



# GO WITH THE FLOW

Atlantic Canada Water and Wastewater Association Newsletter

An affiliate of the American Water Works Association and the Water Environment Federation SUMMER 2011

## ACWWA 2011 St. John's Conference Schedule & Information

A New Strategy for NS  
Saving Water = Saving Energy  
CWWA News



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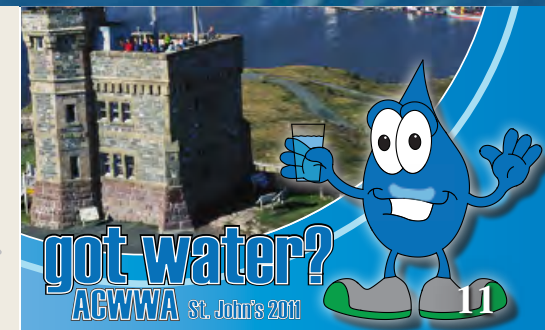
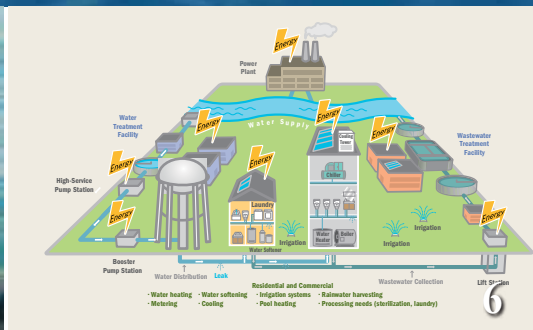
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**GO WITH THE FLOW** is published four times yearly by the Atlantic Canada Water and Wastewater Association, PO Box 41002, Dartmouth, NS, B2Y 4P7. Copyright 2011 by the Atlantic Canada Water and Wastewater Association and the American Water Works Association. Published in the USA.

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North America's oldest city, St John's, NL, is home to colourful row houses, tall ships, and this year's ACWWA Annual Conference. See you there!

# Chair's Corner



## Don't Forget to Register Early for St. John's

by Robert Gillis, P. Eng.

Welcome to another issue of *Go With the Flow*. I hope you are continuing to enjoy the new format, published through AWWA. If you have any comments, please ensure you forward them through our ACWWA office. Also, please forward any water or wastewater stories or projects that you feel our members would enjoy for inclusion in future issues.

I would like to thank Debbie Smith and her team in St. John's, NL, for taking on the planning for this year's annual conference coming up on Oct. 2-4. Keep in mind that our online registration will open soon and is an easy and convenient way to register for the conference.

As part of the conference, the Atlantic Branch Equipment Association will be hosting a trade show and a hospitality

evening at a local pub close to the hotel. Thank you to our ABEA members and the solid support they offer our members. We are a stronger association as a result.

With regard to Cross Connection Control, we have made significant achievements in moving forward on aligning the national CCC agenda with that of our local Section. I would like to thank Roland Richard with the Greater Moncton Sewerage Commission and the CCC Committee for all their hard work over the last year.

Congratulations to the Water For People Committee and their chair, Mike Chaulk of CBCL, for planning and hosting the "Well Tapped" fundraiser for WFP, which raised over \$1,500. Thank you to the bands, sponsors and all who attended

for making it a great evening.

ACWWA has entered a utility membership recruitment contest for AWWA, so please help John Eisnor with Halifax Water meet his four-utility target by promoting the benefits of AWWA membership with your peers in the industry.

Earlier this year the request for award nominations was issued for the Silent Hero, Fuller, Bedell, Burke, MacNabb, Volunteer Recognition, Project of the Year and Laboratory Analyst awards. Please take the time to review the criteria for each of these awards and nominate colleagues or projects that are deserving.

Again, don't forget to register for the Annual Conference early, as there is a fantastic early bird registration prize. See you in St. John's!

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# WEF Delegate's Update



## Speaking with One Voice, and a Big Thank You by Gary Chew

Things continue to progress in Atlantic Canada WEF, and our membership is growing. We appreciate our members, and this fall at the St. John's, NL conference we are initiating the 5s Shovellers Society of ACWWA. This award will be presented every year at the conference to WEF members who have contributed to the wastewater industry and ACWWA in Atlantic Canada. To qualify, you must have been a WEF member for at least five years and played an active role in the association and /or the wastewater industry in Atlantic Canada. Watch for the names of this year's recipients in the fall newsletter.

In April, I attended a meeting in Montreal held jointly by the Canadian Water and Wastewater Association, WEF and AWWA Canadian Affairs Council members and some other groups involved in the Canadian water and wastewater industry. The seminar was called "One Voice For Water," and the purpose was to have all parties concerned come together as one strong voice in efforts to connect with the governments on water and wastewater issues. It was a great workshop, and I am sure the effort will continue on this in the future.

Once again, I encourage WEF members to email me and let me know what

you would like to see in terms of water and wastewater training and activities in our association. My email is [gary.chew@sansom.ca](mailto:gary.chew@sansom.ca). I look forward to hearing from you.

Also, I want to take a moment to send appreciation to the employers of all our ACWWA board members, who allow us the time to dedicate to the association and all its programs, and who even offer training for our courses and submit papers for our conference. Thanks to you all for your part in making our association strong.

That's a wrap for this issue. See everyone on St John's!

# AWWA Director's Report



## A Virtual ACE11, and Thanks for the Memories

by Bruce Buchanan, P. Eng.

By the time you read this, ACE11 will have come and gone. It is expected to be a successful event; revenue as of April is above both last year's and the projections for the year. This is due in part to the paid exhibits and registrations.

Something new is being offered by AWWA at the conference this year: "ACE11 Virtual." Through the virtual event, LIVE streaming video of ACE11 keynotes and sessions will be provided. This will be a perfect opportunity to see the value of ACE11 for yourself, without the expense of travel.

I reported in the last newsletter that AWWA and WEF signed a joint resolution to work together on various issues. Staff from both organizations continues to meet and discuss future collaborations. Some of the current successful projects include the Utility Management

Conference; the "Work for Water" website and materials; the Young Professionals Summit; the Washington, D.C., Fly-in; and the Effective Utility Management program.

As the first quarter drew to a close, membership was above projections, which is a positive note. On the negative side, however, the numbers are still below last year's.

I reported in the last newsletter that I was tasked to chair an ad hoc committee consisting of the Canadian Affairs Committee, Section Services and Membership.

The recommendation going to the AWWA Board is for the Canadian Affairs Committee to remain on its own; the recommendations also include having a vice president sit on the Committee and for the CAC to report to the Executive Committee.

For the Section Services and Membership Committees, recommendations are for them to merge into a Membership & Engagement Committee, to have a vice president sit on the committee and to report to the Executive Committee.

The AWWA officials attending our Annual Conference in St. John's this October are expected to be Joe Mantua, AWWA President, and David LaFrance, AWWA Executive Director.

This is my last report to the Section as AWWA Director, as my three-year term comes to an end in June at ACE11. My term as Chair of the Canadian Affairs Committee also ends at ACE11. I wish to thank the Section for giving me the opportunity to represent them. It is safe to say it has been enjoyable and a rewarding experience professionally and personally.

