President’s Message – Springtime

By Scott Firmin, MeweA President

Spring has arrived. With the onset of warmer weather the construction season begins and our treatment plants move from winter operation to operation in the warmer months. For many plants, composting and land application begins with a push to deliver material to farmer’s fields in time for the growing season. Utilities in tourist areas prepare for the influx of visitors and the increase in plant flows and loadings. Every treatment facility is working to protect the water quality of our rivers and beaches to ensure the public is able to enjoy the healthy water environment that we’ve come to expect.

Whether sitting in traffic caused by construction related to sewer separation or new storm water lines, enjoying a swim with the family at their favorite beach, or landing that prize fish in their favorite river, few people actually realize or appreciate how much effort our members put into operating and maintaining critical water and wastewater infrastructure to protect our water resources. We remain a largely unseen and misunderstood as an industry.

Unlike roads and bridges, where potholes and rusting gusset plates are often “felt” and seen, sewers and treatment plants go unnoticed. There is a lot of discussion related to condition of our transportation infrastructure and a growing realization that major reinvestment is needed. As an industry, we need to ensure that our sewers, storm water infrastructure, and treatment facilities become part of that discussion.

While visiting our Congressional Delegation in Washington, DC this April with MeweA, this was our leading point of discussion. We discussed funding and the need to maintain funding levels in the State Revolving Fund program. While speaking with our Senators, members of Congress, or their staffers, it was readily acknowledged that treatment plants and sewers just don’t get noticed. That needs to change.

MeweA continues to attend events like the Urban Runoff 5K Race in Portland where we fielded the largest (and slowest) non-profit group. We stayed after the race to speak with racers and their families about the water environment and what our members do to protect it. This is just one example of how MeweA works to share the magic of what our members accomplish every day, but there must be more we can all do to share the story of our hard working profession.

This summer, host a plant tour. Invite the public visit to learn about our treatment plants. During a construction project, host meetings or produce informational packages to describe the project and its benefits and explain why the traffic delay is happening. Finally, when you accomplish something, share the news. Let people know through your local paper, the MeweA newsletter, Facebook, or through a hosted event. Invite the public and your local politicians to visit and learn about your projects and upcoming needs.

Good luck and let us know about your next event!
Milestones: Aubrey Joins Cumberland County SWCD Water Quality Team

After working the last few years on municipal stormwater compliance primarily in Massachusetts— a heck of a commute from her home in Scarborough!— Aubrey Strause joined the Cumberland County Soil & Water Conservation District in late March as its new Stormwater Program Manager and District Engineer.

At the District, Aubrey supports the Interlocal Stormwater Working Group, a collaborative group of 14 municipalities in the greater Portland and Saco areas that are regulated under the Clean Water Act. She is a part of the District’s team of technical experts who are responsible for implementing the Long Creek Watershed Management Plan on behalf of the Long Creek Watershed Management District. As a licensed professional engineer, she coordinates technical reviews of stormwater management and erosion control improvements that are requested by communities in the county.

To focus on this new position, after her day-long training at the NACWA Pretreatment Conference in Long Beach, California on May 17, she will be retiring from pro-bono work (through her firm Verdant Water) on the struggle to deal with wipes disposed into municipal sanitary sewer systems.

MEWEA Takes Urban Runoff 5K by Storm – Again

Once again, the Maine Water Environment Association received the award for the largest non-profit group category at the Urban Runoff 5K held on April 23 at Portland’s Deering High School. In addition to having over 30 participants run (or walk) the five kilometer course, MEWEA was a presence at the associated Green Neighbor Family Festival where various booths and displays were set up largely centered around stormwater and water environment issues. Many MEWEA members brought their kids to the event and whether they ran the course or just played in the bounce house and tried the surf camp balance board set up next to the MEWEA booth, a good time was truly enjoyed by all. Keep an eye out for next year’s event!

SAVE THE DATES!!!

