

Maine Water Environment NEWS



1-800-452-8786

November 2019 • Fall

A Publication of the Maine Water Environment Association

President's Corner

By Stacy Thompson, Saco WRRD



Thanksgiving is just around the corner as I write this, which I'm still in shock about! A tradition we do at our Thanksgiving table is write something down that we are thankful for and share this with our family. This year, I am thankful for all of you! For the work that you do day-in and day-out to protect the waters of Maine! This community is the most humble and helpful I've ever been part of and I'm so thankful that I was given the opportunity 11 years ago to join it! I look forward too many more years ahead of me in this Association and community.



I was able to attend the Fall Convention this past September up at Point Lookout. Minus an eye injury from my name badge...yes, they are dangerous...I thought the show was fantastic. Thank you to all the vendors that showcased their products, the Personnel Advancement and Convention committee for putting together a great show, and to all the presenters for donating their time. I nearly hit a moving minivan with a golf ball, and I was also able to make it out of the first round at the cornhole tournament. Clearly, nobody will ever want me on either team!



As I wind down my presidency, I want to encourage you all to become an active member of a MEWEA committee. Whether your interests are in awards, convention, this newsletter or regulatory affairs...there is always an opportunity within the MEWEA association to be involved. Check out the MEWEA website at www.meweaa.org to find out more on the various committees we have within the Association.

I want to wish Mike Guethle a wonderful presidency next year! I think the Association is in great hands and I look forward to remaining an active member for many years. I hope you and your families all have a wonderful holiday season!

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www.meweaa.org

Upcoming Executive Committee Meeting

December 20, 2019

Maine Municipal Association



Too Much Salt: Creative Solutions for Reducing Chlorides in the Long Creek Watershed (and Beyond)

by Fred Dillon, South Portland Stormwater Program Coordinator, Long Creek Watershed Management District Board Chair

Parts of the Long Creek watershed have a salt problem. Over the years, salt applied to parking lots and roads during the winter has entered Long Creek and some of its tributaries. Many of the aquatic organisms living in the Long Creek watershed that are sensitive to salt are also used to determine compliance with state water quality standards. Laura Perovich, a PhD student at MIT's Media Lab, thought she might be able to help. In early October, Laura travelled to South Portland with a SeeBoat to measure chloride levels in the "South Branch", a tributary to Long Creek (Figure 1). SeeBoats are remotely controlled and outfitted with probes that continuously sample a variety of water quality parameters, including temperature, pH, turbidity and conductivity (Figure 2). The boats are also equipped with LEDs that change color instantaneously in response to user-defined thresholds for each measured parameter (Figure 3). Conductivity is of particular interest to watershed managers in urbanized areas given that it can be correlated with chloride. While salt helps keep paved surfaces free of ice and snow in the winter, at elevated concentrations it is also toxic to aquatic organisms.

Conductivity and chloride have been measured throughout the Long Creek watershed for nearly a decade and the relationship between these two parameters is well understood. A conductivity value of around 850 uS/cm equates to EPA's chronic toxicity limit of 230 ppm and a conductivity value of around 3,070 uS/cm equates to EPA's acute toxicity limit of 860 ppm (Figure 4). Chronic and acute toxicities are defined as the highest pollutant concentrations that do not result in harmful effects to aquatic communities during indefinite and brief exposure periods, respectively. The SeeBoat's conductivity readings of the South Branch indicated that many areas of the stream had chloride concentrations well above EPA's 230 ppm chronic toxicity threshold while all readings were below EPA's 860 ppm acute toxicity threshold (Figure 5).

These findings are consistent with historical sampling throughout the watershed and provide further evidence of an urban stream syndrome that has resulted in a failure to attain state water quality standards for aquatic life and a number of regulated pollutants. Over the past half-century, a mostly rural landscape was converted to extensive areas of pavement and buildings, which are collectively referred to as impervious cover because it doesn't allow water to soak into the ground. Excessive impervious cover can create a "fire hose" effect of stormwater runoff during significant rain events that adversely alters stream channels and aquatic habitat. It can also result in elevated levels of pollutants, such as nutrients, metals, petroleum products and chlorides, among others.