Thanks again!



## Provincial Water Strategy Launched

The vision of the Nova Scotia Museum of Natural History is “to interpret the natural world to its visitors and inspire them to perceive the part it plays in their everyday lives.” That makes the museum an ideal location for the province to officially launch “Water for Life: Nova Scotia’s Water Resource Management Strategy.” Water is essential for life, and this strategy provides a road map for water management in Nova Scotia over the next 10 years and beyond. Development of the strategy was a commitment made by the government in 2007 under the Environmental Goals and Sustainability Act.

Strategy Coordinator Jessica Paterson McDonald, with Nova Scotia Environment (NSE), emphasized the need to reflect the concerns and ideas of Nova Scotians when she spoke about the extensive stakeholder consultation sessions held over a three-year period. Based on that feedback, the strategy outlines 29 actions to be achieved in the next 10 years.

Environment Minister Sterling Belliveau said, “Nova Scotians care about their water and want to make sure it is protected. They know that water is not an unlimited resource. This water strategy will guide us in the management of water for the benefit of communities, businesses, industries, First Nations and individuals. It ensures that we’re staying on our path to sustainable prosperity.”

A core commitment of the strategy is the principle of “Integrated Water Management,” encompassing three areas of action:

- Understanding the quality and quantity of our water;
- Protecting our water; and
- Engaging in caring for our water.

A Nova Scotia Water Advisory Group will be established to work in partnership with the government to advise on the implementation of an Integrated Water Management strategy.

The first project under the water strategy is the watershed assessment program; the Hydrologic Systems Research Group at Dalhousie University has been awarded a \$19,000 grant to collect information on Nova Scotia’s major watersheds and create a tool to assess their conditions.

Nova Scotia has also launched an online Water Portal website. The new Water Portal acts at the nexus of community, industry, academia and government to manage our most valued resource—water.

For more information, visit [www.gov.ns.ca/nse/water.strategy](http://www.gov.ns.ca/nse/water.strategy).



Jessica Paterson McDonald, discusses the strategy with launch attendees.

## Annual Conference 2011: Got Water?

Join us in St. John’s, NL, Canada’s oldest city, as we all talk about water and wastewater. Water and wastewater have been topics of conversation and concern from the public to the political sectors. We all know we “Got Water,” but can we keep it in good supply and keep it safe for consumption? Quantity and quality are everybody’s concern.

From Hurricane Igor’s devastation in Newfoundland to the state of emergency in parts of Nova Scotia, water is a necessity. It can be devastating to the population if it is unobtainable, even for short periods of time.

The influx of debris or floodwater infiltration into our source water from natural events can put increased strain on and pose challenges for our potable water treatment plants, but it doesn’t end there—increased stress on our infrastructure, small systems, and larger flows and stormwater infiltration can overrun our wastewater treatment facilities.

Reunite with friends and colleagues as we share our Newfoundland hospitality and discuss the many issues and challenges that we as water and wastewater professionals must contend with in the production, conveyance and removal of waste from water.

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## CWWA Update By Roland P. Richard, P. Eng., FEC, CWWA Director

CWWA hosted its annual “Window on Ottawa” on Dec. 1–2, attracting a record 161 delegates. The Window featured speakers from several federal departments and other national agencies. It also included two very successful specialty workshops: one on water utility security, and the other on biogas.

CWWA hosted its Annual General Meeting and Annual Dinner in conjunction with the Window. The Dinner featured a tribute to retired Executive Director Duncan Ellison, recognizing his lasting and continuing contribution to the association. Duncan was presented with a wonderful portrait commemorating his great contributions to CWWA.

The following are some of the subjects that will be focused on during the coming year:

**Ensuring service and value to members:** The board’s focus on strengthening the working relationship and the shared opportunities with its Member Associations will continue. The board hosted a workshop April 13 in Montreal with all the member associations to explore how these can be improved.

**Internal structure:** CWWA continues to improve its internal structure and to evaluate current member services to identify strengths and areas that need improvement. To help in that goal, CWWA developed and circulated a survey that polled members on the quality of our events, communication tools and other services. Initial results indicate that while our events are well received and generally of high quality, there is a need for improving remote access. As a result, we are now investigating Web-based tools for remote conferencing.

We are currently compiling responses and will report back to our membership in the coming months and begin to implement changes through the development of our new multiyear strategic plan.

**Policy and committee work:** Last fall, CWWA collaborated with the Federation of Canadian Municipalities to provide feedback and technical suggestions for improvements to Environment Canada regarding the Wastewater Systems Effluent Regulation proposed under the Fisheries Act. All advice has been taken into consideration. EC has indicated that the final regulation has been delayed and is now expected in the fall. In the meantime, EC has committed to sharing an advanced copy of the final draft with CWWA and FCM. Our Wastewater and Stormwater

Committee will review the revisions once they are available.

The Federal-Provincial-Territorial Committee on Drinking Water recently released a draft Guideline document on “Enteric Protozoa—*Cryptosporidium* and *Giardia*.” CWWA’s Drinking Water Quality Committee reviewed the draft and submitted generally supportive comments to Health Canada. It was agreed that the draft was of high quality and will be useful for water utilities in evaluating and managing the risks from enteric protozoa. The primary concern was inconsistencies among provincial regulators, some of whom don’t require the recommended log removal in the draft, and the difficulty in comparing log removals across jurisdictions, which may have slightly different methods of calculation.

CWWA’s Security and Emergency Management Committee hosted a workshop on Nov. 30, 2010, and members of the committee have begun discussions pertaining to the

*Continued on page 10*

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## Energy Management

# Savings Multiplied: Conserve Water and Energy to Maximize Efficiency, Reduce Emissions

Water and energy are intertwined in a water–energy nexus: Conserving one inevitably conserves the other. And saving these resources goes hand in hand with sustainability. **BY CRAIG HANNAH AND TRICIA KUSE**

**T**HE WATER NOW on Earth is all there ever was or ever will be, and 99 percent of that water is salty or locked up in ice and glaciers. People depend on the remaining amount for drinking, bathing, recreation, growing food, producing goods, and generating power.

Water and energy closely interconnect. It takes large amounts of water to produce energy and significant amounts of energy to distribute, purify, and heat water for various uses. That interconnectivity is called the water–energy nexus.

Societies are increasingly adept at saving energy because pure economics demands it. Conserving water is even more critical because of water's unique ability to sustain life. Fortunately, many fundamentals of wise energy use can be applied to water. Smart water management can help make the most of water as it journeys from source to users and back to the environment. Each improvement along the way also saves energy.

### A RESOURCE UNDER STRESS

The importance of freshwater becomes more apparent as growing populations around the world stretch supplies. By

2025, an estimated 1.8 billion people will be living in countries or regions with absolute water scarcity, and two-thirds of the world's population could be under water stress conditions, according to a 2006 United Nations report.

In the United States, a country considered rich in water, the population is expected to grow by 70 million in the next 25 years, during which water and electricity use will rise by 50 percent. A 2008 US government study found that, by 2013, at least 36 states expect to see water shortages. Water could quickly become a factor that limits economic growth.