September 14-16, 2016
Sugarloaf, Carrabassett Valley

Don’t miss this year’s annual conference. If you have been involved in wastewater treatment anywhere, anytime in Maine over the past 50 years, you just have to be there. This shindig is going to be EPIC! We expect a big crowd, including good friends and colleagues that may not have been around for a while. Festivities begin with the annual golf tournament on Wednesday September 14th, 2016 at the Sugarloaf golf course. Thursday, September 15th, 2016 will have great sessions, a larger than life Meet & Greet which will then be followed by games, raffles, food and fun! Friday will round out the celebration with more great sessions and networking! Mark the dates in your calendar to join us and help celebrate the 50th anniversary of this great association! See you at Sugarloaf!
ON MY SOAPBOX:
Lessons From Flint

By Mac Richardson, Newsletter Editor

Note: The opinions, positions, and views expressed in any “On My Soapbox” feature are those of the author(s) and do not necessarily reflect the opinions, positions or views of the Maine Water Environment Association.

If any photos accompany the It seems one can hardly turn on the radio or listen to a newscast without hearing about the water debacle in Flint, Michigan, and it is a news item that keeps on going. In case anyone has been hiding out in a cave, or been on a long space voyage so that they have not heard what went on, here are the essential facts as I believe them to be reported. The City of Flint was dealing with bankruptcy and was under the control of an interim manager when the idea of switching the City’s water supply from Lake Huron (and the City of Detroit system) to the Flint River was implemented. This was largely a cost saving measure. The whole plan went bad when it came to light nearly two years later that the water from the Flint River was significantly more corrosive (or more aggressive) than was the Lake Huron water it replaced. When coupled with the old water distribution system common in many areas of the city, lead was leached out of old pipes. This problem had its greatest impact in poor communities which are also inhabited to a greater degree by people of color and/or poor people. The biggest harm was done to children as lead in developing brains. Later it was reported that the water had a bad color and odor which had been a source of complaints. All of this adds up to a perfect mix of issues ripe for political statements and indignant recriminations. My question is “What can we as water professionals learn from this?” Calls have been made – even during congressional hearings – for the Governor of Michigan and the EPA administrator to resign. The now familiar chorus of “let’s hold those responsible accountable!” are heard from many quarters. Personally, I don’t think these cries do anything but intensify the “heat” of the issue while failing to provide any “light”. So here are my thoughts on the issue.

First, this is a colossal failure of our system. The technical issues involved are not rocket science. We have known for decades how to test water for its potential to either deposit scale in pipes, or to leach metal from pipes. The standard measure, taught to me way back in the dark ages of the 1970’s is to calculate the Langelier saturation index. Look it up. In any case, the chemistry is neither complicated nor obscure. What could possibly cause such a problem to go un-addressed for so long?

The public places great trust in us, water quality professionals, to know what we are doing and to protect their health and wellbeing. Collectively, we failed in this case. How many people with the technical knowledge and information on what was being done failed to speak up? All of working in the water environment have a special and important trust that the public has placed in us. If we -- at any level -- see standards designed to protect the public and our environment being ignored, or worse yet, flaunted we need to speak up confidently and bravely. While it may make great headlines to take down some high profile figure, what good will come of that? On the other hand, how many other people should have stepped up and sounded the alarm? Do we fail in similar ways, failing to step up and speak out when something is not being done to protect the health of our people and our environment?

The Public trusts us – right up until we demonstrate that we fail to live up to that trust. I believe that extraordinary efforts will be made, and are being made, to correct the remaining issues in the Flint water system, including replacing old pipes at a much faster rate than would have been considered prior to this horrible mistake. I hope and pray that the children who have been affected by these high lead levels will get all the help and care we can muster to minimize the harm done to them. I hope this will also lead every one of us to think about what we do day in and day out and we will live up to the trust that is placed in us. If one of us fails to live up to this inviolable trust he damages us all. WE may work individually, but our reputation is held in common. We will all need to work hard to show the public we serve that we deserve that trust.