Numerous studies have established a causal link between an impervious cover threshold of about 10% (as a proportion of total watershed area) and adverse impacts to water quality and aquatic life. Greater proportions of impervious cover generally result in more severe impacts to stream health. The South Branch is among the most densely developed areas in the Long Creek watershed and consists of about 42% of paved surfaces (Figure 6). Since these parking lots and roads are salted every

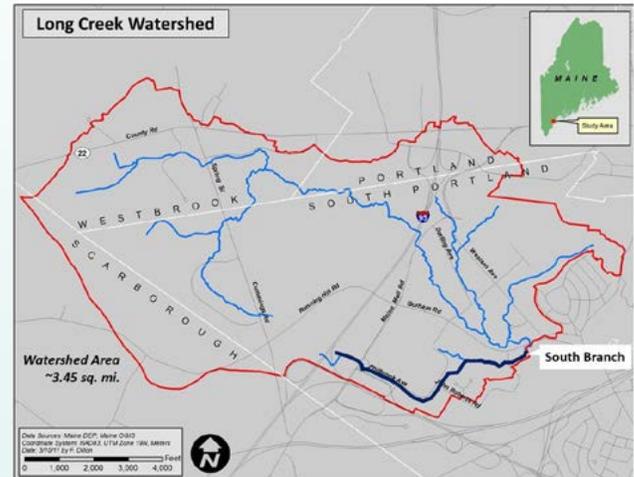


Figure 1: The "South Branch" of the Long Creek (in dark blue)



Figure 2: Laura Perovich with the SeeBoat



Figure 3: LED colors can be adjusted to indicate water quality thresholds

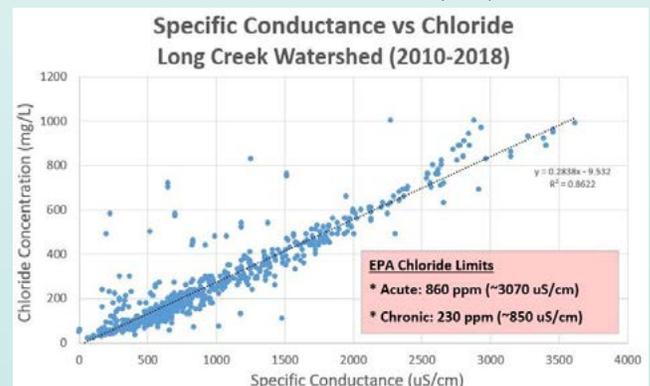


Figure 4: Conductivity and chloride correlation in the conductivity readings for the Long Creek Watershed South Branch

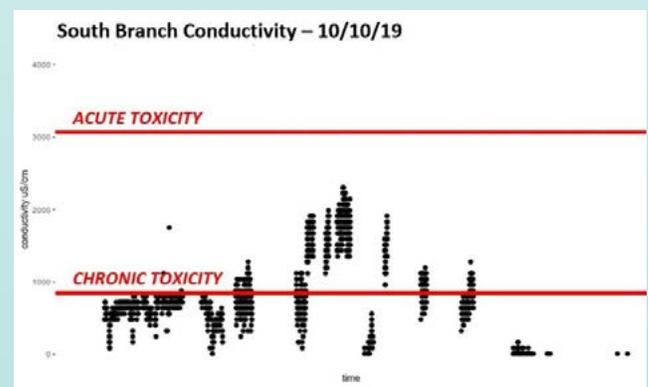


Figure 5: SeeBoat

Cont'd on next page

winter, it's not particularly surprising that the South Branch also has some of the highest chloride concentrations in the watershed. The key question is what to do about it.