Meanwhile, demand for energy is increasing pressure on water resources. Some 40 percent of all daily freshwater withdrawals are used for cooling at large-scale electric power plants. In many regions, because of the amount of water needed to produce electricity, people use daily as much water turning on lights and running appliances as they use in taking showers and watering lawns.

Conversely, in mid-size cities, 30–40 percent of the electricity is used by water utilities (mainly for pumping) and wastewater utilities (primarily for aeration). In the United States, transportation,

distribution, and purification of water consume 4 percent of all electricity. In addition, an estimated 18 percent of water used in homes and businesses is heated, requiring still more energy. In high hot-water demand industries such as hospitality, 42 percent of energy use is to heat water. Commercial buildings with heavy hot-water demand include dormitories, public housing facilities, and facilities with commercial laundries or industrial processes.

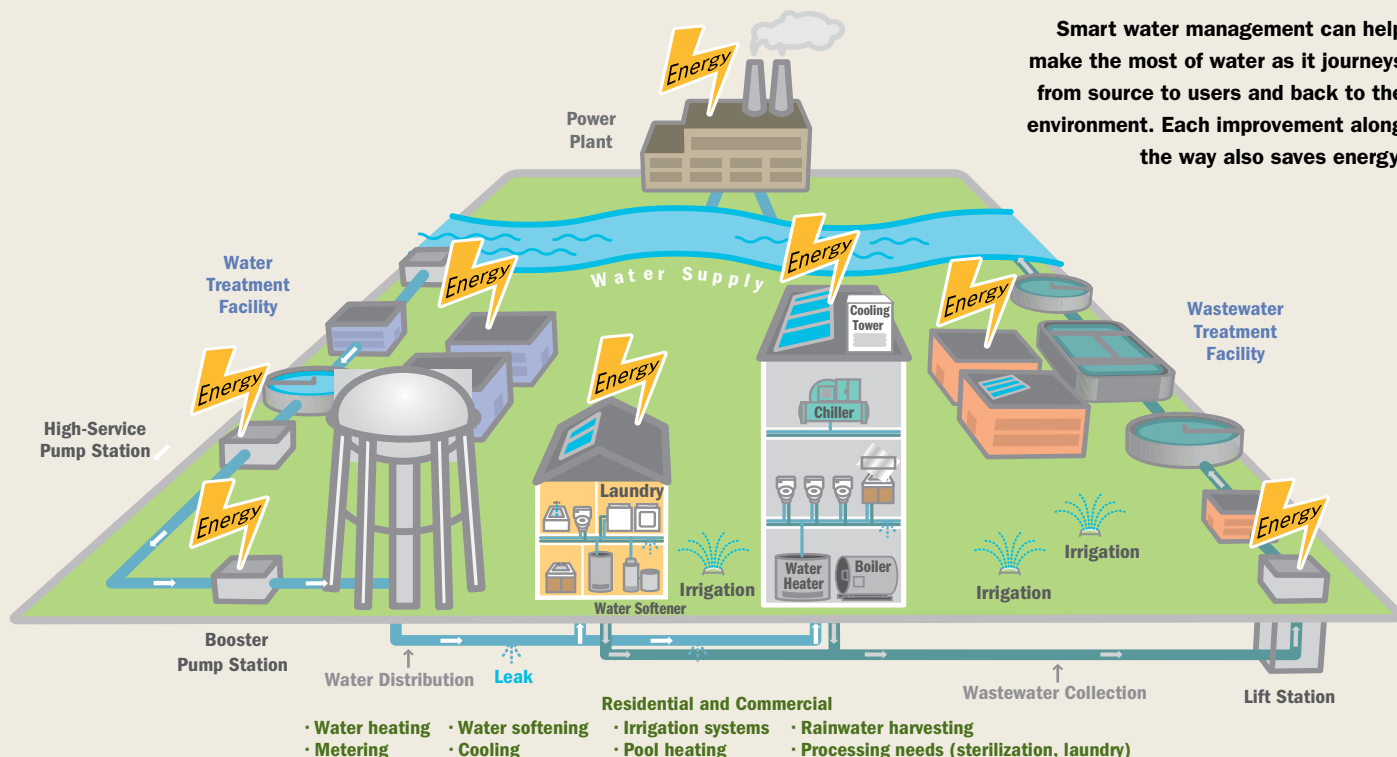
For these and other reasons, sustainability initiatives increasingly focus on water. Virtually every corporate, municipal, and institutional sustainability policy emphasizes water efficiency. The US Green Building Council's Leadership in Energy and Environmental Design (LEED) certification program focuses on water efficiency with an emphasis on water-use reduction, water-efficient landscaping, and innovative wastewater technologies.

### RIISING DEMAND AND PRICES

For many years, water efficiency lagged behind energy efficiency, largely because users thought water inexpensive and abundant. However, the US Department of Energy reports that water rates have risen by 100–500 percent in the last decade and



Smart water management can help make the most of water as it journeys from source to users and back to the environment. Each improvement along the way also saves energy.



likely will keep rising at a 10 percent/yr average.

Prices will continue to increase if water utilities adopt full-cost pricing, as advocated by the US Environmental Protection Agency (USEPA). In many locations, water prices don't fully reflect the costs of producing, treating, and distributing water. Because price indicates value to consumers, it's important for prices to reflect the increasing scarcity of water, according to USEPA. Part of this value includes an increasing financial obligation to maintain water and wastewater infrastructure. USEPA is encouraging utilities to charge for the full cost of service, adopt management practices that help them better manage assets, and implement measures to use water more efficiently.

Between 1950 and 2000, the US population nearly doubled, and public demand for water more than tripled. In many regions, scarcity alone, whether caused by drought or population growth, has brought water efficiency to the forefront.

In the face of increased demand, communities and water utilities find that water efficiency is the best and least expensive route to greater capacity. Building or expanding treatment plants is far more expensive.

## WASTING WATER

Although many communities are making progress with comprehensive water

conservation initiatives, losses are still significant. Thousands of US water utilities together deliver more than 34 bgd of drinking water. The US Geologic Survey has estimated that as much as 6 bgd are categorized as nonrevenue water attributable to leakage, poor accounting, and other unbilled consumption—enough to supply the nation's 10 largest cities.

AWWA's 2007 State of the Industry Report estimated losses at 10–20 percent in water distribution systems throughout the nation. In parts of the northeastern United States, more than 30 percent of treated water is lost through exfiltration. In extreme cases, a water utility may bill for only 50 percent (or less) of the water it treats and pumps to distribution.

The situation is no better at the end-user level, where buildings consume 20 percent of the world's available water. If businesses in California alone adopted proper water efficiency measures, they could save enough water to supply San Francisco, Los Angeles, and San Diego, according to a Natural Resources Defense Council issue paper.

Meanwhile, a US household can waste an average 11,000 gal/yr from running toilets, dripping faucets, and other leaks. If all US households installed water-efficient appliances, the collective savings would total more than 3 trillion gal of water and more than \$18 billion/yr. Older, inefficient toilets waste the most

water in American homes. Replacing these outdated models with toilets bearing the USEPA WaterSense label could save nearly 2 bgd across the country.

Similar or greater gains in water efficiency are possible from commercial and industrial facilities to hospitals, schools, universities, government office buildings, correctional facilities, and military bases.

