."

the opening general session, the major AWWA and WEF awards will be handed out, and we will hear from our keynote speaker. As always, a strong technical program is the core of the conference, and once again this year a strong schedule of papers will be presented during technical sessions on Monday morning and afternoon, Tuesday afternoon, and Wednesday morning. On Monday afternoon the ever popular Top Ops competition will be held. Again this year, Monday night will be your opportunity to dine at the restaurant/pub of your choice, as the night is your own. This will be a great opportunity to enjoy the tastes of Halifax before heading to the ABEA Hospitality night. Tuesday morning will start off with the Best Tasting Water Competition followed by the ABEA Trade Show that will run all morning. Tuesday will wrap up with the Down East Feast and the music of the Mellotones. As mentioned above, in an effort to provide you more value and further networking opportunities, the conference schedule has been extended into Wednesday morning – a conference first. Wednesday morning will start with the annual Awards Breakfast followed by more technical sessions.

The 2013 conference in Fredericton set a new fundraising record for Water For People. We hope to replicate the same success here in Halifax. Once again a Water For People Walk/Run and Silent Auction will be held along with other interesting opportunities to raise money for the worthy cause.

Make plans to attend this first class conference from October 19 to 22. We will see you in Halifax. You can check 2014 Conference updates and details anytime by visiting www.acwwa.ca. 



Recipient of the Volunteer Recognition Award – Amy McHarg

- 1. What is your job title?** At work, it's Engineer / Project Manager. At home, it varies from super got-everything-together-mom to how-will-I-get everything-done-mom.
- 2. Who do you work for?** CBCL Limited.
- 3. Where do you currently live?** Rothesay, NB.

- 4. Where did you grow up?** Saint John, NB.
- 5. What's the toughest thing about your job?** Remembering the names of all the people I meet.

Finish these sentences:

- 6. "When I'm not working, I'm..."** Driving kids to hockey, gymnastics, or horseback riding; beating my kids at Just Dance 2014; doing a bit of theatre.
- 7. "The accomplishment I'm most proud of is..."** Being told that I'm a good friend.
- 8. "When I was a kid, I wanted to be _____ when I grew up."** According to my parents, I wanted to have 100 kids and buy a bus to drive them around in.
- 9. "Not many people know I can..."** Sing and dance (or at least I love doing them.... not sure what others think.)

What is...

- 10. the last book you read?** "Evangeline, A Tale of Acadie" by Henry Wadsworth Longfellow.
- 11. the last movie you saw?** "Lego Movie"
- 12. your favourite TV show?** How I Met Your Mother, Big Bang Theory, and Modern Family.
- 13. the best gift you've ever received?** My own tool bag.
- 14. your guilty pleasure?** Chocolate, chocolate, and more chocolate.
- 15. the most useless thing you've ever purchased?** Many Pampered Chef items that I think will make me a better cook and help me make new meals that my kids will like. Hasn't worked yet.
- 16. If you could go on a road trip with any one person, living or dead, who would it be and where would you go (and what would be in the CD player)?** Julie Andrews and Dick Van Dyke. Wouldn't matter where we went, I would just love to hear their life stories. ☺

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Let's Solve Water



Mark your calendars now and budget for the 2014 Window on Ottawa

Roland P. Richard FEC, P.Eng.
 CWWA Director for ACWWA

This year's event will again be held at the end of November 2014 at the Delta Ottawa City Centre.

The Window is CWWA's core event, offering municipal managers an opportunity to hear about federal initiatives from the senior government officials working on these programs.

A key advantage to attending the Window is that it not only allows delegates an opportunity to hear about these programs first hand, but also allows them to raise regional and national concerns.

The CWWA's Annual General Meeting is always hosted in conjunction with the *Window on Ottawa*. This is an excellent opportunity for members to hear about CWWA activities for the past year and priorities for the future.

I encourage you all to attend this most important networking opportunity with other water and wastewater professionals from across Canada. Visit the CWWA website for the complete details: www.cwwa.ca.

Nominations for positions on the Board of ACWWA (2014)



The Board of ACWWA is inviting nominations for the following five positions:

1. Second Vice Chair (2014–2015)
2. WEF Delegate (October 2014–October 2017)
3. ABEA Director (2014–2017)
4. Technical Director (2014–2017)
5. Communication Director (2014–2017)

Nominations should be provided in writing to the Section Office, and will be forwarded to the Nominations Committee for consideration. **The deadline for nominations is May 16, 2014.**

Please contact the Section Office for the following:

- Policy on nominations and elections to the Board
- Terms of references for the positions
- ACWWA by-laws

The Section Office can be contacted as follows:

Clara Shea, Executive Director
 Telephone: 902-434-6002
 Email: contact@acwwa.ca
 Home page: www.acwwa.ca



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The Treatment Plant Optimization Program is open to surface water filtration plants of all sizes and process configurations, and is focused on reducing treated water turbidity to protect public health. The Distribution System Optimization Program is open to any water utility that applies a distribution system disinfectant and is focused on evaluating and optimizing distribution system performance based on a variety of

parameters, including disinfectant residual. Both programs focus on achieving water quality and operational improvements through the process of completing a self-assessment of operations and developing an action plan to work towards optimization. Low annual subscriber fees are based on population served and cost utility customers less than a penny per year, while providing a measureable improvement in drinking water quality.

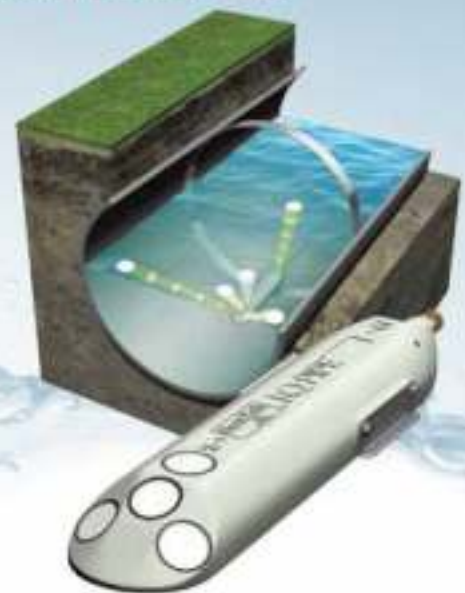
Partnership utilities receive public recognition as they progress through the program's phases and reach optimization milestones, demonstrating their commitment to improving water quality and protecting public health.

Join the more than 220 Partnership utilities that participate in and benefit from the Partnership for Safe Water's utility optimization programs. To learn more, visit www.awwa.org/partnership or contact the Partnership at 303-347-6169.

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