GET CONNECTED!

MEWEA now has a Facebook-based online discussion forum open to all water professionals. It is a great place to discuss water related topics, ask water treatment related questions and connect with other water professionals. To access the forum from your Facebook account, search for Maine Water Professionals Discussion Forum®. Any questions can be directed to Paula Drouin (pdrouin@lawpca.org)
Another Great Day on the Slopes!

By Mac Richardson, Newsletter Editor

The weather looked bad, and the ski season had been anything but encouraging, but that did not stop nearly 40 stalwart skiers from making their way to Sunday River on March 25 to enjoy the 9th annual MEWEA/NHWPCA ski day. After a bit of freezing drizzle in the morning, the clouds began to lift giving the Mahoosuc Mountain Valley an eerily beautiful aspect. The skiing turned out to be pretty darned good and there was general agreement that the day was way better than a day in the office! In addition to a discounted ski ticket, participants enjoyed coffee and pastries prior to hitting the slopes, a delicious lunch and some après ski appetizers! If you haven’t been to a ski day yet, be sure to check out the tenth annual event in 2017.

Do you know an Outstanding Laboratorian?

By Phyllis Rand, GAUD

The New England Water Environment Association’s Laboratory Practices Committee (LPC) is seeking nominations for NEWEA’s Crystal Crucible Award and the Water Environment Federation’s Laboratory Analyst Excellence Award. We know there are many dedicated and deserving laboratory people out there, so let’s get some recognition for the good work done every day by dedicated folks. Please follow the links below for more information and nomination forms. Self-nominations are acceptable and encouraged. Please submit nominations before May 31, 2016 to Jim Galasyn, NEWWEA LPC Chairperson, at jgalasyn@pwd.org.

NEWEA Crystal Crucible Award: http://www.newea.org/about-us/awards/crystal-crucible-award/

WEF Laboratory Analyst Excellence Award: http://www.newea.org/about-us/awards/laboratory-analyst-excellence-award/

These awards will be presented at the 2017 NEWEA Annual Conference at the Marriott Copley Place in Boston on January 25, 2017. Thank you in advance for taking the time to recognize outstanding Laboratory colleagues!

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Website: www.mewea.org

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MEWEA’s new Education Display: the EnviroScape!

By Aubrey Strause, Cumberland County Soil & Water Conservation District

I’m excited to report that this fall, MEWEA purchased its newest public outreach tool, the EnviroScape display! Manufactured in Virginia, this display includes a large plastic desktop scale-model community with many types of land use, including agriculture, industry, residential, recreation (a golf course!), impervious roadway surface, and construction. Each of these areas is set up in a little watershed, complete with “drain manholes” with a large plastic tray underneath to catch water from each watershed separately.

The display uses a variety of powders to represent pollution sources- green drink mix for fertilizer, red drink mix for pesticide, and cocoa mix for soil, for example. The objective is to show students how these pollutants can enter water resources if we don’t use stormwater best management practices (included in the form of sponges and felt filter strips) to remove them. If you don’t have the time to set up the full display, it’s useful just to talk in general terms with students about how pollution gets into stormwater.

The display comes in its own carrying case (see the picture at right) and includes instructions on how to set it up. If you’re nervous about doing the demonstration, the handbook provides a little script to get you more comfortable with the subject matter. You can learn more at http://www.enviroscapes.com/support.html

The EnviroScape drew many elected representatives during the MEWEA Hall of Flags event earlier this year. Dave Hughes from Scarborough Sanitary District has used it successfully at a few events for multiple grade levels. Tom Connolly used it at Yarmouth Wastewater Treatment Facility’s open house on May 14, and the unit went with June Mooney (GAUD) to the Southern Maine Children’s Water Festival at USM on May 20. We’re glad to see it in use!