## EFFICIENCY PAYS

The good news is conserving water pays large dividends, even more than saving energy. On average, implementing water-efficient designs and products leads to about a 15 percent reduction in water use, about a 10 percent reduction in energy use, and about a 12 percent reduction in operating costs.

Construction industry research shows that lower energy and operating costs are the top two reasons owners incorporate water-efficiency projects. Water and energy savings incorporate the same basic disciplines:

- Identify and fix waste sources.
- Install more efficient equipment.
- Add automation and controls where possible.
- Improve maintenance and operating practices.
- Measure results and establish continuous improvement strategies.
- Educate users and change wasteful behaviors.

# Energy Management

## OPTIMIZATION STRATEGIES

Any effective efficiency program follows a continuous cycle: measure, manage, monitor, and report. Here are several basic ways in which water users and providers can reduce water consumption, increase efficiency in systems that distribute and use water, and employ sustainable practices.

**Water-Efficient Green Building Solutions.** Facilities of all kinds can benefit from efficiency enhancements, which can cut energy and water consumption by 10–50 percent through conservation and operational changes. Possible improvements include modernizing HVAC systems; improving processes in industrial buildings, hotels and hospitals; installing plumbing fixtures that curtail domestic water use (i.e., faucets, toilets, showerheads); and promoting educational and awareness initiatives. Efficiency upgrades are available for many processes and equipment that use water, from hospital imaging equipment, cooling and process systems, to cooling towers.

**Landscaping and Smart Irrigation.** Landscape irrigation uses vast amounts of potable water. Simple conservation measures include choosing plants that need less water, harvesting rain for irrigation, and avoiding watering during the day when evaporation losses are high. More advanced measures include installing weather-based irrigation controllers, which automatically modify watering schedules based on weather, plant, and soil combinations.

**Conservation Education.** Building owners, cities, and water utilities can use education and communication tools to teach residents how to conserve water directly by cutting water use and indirectly by saving electricity. Building owners can install and pursue water-saving products. Cities can encourage residents to install water-efficient fixtures and appliances and provide incentives in the form of rebates or tax breaks.

**Water-Loss Prevention.** Although a main break often becomes big news and can

waste water in tens of thousands of gallons, small leaks that fail to surface often cause much more water loss. Utilities can lose substantial water from major line breaks or from slow, persistent leaks. A good starting point for water loss optimization is to perform an AWWA water audit, an accounting of all water uses. AWWA's Water Loss Control Committee is actively updating tools to help water utilities compile annual water audits and to control water and revenue losses (see [www.waterwiser.org](http://www.waterwiser.org)). Water audit data can drive water conservation, water reuse, and water-loss control initiatives. An optimization program can include ongoing leak detection and repair, pressure management, metering of usage with the correct meter types and sizes, advanced metering infrastructure (AMI), periodic meter testing, and a systemwide review of service and business operations.

**Greening Treatment Plants.** Many water and wastewater treatment plants waste substantial energy. Energy conservation

## WATER EFFICIENCY CASE STUDIES

### SAVINGS SUPPORT SUSTAINABILITY INITIATIVE

The city of Charleston, S.C., expects to save \$18.5 million over 15 years through a performance contract that includes savings on water, energy, and operating costs. Projects include a new irrigation system for decorative landscaping at a recreation complex and four city parks that will reduce water use by 40 percent.

Lower water use frees energy for water treatment and pumping. The projects, which support the city's sustainability initiatives, will eliminate nearly 10,000 tons of carbon dioxide emissions per year, equivalent to removing more than 1,600 cars from the road for a year.

### ACCURATE METERING SAVES \$1.3 MILLION ANNUALLY

New accurate water meters, an advanced automated meter reading system, and distribution system upgrades enabled the city of Galveston, Texas, to obtain additional revenue and improve system efficiency. The work also included replacing large, inefficient motors at two wastewater treatment plants.

The new meters helped the city capture \$1.3 million/yr in previously lost revenue, and savings on electricity increased the total benefit to \$1.5 million annually. A performance contract, with financing through the State Energy Conservation office at advantageous interest rates, enabled the city to pay for the improvements without issuing bonds or raising taxes.



Lower water use in Charleston, S.C., will free energy for water treatment and pumping.



New water meters helped Galveston, Texas, obtain additional revenue and improve efficiency.

## Investments in water and energy efficiency can bring quick and substantial returns.

and operational changes can cut energy consumption by 10–30 percent. In addition to traditional improvements to HVAC equipment and controls, lighting systems, building automation systems, and domestic water use improvements, water treatment plant operations can be improved with high-efficiency raw water pumps, backwash water pumps, and high-service pumps. Wastewater plants can benefit from high-efficiency lift pumps, aeration system improvements, and combined heat and power systems using digester gas. Both kinds of plants may also deploy wind and solar energy systems.

### Metering Accuracy and Automation.

One of the best ways to help fund efficiency and sustainability initiatives is to maximize billable revenue from water delivered to customers. To reduce apparent water loss, a utility should consider installing an automatic meter reading (AMR) or AMI system, replacing or repairing old water meters, and installing the correct size and type of meter for each

application. AMR and AMI systems save labor and fuel, reduce vehicle emissions, and minimize operational expenditures while eliminating errors in the meter-reading process. Hourly data from AMI systems can be used to detect anomalies and potential issues faster while enhancing customer service.

### FINDING THE FUNDS


Naturally, water efficiency requires an investment. Private and public entities can receive grants or low-interest loans under state-sponsored efficiency initiatives. They can also take advantage of performance contracting, a financing method to fund projects by using the projects' guaranteed savings.

In a typical performance contract, an organization engages an energy service company (ESCO) to replace aging equipment and systems with modern, efficient technologies, including renewable energy. Some of the most rewarding performance contracts combine

water- and energy-saving projects into a single package.

An ESCO guarantees customer savings over a contract period, such as 10–15 years, and those savings repay the capital investment in the improvements. Typically, the owner's operating costs go down immediately, even as the initial investment is repaid. At the end of the contract, when the project is paid in full, the owner has substantially lower costs than before the improvements were made, and those savings affect the bottom line.

### SENSE OF URGENCY

Sustainability initiatives—and the motivation to conserve water and energy—will only increase in the future. Investments in water and energy efficiency can bring quick and substantial returns. Available funding mechanisms make those investments more attractive than ever. The time is right for all who use, distribute, and treat water to apply the latest knowledge and tools to drive out waste and maximize these resources. 

## MILWAUKEE COUNTY ZOO CUTS WATER USE

After a complete audit of water and energy efficiency, the Milwaukee (Wis.) County Zoo made improvements that will save \$1.4 million over 12 years and cut water use by 50 percent (100 mil gal/yr).

Water efficiency measures included installing control valves on drinking trays in the aviary building; installing low-flow sinks, aerators, and toilets throughout the complex; turning off the water at night in the macaque monkey island exhibit; and shutting off the waterfall for hippos and giraffes when it wasn't needed for decorative displays.

Energy and comfort improvements included high-efficiency boilers in the aquatic reptile buildings, energy-efficient lighting in laboratories, and ENERGY STAR vending machines.