The Long Creek Watershed Management District (LCWMD) was established in 2010 to address the adverse effects of urbanization and impervious cover through the implementation of a Watershed Management Plan. This plan specifies a variety of structural and non-structural restoration practices intended to help Long Creek and its tributaries eventually attain water quality standards. Examples of structural practices include stormwater treatment systems such as gravel wetlands and treebox filters, while examples of non-structural practices include pavement sweeping and winter maintenance activities.

There are currently no structural practices that can remove chloride from stormwater runoff. Consequently, non-structural approaches with a particular emphasis on the amount and timing of winter salt application are the most effective means to reduce chloride discharges to urban streams. The LCWMD has hosted several roundtables and trainings over the past decade for winter maintenance operators to discuss best practices and barriers to implementation. However, because legitimate concerns still re-

main with potential litigation from slips, falls and vehicle crashes, salt is often over-applied to ensure slip-free pavement. This added salt likely exacerbates Long Creek's chloride problem.

Despite these challenges, the LCWMD continues to pursue creative approaches like using the SeeBoat to raise public awareness about the salt issue (Figure 7). It is also providing data to help inform statewide efforts to reduce salt usage, which include considering legislation similar to New Hampshire's that would provide limited liability protection to winter maintenance contractors while also protecting and ensuring public safety. If successful, this initiative could help to significantly reduce winter salt application while also decreasing adverse impacts to water quality and aquatic habitat. For more information on LCWMD's restoration projects please visit <http://www.restorelongcreek.org/pages/projects/overview>.

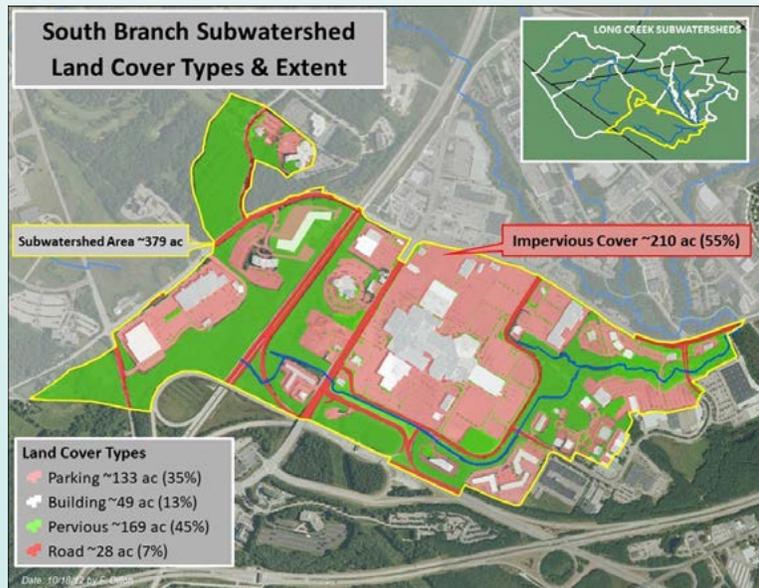


Figure 6: Land cover types in the South Branch subwatershed



Figure 7: A time-lapse image of the SeeBoat while collecting water quality data

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YOUNG PROFESSIONALS COMMITTEE UPDATE

Max Kenney, YP Committee Chair, Woodard and Curran

The YP Committee has had an active fall with events and committee meetings. MEWEA YP Committee teamed up with the NEWEA YP Committee to host a Poo & Brew at the Biddeford, ME WWTF. Thank you to the Biddeford staff for showing the groups around your facility! As the only Maine based Poo & Brew in 2019 this event was well attended and many people indicated they would