If you want to borrow the unit for your own event, contact me at (207) 641-7704 to coordinate transfer. It’s free to MEWEA members- all we ask is that you clean it before putting it back in the case, and replace any drink mix packets that you use before returning it.
Maine DEP Commissioner Visits Greater Augusta Utility District’s Wastewater Treatment Plant

By Phyllis Arnold Rand, Greater Augusta Utility District

On Thursday, February 25, 2016, Maine DEP Commissioner Paul Mercer, Maine DEP Water Quality Bureau Director Mick Kuhns, and Maine DEP Facility Inspector and Pretreatment Coordinator Jim Crowley visited the Greater Augusta Utility District’s Wastewater Treatment Plant in Augusta, Maine.

Commissioner Mercer, whose term began in January 2016, was until recently an administrator at the Maine Maritime Academy (MMA) where he worked on sustainability and environmental initiatives. He was also an Associate Professor and Chairperson of the Engineering Department at MMA. Because of his interest in gaining a better understanding of wastewater treatment, he visited the District’s wastewater treatment facility and the Richmond Wastewater Treatment Facility (Richmond, ME).

During the pre-tour meeting, staff explained the organizational structure of the District’s combined water and wastewater utility. Also discussed were the challenges of finding new people interested in working at a wastewater treatment facility, and how, even today, the general public tends to categorize wastewater treatment plants as “polluters.” An example given was when, during the District’s MEPDES Permit renewal process in 2013, the DEP was contacted by a member of the public, asking why the DEP was allowing the District to discharge eight million gallons of wastewater per day (the plant’s average design flow) into the Kennebec River. In response, the Commissioner stated the DEP needs to do a better job educating the public. He considers this an opportunity for the DEP to collaborate with wastewater treatment plant staff in order to promote environmental stewardship, beginning with Maine’s school-aged children.


Assistant General Manager Andy Begin provided a summary of the District’s Combined Sewer Overflow Abatement Projects including an abatement project funded through the State Revolving Loan Fund.
We were so proud at the Kennebec Sanitary Treatment District (KSTD). We thought we had the world of programmable logic controllers (PLCs) by the tail. With installation of our first PLC controlled pump station in the mid 1990s we were working hard to standardize designs and training, logging as built drawings and generating standard operating procedures – just as we had been taught in JETCC training programs. We added panel views to our system, human machine interface (HMI) units and more PLCs. We were controlling pumps and pump speeds, logging and acknowledging alarms and trending historical information.

We wondered whether accumulating flow using a 4 to 20 milliamp signal to get daily, weekly, monthly and annual flow data was the best way to go. The necessary steps were taken to use a pulse signal to insure an accurate reading of the gallons pumped. The original setup calculated daily flow volume in the central Supervisory Control and Data Acquisition (SCADA) system software, but we were advised that it would be better to totalize flow at the PLC and then transmit the totalized data to the SCADA system. After making that change, KSTD moved forward investing in new radios and repeaters to make the communication system faster and more dependable. Life was good at KSTD – we felt we saw “it” all clearly!

Then on June 26, the Main Street variable speed pump station stopped operating for 26 hours. There were no alarms and the data received via the radio communication link showed a straight line for pumping rate and all performance within normal operational ranges. Apparently things were not so clear! The PLC produced a fault tagged “Math Overflow”. This fault stopped the PLC in its tracks and prevented it from being able to read new information or execute new commands and resulted in a 3.5 million gallon loss of sewage to the Kennebec River.

When the condition was discovered at 7:30 the following day, the station was placed in hand operation until an outside contractor was able to come and troubleshoot the next day. It turns out that the factory set values within the PLC cannot exceed 15 digits in binary code (the series of ones and zeros used by digital devises for numerical representation) or 32,767 (in the base ten system humans are most familiar with). As a result when the PLC hit the value 32,767 minutes of accumulated bar rack run time it refused to move on, thus causing the fault.

As a result of this incident, we found two more pump stations with the potential to experience this same error. In the course of making the required fix, the programmer was able to “unblock the recovery ability” of the PLCs. This will prevent the PLC from faulting in the event of a math overflow. Additionally, an embedded list of about 17 potential errors was established to allow a programmer to view errors should any further errors occur. This is the best way to allow a programmer to view errors on site when time allows.