## WATER EFFICIENCY LEADS TO CERTIFICATION

Parrish Medical Center, Titusville, Fla., became the state's first Leadership in Energy and Environmental Design (LEED)-certified outpatient healthcare facility with a design that includes substantial water conservation components. Its green attributes earned a LEED silver rating.

Water conservation measures include native vegetation landscaping requiring 50 percent less water, holding ponds to trap rainwater for irrigation, low-flow plumbing fixtures that use 20 percent less water, and dual-flush toilets and waterless urinals that cut water use by 30 percent.

Energy efficiency features include high-efficiency lighting with occupancy and daylighting sensors, high-efficiency HVAC with environmentally friendly refrigerants, and an integrated building management system.



# ACWWA News

*Continued from page 5*

2011 Water Utilities Security Workshop. The intention is to explore the interdependencies between different critical infrastructure sectors and to improve dialogue. CWWA will expand the scope of the workshop to include representatives from other CI sectors. The Association has also secured Public Safety Canada's continued sponsorship of the workshop.

Our Water Efficiency Committee is also going through a renewal process, and we hope to select a new chair, review the Terms of Reference and begin planning for the 2011 national event. Although 2011 would normally be a year for another water efficiency conference, recently CWWA won the right to host the 2013 International Water Association Specialist Conference on the Efficient Use and Management of Water, in Toronto. Your energy and ideas for this event are most welcome!

**International Work:** CWWA has developed an International Business Development Strategy that proposes accessing the Global Opportunities for Associations funding from the Department of Foreign Affairs and International Trade. The proposal has been submitted to Foreign Affairs and International Trade Canada, and CWWA is waiting for approval. If CWWA acquires funding, the first step will be to organize a delegation of Canadian water and wastewater experts to attend the International Water Week, July 4–8 in Singapore.

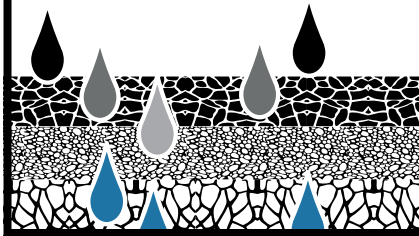
As above, CWWA actively sought and won the hosting rights to the IWA Specialist Conference on the Efficient Use and Management of Water. The Program Committee will be directed by the newly elected Specialist Chair, Mary Ann Dickinson, Executive Director of the Alliance for Water Efficiency, who is also a member of CWWA's Water Efficiency Committee.

**Upcoming Events:** The Fourth Canadian Workshop on Water Efficiency and Conservation, Oct. 18, Ottawa, ON.



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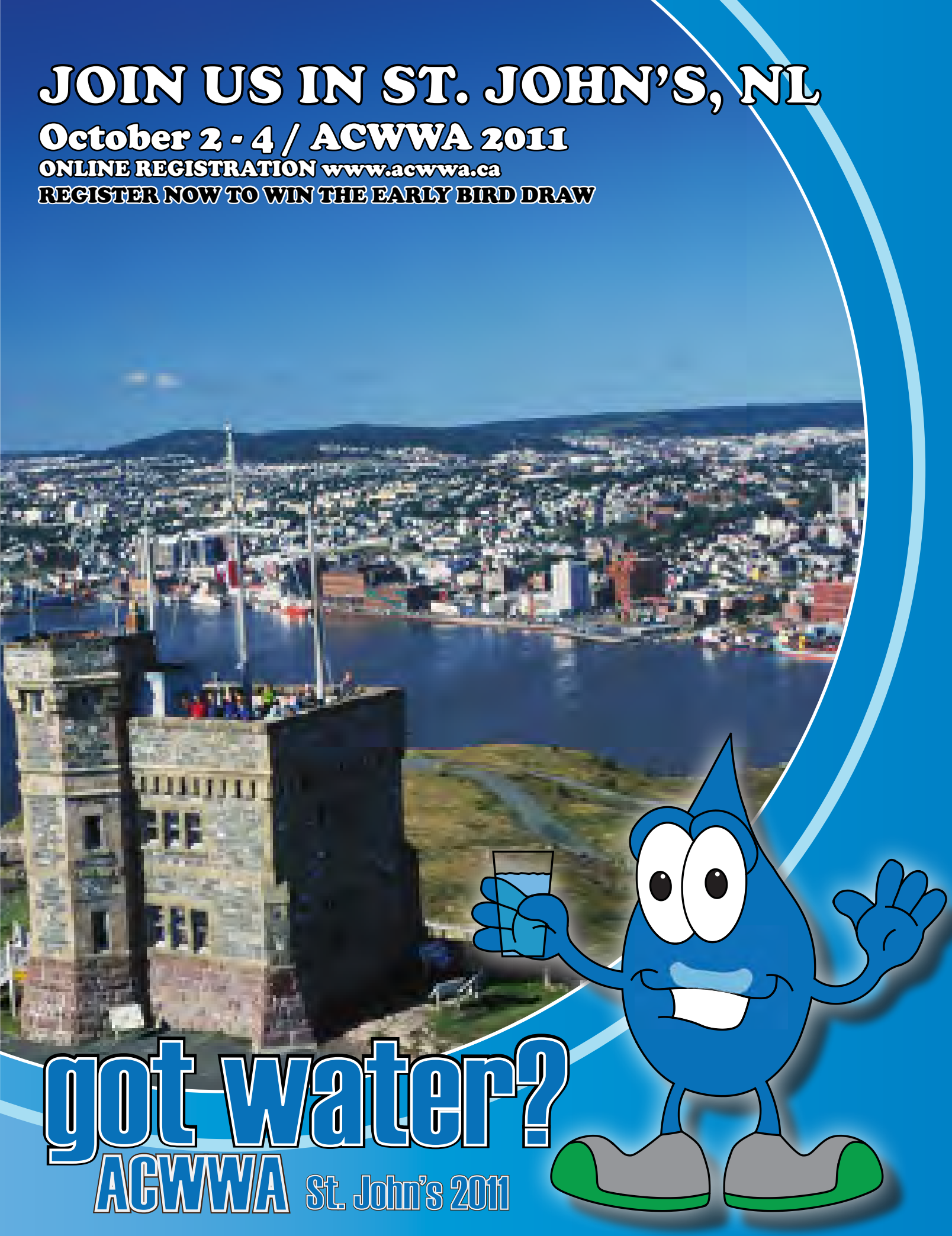
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October 2 - 4 / ACWWA 2011

ONLINE REGISTRATION [www.acwwa.ca](http://www.acwwa.ca)

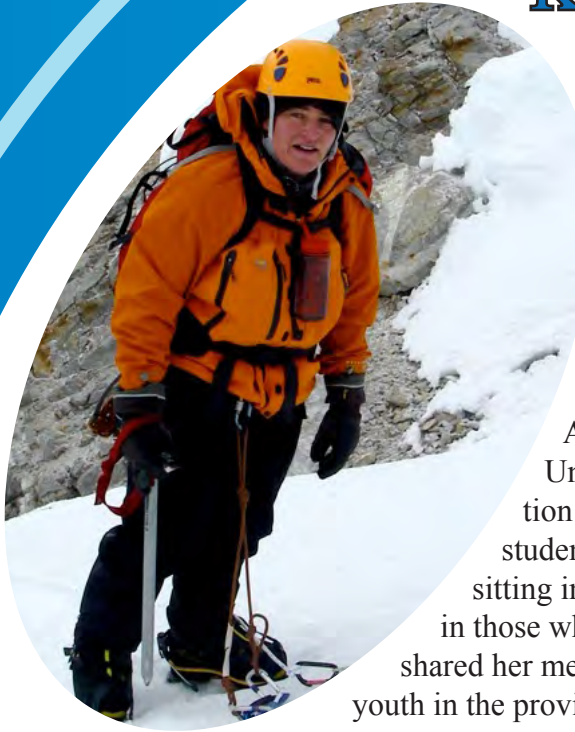
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# got water?