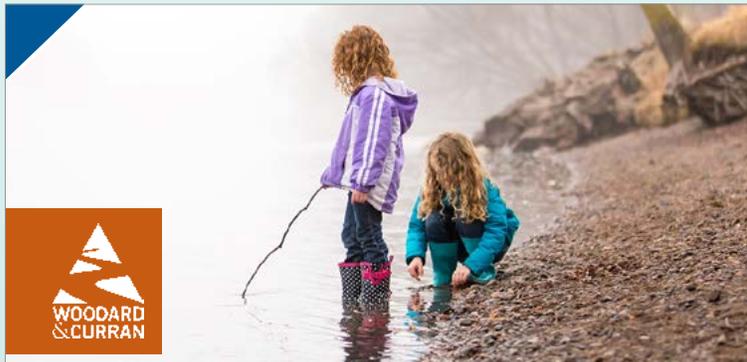


Poo and Brew tour at Biddeford WWTF

like to see more of these events in Maine. The YP Committee will be on it in 2020 with helping to organize more! If your facility is interested in hosting a Poo & Brew please reach out to the MEWEA YP Committee chair.

The MEWEA Fall Convention was a great time for all and the YPs in attendance found it to be a valuable training and networking opportunity. This year we had four YP moderators who helped to introduce speakers and keep the sessions flowing. This was a great opportunity for YPs to practice public speaking and get our names out there to conference attendees. The YP committee also organized the annual vendor raffle with prizes from over 20 vendors up for grabs. Each person who participate in the raffle was able to make connections with many of the vendors and walk home with a prize, some with two prizes! The two YP Committee awards were also presented during the Thursday lunch meeting with both recipients there to accept their awards. Four UMaine engineering students were in attendance as part of the YP Committee's University Attendee Award.

After the Fall Convention the YP Committee visited the York Sewer District WWTF for our October meeting. We started off our meeting with great pizza from a local York restaurant and went over all old and new business for the committee. We have many new ideas for the YP events at the Convention next year so stay tuned for future updates. After our regular scheduled meeting we took a tour of the facility with the District's lead operator. The Committee really enjoyed hearing about all of the ways York has worked to preform tankage upgrades inhouse and see some of their most recent construction projects. The meeting was well attended with attendees from a variety of industries present.



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Clarifier at York Sewer District



Toilet vs. Trash booth

The YP Committee had a great time supporting the York Sewer District and York Water District's Image a Day Without Water event in October. The YP committee ran a Toilet Vs. Trash game station where the students got the chance to decide where different items like "flushable" wipes and poop "emojis" were supposed to go... in the trash or in the toilet. The kids love the game and were very good at determining where the items belonged. If the students participated they were rewarded with MEWEA branded sunglasses that there a huge hit!

Looking ahead the YP Committee will be hosting our next meeting in December likely in Portland but still TBD. We will be looking to plan our January Ice Skating event which is open to all MEWEA members and their families. The event will be at

the Rink At Thompson's Point in Portland. Be on the lookout for more details coming out on that event in December. If you would like to get involved with the Committee or have any questions, please contact the Max Kenney, YP Committee Chair, at mkenney@woodardcurran.com.

WASTEWATER FACILITY DATABASE

Alex Buechner, City of Biddeford

The Treatment Plant Operators Committee is working on building a facility database of Maine's WWTF to be used as a technical resource by all MEWEA members and needs your help. Our goal is to collect as much detail on what types of equipment, processes, and areas of expertise that are scattered about our state and put it all into one place to be used as a reference for operators, mechanics and supervisors. This info could be used when looking for assistance in troubleshooting a problem, looking to purchase new equipment, or just looking to learn more about what we do than what is currently at your own facility.

What we need from you is data.

If you go to <https://www.mewea.org/facility-survey/> or find the link on the MEWEA website main page, you will be directed to a short survey that will take just a couple of minutes to complete. Once we have collected a sufficient amount of facility data, it will become available as part of the MEWEA website. So the next time you have a process control problem that you just can't figure out, or are looking for some available spare parts for a piece of downed equipment; you can search the facility database to quickly and easily get a list of facilities and contact information. There is also a PDF version of the questionnaire available upon request. If you have any questions or comments about how this database could be improved, please contact Alex Buechner at alex.buechner@biddefordmaine.org

The image shows a screenshot of the MEWEA Facility Survey form. The header includes the MEWEA logo and the text "Maine Water Environment Association Protecting Maine's Water Resources". The form title is "Facility Survey". The purpose of the survey is to generate a detailed facility list that can be used to find a nearby facility that has specific equipment or experience to assist operators with troubleshooting and education. The form includes fields for Facility Name, Facility Address (physical and mailing), Contact person, phone number and email address, Required License, Design flow (MGD), and Actual average flow (MGD).