Another enhancement to our system is the ability we added for the PLC to transmit an alarm via our call in system for a “math overflow” and “CPU failure”. Additionally a third backup system has been added to our pump stations. A completely independent system of floats has been installed which will place available pumps in service if the level reaches a point above the normal operational range of the station. The cost for this “old school system” installed by district employees was just $120. No computers needed, just like the old days!

I guess I am a bit frustrated, but it’s a good thing that I am not a programmer, for I would use the following logic strings:

✓ = (variable, equals (constant))
✓ = (“some string”. equals) + ((one bean = might be null. (but don’t care))

The first person to read this article and get back to me saying the article was helpful to them and stating where I got the title of article will win a free KSTD coffee mug! ☕️
South Portland Water Resource Protection Department and MEWEA Support Career Fair to Promote Clean Water Profession

By Fred Dillion, South Portland WRPD

On May 4, 2016, South Portland Water Resource Protection Department (http://www.southportland.org/departments/water-resource-protection/) staff attended a Career Fair to promote jobs that protect and restore water resources. The South Portland/Cape Elizabeth Community Chamber of Commerce sponsored the event. As the name implies, the Water Resource Protection Department provides a variety of integrated clean water services that involve a broad array of professions and academic disciplines. Dozens of interested high school students from South Portland and Cape Elizabeth stopped by to chat with Treatment Systems Manager Paul Collins and Stormwater Program Coordinator (and MEWEA Stormwater Committee Co-chair) Fred Dillon about potential career prospects. With the MEWEA display, video and brochures as a backdrop, Paul and Fred also described MEWEA’s vital role representing the interests of various clean water professionals throughout the state.

South Portland’s Treatment Systems Division (http://www.southportland.org/departments/water-resource-protection/treatment-systems/) operates and maintains the wastewater treatment plant and numerous pumping stations located throughout the City and implements the Industrial Pretreatment Program. The Collection Systems Division (http://www.southportland.org/departments/water-resource-protection/collection-systems/) maintains the underground piping systems that convey wastewater and stormwater and implements the City’s Stormwater and Urban Stream Restoration Programs. The Engineering Division (http://www.southportland.org/departments/water-resource-protection/engineering/) oversees the City’s Combined Sewer Overflow Program and manages numerous infrastructure improvement projects while providing engineering support services to other municipal departments. All of these clean water services are integrated to allow for a balanced, rational and cost-effective approach in setting priorities and identifying longer-term capital improvement projects. Related potential career opportunities include the following (among many others):

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<th>Civil Engineer</th>
<th>Chief Operator</th>
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<td>Electrical Engineer</td>
<td>Plant Operator</td>
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<td>Mechanical Engineer</td>
<td>Laboratory Technician</td>
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<td>Landscape Architect</td>
<td>Electrician</td>
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<tr>
<td>Biologist</td>
<td>Instrumentation Technician</td>
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<tr>
<td>Chemist</td>
<td>Industrial Pretreatment Coordinator</td>
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<td>Wetland Scientist</td>
<td>Mechanic</td>
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<td>Stream Ecologist</td>
<td>Skilled Laborer</td>
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<td>Watershed Scientist</td>
<td>Equipment Operator</td>
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<tr>
<td>Natural Resources Planner</td>
<td>Stormwater Program Coordinator</td>
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Educational requirements for these careers vary from a high school diploma or equivalent and on-the-job training to associates, bachelors and masters degrees at institutes of higher learning.

For more information about all of the important clean water services provided by South Portland’s Water Resource Protection Department, please visit their webpage.

Hear Ye, Hear Ye! We are Seeking Award Nominees!