ACWWA St. John's 2011

# Keynote Speaker



Dr. TA Loeffler brings 25 years of expertise leading people through significant life-changing experiences to every facet of her work. Her work and adventures have taken her to 36 different countries and six different continents. TA is attempting to complete “The Seven Summits,” the highest peak on all seven continents and has only two left to complete: Mount Everest and Mount Vinson.

As a Professor of Outdoor Recreation at Memorial University of Newfoundland, TA has developed a reputation for excellence in experiential education because her students are more likely to be outside chasing icebergs than sitting in a classroom. TA inspires hope, possibility, and vision in those whose lives she touches. Over the past six years, TA has shared her message of “Big Dreams, Big Goals” with over 22,000 youth in the province of Newfoundland and Labrador.

TA believes that we all long for a balanced, engaged, and creative life that challenges us to be the best we can possibly be. She models this belief in her life on a daily basis and combines her broad range of skills to inspire all to create the life they truly want.

Using her vast collection of outdoor adventures to create metaphors that provide new ways to see and transform the inevitable obstacles of life, TA’s multimedia presentations inform, inspire, and motivate. As an award-winning filmmaker and speaker, TA understands the power of metaphor to initiate and sustain life and professional change.

TA has received international and national recognition for her innovative teaching and inspirational speaking. In 2008, TA was awarded a prestigious 3M National Teaching Fellowship and named as the Minnesota State University “2008 Distinguished Alumnus” in the Humanitarian category.

In 2007, TA received the Karl Rhonke Creativity Award from the Association of Experiential Education. In 2006, The Globe and Mail named TA, “A Class Act” and she received the Association of Atlantic Universities Distinguished Teaching Award. As well, the Canadian Association for the Advancement of Women in Sport named TA to their 2006 Top Twenty Most Influential Women in Canadian Sport and Physical Activity List. Additionally, TA received the Memorial University Presidents Award for Distinguished Teaching in 2005 and the Association for Experiential Education named TA the Outstanding Experiential Teacher of the Year in 1999.

Through her experience in both sports and outdoor adventure, TA intimately appreciates teamwork and knows how to bring teams together to accomplish their goals and fulfill their greatest potential.

# Join us in October 2011

Come to Newfoundland and Labrador and experience the unique culture of Canada's youngest province. This year the 64th annual Atlantic Canada Water and Wastewater Association Conference is being held in historic and picturesque St. John's.

Join us as we all talk about water! Water and wastewater are topics of conversation and concern from the public to the political sectors. Everyone's "Got Water", but can we keep it in good supply and safe for consumption? Quantity and quality is everybody's concern. Water is a necessity and yet it can be devastating - just recall Hurricane Igor's devastation in Newfoundland and declared "state of emergency" in parts of Nova Scotia and New Brunswick. The influx of debris and flood water infiltration into source water from natural events can put increased strain on our potable water treatment plants. Increased runoff stresses our infrastructure and small systems and can overrun our wastewater treatment facilities.

Hike the Signal Hill trail, as we raise funds for Water for People. Look for puffins and whales after taking the opportunity to discuss the many challenges of the water and wastewater industry with fellow professionals. The many technical sessions will keep you up to date on developments in the industry and aware of best practices. Come watch the Top Ops competition that has become a popular part of the conference and, for the first time, a wastewater version of the Top Ops competition.

For all those who wish to become an honouree member of the host Province, the trade show will offer a new spin on the regular format with the inclusion of a traditional "Screech-In" to raise funds for Water for People.

On behalf of the 2011 Conference committee, please consider this your personal invitation to attend.


Deborah Smith  
Conference Chair



<b>Monday, Oct 3</b>	<b>10:15 - 10:45</b>	<b>10:45 - 11:15</b>	<b>11:15 - 11:45</b>
<b>Technical Session: A1</b>	<b>Ensuring Water Storage Tanks Create More Benefits than Issues for Community Drinking Water Systems: Lessons from Newfoundland and Labrador</b>  Paula Dawe - NL Department of Environment	<b>Water for People</b>  Brett Pugh - CBCL	<b>Dunbrack Street Transmission Main Sliplining Project – Phase 1 2010</b>  Jamie Hannam & John Eisnor - Halifax Water
<b>Technical Session: A2</b>	<b>Quantifying and Managing the Effects of Climate Change on Surface Water Availability in New Brunswick</b>  Hans Arisz & B.C. Burrell - R.V. Anderson	<b>Assessing the Compliance of Halifax Water Corrosion Control Program with Health Canada Guidelines</b>  Brad McIlwain & Graham Gagnon - Dalhousie University	<b>OETC Program: A Unique Approach to Training in Newfoundland and Labrador</b>  Deneen Spracklin - NL Department of Environment
<b>Technical Session: A3</b>	<b>Organic Carbon Removal using Ion Exchange: A Suitable Approach for Small Systems</b>  Serge Chouinard - Magnor	<b>Freshwater Water Brook Sewer Replacement, Halifax</b>  Greg Rice - Halifax Water	<b>Town of Come By Chance: Treatment Process Determination and Regulatory Considerations</b>  Mike Chaulk - CBCL

<b>Monday, Oct 3</b>	<b>1:45 - 2:15</b>	<b>2:15 - 2:45</b>
<b>Technical Session: B1</b>	<b>Monitoring and controlling coagulation and filtration</b>  Gary Logsdon	<b>Study on Characteristics and Removal of Natural Organic Matter in Drinking Water Systems in Newfoundland and Labrador</b>  Stephanie Gora - CBCL
<b>Technical Session: B2</b>	<b>Hamilton Water Treatment Plant Renewal – A Case Study</b>  Ken Campbell - R.V Anderson	<b>Lessons Learned from Treatability Testing with Newfoundland Surface Waters</b>  Ella Murphy, Ray Cantwell & David Pernitsky - CH2M Hill
<b>Technical Session: B3</b>	<b>Lead Release Consequences Associated with Residual Iron and Aluminum Concentrations Following Coagulant Changeovers</b>  Alisha Knowles, Eliman Camara & Graham Gagnon - Halifax Water/Dalhousie University	<b>Performance Evaluation for a Small-Scale Water Treatment System</b>  Lin Xaio, Bing Chen & Kelly Hawboldt - Memorial University