OPS Challenge

Following months of team preparation, practice, and anticipation, Force Maine travelled to Chicago for the annual WEFTEC Operations Challenge Competition. A great discussion of the event can be accessed here: <https://youtu.be/Bk-2XxUH27g>



Have you Joined the "Maine Water Professionals Discussion Forum" on Facebook?

Get your questions answered and help answer questions.

<https://www.facebook.com/groups/778718278939822/>

SCHEDULE OF EVENTS

Winter 2019/2020

DECEMBER 4, 2019

JETCC Training – “Sample Collection and BOD”

Bangor Wastewater Treatment Facility
Visit www.jetcc.org or contact JETCC at (207) 253-8020

DECEMBER 5, 2019

JETCC Training – “Air Quality Testing with Confined Space Entry”

York Sewer District
Visit www.jetcc.org or contact JETCC at (207) 253-8020

DECEMBER 20, 2019

MEWEA Executive Board Meeting – 9am-12pm
Maine Municipal Association in Augusta

JANUARY 17, 2020

Executive Board Meeting, 9am-12pm
Maine Municipal Association in Augusta

JANUARY 2020 (DATE TBD)

Family Skate Night, 5pm-7pm
Thompson’s Point, Portland

JANUARY 22, 2020

PFAS Task Force Meeting

Open to the Public – 1pm-5pm
Augusta Civic Center, 76 Community Drive, Augusta

JANUARY 26-29, 2020

NEWEA Annual Conference
Boston, Massachusetts

JANUARY 2020 (DATE TBD)