Do you know someone deserving of recognition for going above and beyond their job duties? Perhaps someone who has been a leader and mentor to others, or possibly been active in promoting clean water and how it is accomplished? There are many NEWEA and WEF awards that can bestow recognition on deserving people. You can find them on the NEWEA website under the “about us” tab. Alternatively you can call the Maine State Director for NEWEA, Mac Richardson, with suggestions. One push we would like to make is to recognize people eligible for the WEF Quarter Century Operator’s Club. The requirements are members must have been members of WEF for a minimum of five consecutive years immediately preceding application, must have significant full time participation in the water environment profession for a minimum of 25 years, 10 of which must have been in active participation in the day-to-day collections, maintenance, operations, laboratory, or management of a wastewater transportation or treatment facility. Self-nomination for any of these awards I encouraged. For the Quarter Century Club, the applicant must sign the application form. Mac Can be reached at LAWPCA 782-0917. 🌟
EPA Proposes Water Quality Standards for Maine

By Scott Firmin, Portland Water District

After disapproving a number of Maine’s water quality standards in 2015, EPA has recently proposed water quality standards for Maine waters. Most of the proposed standards would affect waters in Indian lands, although this will have potential impacts across Maine. For more information or to review the proposal, visit EPA’s website at: https://www.epa.gov/wqs-tech/proposed-rule-maine-water-quality-standards

Washington Congressional Briefing

By Mac Richardson, NEWEA Maine Director

On Tuesday morning, April 12, at 6 am, Matt Timberlake, MEWEA Vice President, Peter Goodwin, past NEWEA Maine Director and Mac Richardson, current NEWEA Maine Director, left the Portland Jetport to fly to Washington for the annual Water’s Worth It Congressional Briefing. Upon arrival the trio met up with MEWEA President Scott Firmin for the start of a series of meetings with Maine’s legislative delegation. The first meeting was at the constituent’s coffee held by Senator Collins. After a few moments with the Senator, the MEWEA delegation met with Senator Collins’ environmental staff to discuss proposed cuts to the Federal contribution to the clean water SRLF program, the funding gap for water infrastructure, our role as a group of dedicated hands on professionals, and to offer our expertise to help the senator with technical aspects of environmental policy. After holding similar discussions with staff serving Representatives Poliquin and Pingree, it was off to the NEWEA reception and dinner. These proved to be good opportunities to interact with other groups from our neighboring state associations and to compare notes on how to communicate effectively with the Maine Congressional Delegation. Wednesday started with the NEWEA legislative breakfast which featured remarks from two New England representatives, the senior Senator from Rhode Island, Sheldon Whitehouse, the Mayor of Lawrence, Massachusetts, the Deputy City Manager of Portsmouth, New Hampshire, and others. Before the end of the breakfast, we were off to meet Senator King at his constituent’s coffee. We were joined by Jefferson Longfellow and Mike Broadbent who were there representing the Maine Water Utilities Association. This presented a great opportunity to meld our message with a similar one from the drinking water side of our shared water environment community. The combined group was again able to have a few words with the senator prior to a more substantive discussion with his staff. One item that received repeated interest during our meetings was the digester project at the Lewiston Auburn Water Pollution Control Facility. The benefits of energy recovery and cost management while managing biosolids responsibly was well received.

Although we had completed our official assignments by early afternoon, our plane did not take off until 10 pm, so we had an opportunity to visit the “newseum” and the Smithsonian museum of natural history before making the trip back to Portland and arriving near midnight. The following day all of us made our way to Bangor for the executive committee’s long range planning meeting! The main “talking points” we shared during each meeting focused on the critical nature of our infrastructure and are included in the text box on this page. Reflecting on the experience, I would say that it is important for MEWEA to participate in this event each year to keep our elected officials aware of who we are, the importance of what we do for our communities, our needs and related issues, and to be a part of the regional and national effort to keep our water infrastructure strong and resilient.

The work that MEWEA members do each day is important and critical to the health and safety of our state and our economy.

Our work is largely under-appreciated and unnoticed.

Available funding is grossly inadequate to get the job done.

SRLF is a loan program that is critical to helping bridge the funding gap.