<b>Tuesday, Oct 4</b>	<b>9:00 - 9:30</b>	<b>9:30 - 10:00</b>	<b>10:00 - 10:30</b>
<b>Technical Session: C1</b>	<b>An Update on Nova Scotia's Implementation of the CCME MWWWE Strategy</b>  Stefan Furey - NS Department of Environment 	<b>Pressure Extremes in Piping Systems Caused by Flow Transients</b>  Mike Jennex & Mike Hagar - National Process Equipment/Charlatte of America, Inc.	<b>The Evolution of Water Meter Reading Technology</b>  Christopher Jay - Elster Metering
<b>Technical Session: C2</b>	<b>Using Zeta Potential to Improve Coagulation Performance</b>  David Pernitsky, Raymond Cantwell & Ella Murphy - CH2M Hill	<b>Getting Results with Advanced Meter Information</b>  Raymond Cheung - Neptune Technology Group	<b>Designing a Grit Removal System that Works</b>  Marcia Sherony - Hydro International
<b>Technical Session: C3</b>	<b>Advanced Technology for Distributed Wastewater Treatment - AdvanTex Secondary Treatment Systems</b>  Ken Reardon - APS	<b>Long Term Acoustic Fiber Optic Monitoring of PCCP and Pipelines of Other Materials</b>  Stewart Day - Pure Technologies	<b>Advanced Biofilter Media for High Level Removal of Total Odour Emissions from Biosolids Handling Facilities</b>  Laura Verhaeghe & Hadi Husain - Biorem Technologies

<b>Tuesday, Oct 4</b>	<b>10:45 - 11:15</b>	<b>11:15 - 11:45</b>	<b>11:45 - 12:15</b>
<b>Technical Session: D1</b>	<b>Membrane System Design and Consideration for Small and Medium Scale Drinking Water Treatment Plants</b>  Denis Guibert - GE Water & Process Technologies	<b>New focus and direction of the water research foundation</b>  Marty Allen - Water Research Foundation	<b>Alternative approach to treatment of combined sewer overflows</b>  Ben Bickerton & Margaret Walsh - Dalhousie University
<b>Technical Session: D2</b>	<b>Coagulation and flocculation optimization at pilot-scale: preparation for mechanical mixing at full-scale</b> Amina Stoddart, Alisha Knowles, Jessica Mackay & Graham Gagnon - Dalhousie University	<b>Village-Level Water Management Institutions in Rural Malawi: Context and Conditions for Sustainability</b> Brian Joubert - University of Alberta	<b>Communicating in a Crisis</b>  Jeff Chatterton - Checkmate Public Affairs
<b>Technical Session: D3</b>	<b>LagoonGuard - the Way of the Future</b>  Carlye Khan - Veolia	<b>Proposed Wastewater Systems Effluent Regulations</b>  Kevin Power - Environment Canada	<b>Rainwater Harvesting in Ontario Schools</b>  Pehn Tov - Green Turtle Technologies

# Jar Tester / Coagulation Workshop

Sunday October 2, 2011 Marine Institute, transportation will be provided to and from the Delta Hotel.

Ella Murphy, Process Engineer and Natalie Paradis, Process Engineer with CH2M Hill's Drinking Water Technology Section for the Canadian region, will help us understand the positives and negatives of coagulation and jar testing. The objective of the workshop is to provide practical hands on training on the use of conventional and dissolved air floatation (DAF) jar testers for determining the proper quantities of chemicals to use in water and wastewater treatment systems.

This workshop is expected to benefit laboratory technologists, water treatment plant operators, water chemists, environmental practitioners and engineers. Anyone involved in the use of coagulants for water and wastewater treatment will find this workshop useful. Space is limited to 20 participants, lunch and the new M37 COAGULATION & FILTRATION manual, will be provided. Fee \$160.00.



# ACWWA/ABEA Tradeshow

The 2011 tradeshow will be held in the spacious St. John's Conference Centre overlooking beautiful downtown St. John's and the Narrows. As in the past, the 2011 Tradeshow will give both delegates and participants an opportunity to meet with suppliers, manufacturers, and industry experts, as well as an opportunity to make new contacts in the water and wastewater sector. We have reserved Tuesday afternoon (12pm – 4pm) for exhibitors to showcase their products and services in over 50 booths and build relationships with in person contact.

This year the Tradeshow will also feature a hot lunch along with food, drinks, and entertainment throughout the afternoon. We will be introducing a re-vamped "ABEA Passport" system to encourage conference participants to interact with as many exhibitors as possible for a chance to win some great prizes. Also, don't miss the "New Products/Technologies" area, highlighting innovations by our ABEA member companies and the manufacturers they represent.

Be sure to book your Tuesday afternoon at the tradeshow. Chat with your equipment suppliers, colleagues and industry experts at their booths, over a cocktail, or enjoying a tasty treat while gazing out over the City. There will be lots of prizes to be won throughout the day and a "Screech In" to end the Tradeshow off in style.

What a great way to start the Kitchen Party festivities – don't miss your chance to participate!

## Companions Program

Companions travelling to the conference in St. John's will enjoy an experience rich in Newfoundland "townie" culture. Planned events for the two day visit include shopping in historical downtown where quaint unique shops line the streets of Duckworth and Water. After shopping a group lunch and entertainment are planned on St. John's famous George Street. A visit is planned to Newfoundland's museum "The Rooms", where you will be enthralled in history but also left with breathless views of historical St. John's. Following the Rooms, a "good feed" of Newfoundland style Fish and Chips with dressing and gravy at Ches's restaurant is something you cannot leave St. John's without! A morning class of the wildly popular Zumba class and much more will make for an enjoyable stay in our beautiful province.

## Top Ops

Get your team ready for the Seventh annual Top Ops competitions. This year we are hoping to add a Top Ops Competition for Wastewater Treatment Plants, come and challenge the St. John's Riverhead team.

# TRADE SHOW EXHIBITOR REGISTRATION

## PART A - GENERAL INFORMATION

First Name \_\_\_\_\_ Last Name \_\_\_\_\_  
Title \_\_\_\_\_ Organization \_\_\_\_\_  
Mailing Address \_\_\_\_\_  
City \_\_\_\_\_ Province/State \_\_\_\_\_  
Postal Code/Zip Code \_\_\_\_\_ Country \_\_\_\_\_  
Phone \_\_\_\_\_ Fax \_\_\_\_\_  
E-Mail\* \_\_\_\_\_ Membership No. \_\_\_\_\_  
2nd Exhibitor \_\_\_\_\_

**Sector**     Utility     Supplier     Contractor     Consultant     Student  
 Academic     Other

## PART B - TRADE SHOW BOOTH & EXHIBITOR REGISTRATION

Exhibitor Fee - ABEA Member \$500.00 Per Booth \$500.00 \_\_\_\_\_  
Exhibitor Fee - Non-ABEA Member \$750.00 Per Booth \$750.00 \_\_\_\_\_  
Exhibitor Fee - Additional Exhibitor Passes (includes lunch) \_\_\_\_\_ @ \$50.00 \_\_\_\_\_

Each booth measures 8x10ft. Booth includes 2 exhibitor passes, 2 lunches, table, 2 chairs, 2 power outlets. Booth locations to be determined in September. Contact Atlantic Audio Visual @ 709-739-6363 to arrange all equipment delivery.  
Contact Ian at ian@aps.ns.ca to learn more about becoming an ABEA member.  
For tradeshow questions contact Ian at ian@aps.ns.ca

### MEALS & ACTIVITIES

#### **Sunday October 02**

Golf Exhibitor \_\_\_\_\_ @ \$50.00 \_\_\_\_\_  
Meet & Greet Exhibitor \_\_\_\_\_ Included \_\_\_\_\_  
Haunted Hike Exhibitor \_\_\_\_\_ @ \$10.00 \_\_\_\_\_

#### **Monday October 03**

Annual Banquet - Semi-Formal Attire Exhibitor \_\_\_\_\_ @ \$60.00 \_\_\_\_\_  
ABEA Common Hospitality Reception Exhibitor \_\_\_\_\_ Included \_\_\_\_\_  
(For ABEA Members, Conference Delegates & Companions)

#### **Tuesday October 04**

Water For People "Sreech In" at Tradeshow Exhibitor \_\_\_\_\_ @ \$20.00 \_\_\_\_\_  
Kitchen Party Exhibitor \_\_\_\_\_ \$80.00 \_\_\_\_\_  
Kitchen Party Extra Tickets \_\_\_\_\_ @ \$80.00 \_\_\_\_\_  
Please describe any dietary restrictions or other special needs you may have \_\_\_\_\_

Subtotal: \_\_\_\_\_  
13% HST (869 924 910 RT0002) \_\_\_\_\_  
Water for People Hike down Signal Hill \_\_\_\_\_ @ \$25.00 \_\_\_\_\_

Entry to the Water for People Hike includes a T-Shirt,  
please indicate your T-Shirt Size    S\_\_    M\_\_    L\_\_    XL\_\_

**Total Amount Due \$** \_\_\_\_\_

Choose payment method. Complete as appropriate.

Cheque     Money Order     Visa     American Express     Mastercard

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Signature \_\_\_\_\_  
email address: \_\_\_\_\_

\*NOTE: WHEN PAYING WITH A CREDIT CARD AN EMAIL ADDRESS IS REQUIRED FOR A RECEIPT TO BE ISSUED

# CONFERENCE REGISTRATION

## PART A - GENERAL INFORMATION

First Name \_\_\_\_\_ Last Name \_\_\_\_\_  
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 Mailing Address \_\_\_\_\_  
 City \_\_\_\_\_ Province/State \_\_\_\_\_  
 Postal Code/Zip Code \_\_\_\_\_ Country \_\_\_\_\_  
 Phone \_\_\_\_\_ Fax \_\_\_\_\_  
 E-Mail\* \_\_\_\_\_ Membership No. \_\_\_\_\_  
 Registered Companion \_\_\_\_\_  
**Sector**     Utility     Supplier     Contractor     Consultant     Student  
                Academic     Other

## PART B - DELEGATE & COMPANION REGISTRATION

Registration Fee - Member	\$400.00 _____
Registration Fee - Non-Member	\$450.00 _____
<b>Early bird registration August 9, 2011 (Chance to Win an IPAD)</b>	
Registration Fee - Companion	\$200.00 _____
Registration Fee - Student includes lunch and trade show	\$50.00 _____
Registration Fee - Monday Member Day Pass (Only Lunch Included)	\$225.00 _____
Registration Fee - Monday Non-Member Day Pass (Only Lunch Included)	\$250.00 _____
Registration Fee - Tuesday Member Day Pass (Tradeshaw Included)	\$225.00 _____
Registration Fee - Tuesday Non-Member Day Pass (Trade Show included)	\$250.00 _____
Late Registration Fee (after September 9, 2011)	\$100.00 _____

## PART C - MEALS & ACTIVITIES

### Sunday October 02

Please Indicate Attendance by Checking Box

Coagulation workshop Marine Institue, includes transportation, lunch and M37 Coagulation & Filtration, Third edition (Limit 20)	<input type="checkbox"/> Delegate		\$160.00 _____
Golf (transportation not included)	<input type="checkbox"/> Delegate	<input type="checkbox"/> Companion	_____ @ \$50.00 _____
Technical Tour	<input type="checkbox"/> Delegate		Included
Young Professionals Mixer @ The Yellow Belly Brewery	<input type="checkbox"/> Delegate	<input type="checkbox"/> Companion	Included
Tour Yellow Belly Brewery	<input type="checkbox"/> Delegate	<input type="checkbox"/> Companion	_____ @ \$20.00 _____
Meet & Greet	<input type="checkbox"/> Delegate	<input type="checkbox"/> Companion	Included
Haunted Hike	<input type="checkbox"/> Delegate	<input type="checkbox"/> Companion	Included

### Monday October 03

Annual General Meeting Luncheon	<input type="checkbox"/> Delegate		Included
Companion's Luncheon		<input type="checkbox"/> Companion	Included
Annual Banquet - Semi-Formal Attire	<input type="checkbox"/> Delegate	<input type="checkbox"/> Companion	Included
Annual Banquet - Semi-Formal Attire		Extra Tickets	_____ @ \$60.00 _____
ABEA Common Hospitality Reception (For ABEA Members, Conference Delegates & Companions)	<input type="checkbox"/> Delegate	<input type="checkbox"/> Companion	Included Included

### Tuesday October 04

Awards Breakfast	<input type="checkbox"/> Delegate	<input type="checkbox"/> Companion	Included
Screech In "Water for People" Fundraiser	<input type="checkbox"/> Delegate	<input type="checkbox"/> Companion	_____ @ \$20.00 _____
Kitchen party	<input type="checkbox"/> Delegate	<input type="checkbox"/> Companion	_____ @ \$40.00 _____
Kitchen party		Extra Tickets	_____ @ \$80.00 _____

**Subtotal:** \_\_\_\_\_

Please describe any dietary restrictions or other special needs you may have

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**Continued next Page.**

# CONFERENCE REGISTRATION - CONTINUED

## PART D - TOP OPS COMPETITION REGISTRATION

Top Ops Team Registration Water \_\_\_\_ Wastewater \_\_\_\_ Team @ \$50.00 \_\_\_\_

To register a team for Top-Ops please contact Deneen Spracklin @ 709-729-1158 or dspracklin@gov.nl.ca

Subtotal : \_\_\_\_\_

Life Members deduct \$100.00 - \_\_\_\_\_

13% HST (869 924 910 RT0002)Tax \$ \_\_\_\_\_

Water for People Hike down Signal Hill \_\_\_\_ @ \$25.00 \$ \_\_\_\_\_

Entry to the Water for People Fun Run includes a T-Shirt,  
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Total Amount Due \$ \_\_\_\_\_

Choose payment method. Complete as appropriate.

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Fax 902-435-7796

Card Holder Name \_\_\_\_\_

Card Number \_\_\_\_\_ Expiry: \_\_\_\_\_

Signature \_\_\_\_\_

email address: \_\_\_\_\_

\*NOTE: WHEN PAYING WITH A CREDIT CARD AN EMAIL ADDRESS IS REQUIRED FOR A RECEIPT TO BE ISSUED



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October 2011**

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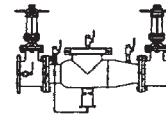
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