Lobster Dip; The Brunswick in Old Orchard Beach

FEBRUARY 5-6, 2020 – MWUA Joint Conference

Augusta Civic Center

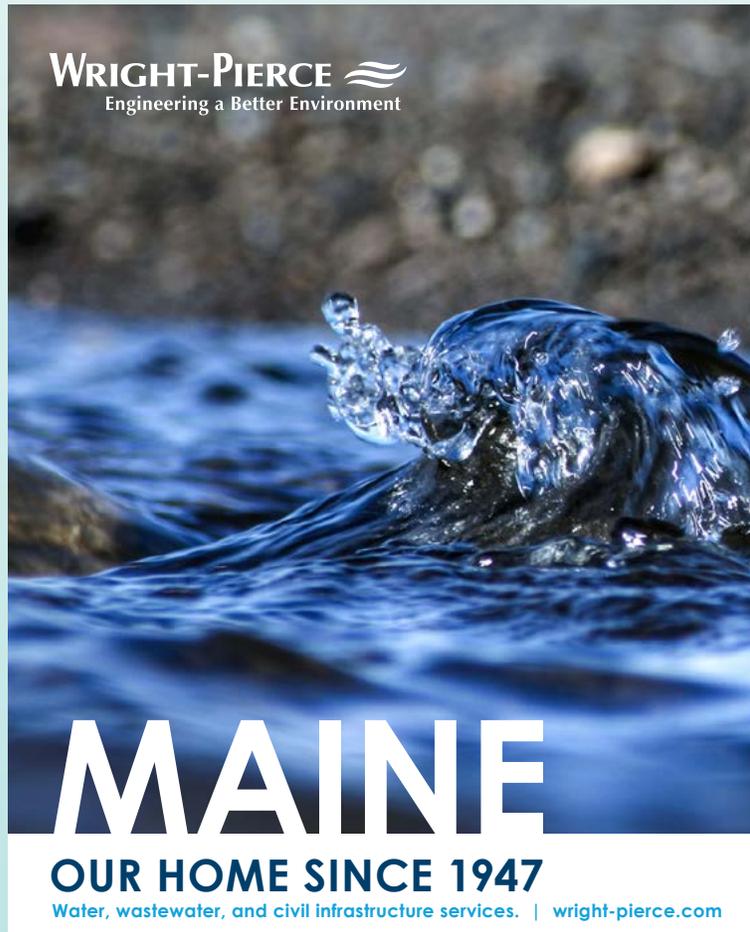
FEBRUARY 26, 2020

PFAS Task Force Meeting

Open to the Public – 1pm-5pm
Augusta Civic Center, 76 Community Drive, Augusta

FEBRUARY 27, 2020

Legislative Breakfast; 7am-9am
Senator Inn, Augusta



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Website: www.mewea.org

Editorial Staff:

Bryanna Denis, Co-chair,
Lead Project Engineer, Wright - Pierce
11 Bowdoin Mill Island Ste. 104,
Topsham, ME 04086
Phone: (207) 725-8721
E-mail: bryanna.denis@wright-pierce.com

Mo Dube, Co-Chair, President,
Mo Dube Septic Inspections and Repair
P.O. Box 184, China ME 04358
Phone: (207) 313-0250
Email: Septagewoman@gmail.com

OPERATOR EXCHANGE

Chris Cline, Yarmouth Wastewater Department

My name is Chris Cline and I have worked for the Yarmouth Wastewater Department for the past 16 years. This year I was given the opportunity to participate in the 2019 NEWEA Operator Exchange Program. The State of Vermont was the selected destination for the Maine Operator during the dates October 28th-30th.

Day 1

I left Maine around 6:00am and enjoyed a nice ride to White River Junction where I met up with Rick Kenney who is the GMWEA Past- President and Chief Water System Operator for the Quechee Facilities. He gave me a brief tour of the Public Works Department where he is located and then we jumped into his truck and headed for the White River Facility.

At the plant we were greeted by Randy. We toured the plant for about an hour. Randy explained how they operate their facility and process their biosolids. He also shared some stories about when Hurricane Irene came through and the Connecticut River almost flooded the plant. From there Rick took me over the Quechee Plant. Where we caught up with Jeff. I was given a full tour of that facility as well. We completed the tour of the facility then Rick treated us to lunch at the Pizza Chef with the entire crew from Quechee and some of Rick's crew from the water district.

After lunch I headed north up I89 to Montpelier to meet with Chris Cox at the Montpelier Water Resource Recovery Facility. Once I arrived at the plant it was very clear that they were in the process of a construction upgrade. I walked into the facility and was told Chris was out back. I was escorted out where I found Chris assisting his crew swapping around a sluice gate in their grit chamber. We started the tour at their septage receiving building where he explained that they take in 30,000 gallons of septage per day! He went on to talk about how the ability to receive that amount of septage separates them from other plants around the state and provides a good source of revenue to support construction upgrades. We continued through the plant with Chris explaining to me what has recently been upgraded, what was currently under construction, and what he hopes to see in the future as well. When the tour was over, I drove a few minutes down the road to my hotel and checked in. About an hour later I met up with Chris and his entire crew for an incredible dinner sponsored by the GMWEA.

Day 2

The next morning, I continued down I89 to meet to meet NEWEA's Director Chris Robinson in Burlington. We grabbed a quick breakfast and we headed to tour South Burlington's Airport Facility. There we met up with Bob Fischer who introduced me to his crew and gave a me tour around his plant. At the end of the tour I had a conversation with Jennifer and she gave me a quick tour of the laboratory and what they do for testing.

The next stop Chris had on the schedule was the Essex Junction Wastewater Facility. Superintendent Jim Jutras met us in the main office and gave me a brief summary of the plant and that they were also responsible for the storm water in the area. Chelsea gave me a tour of the whole facility. A BBQ lunch was

prepared by one of operators and served for the entire crew. After lunch Jim talked to me a little more about the some of the challenges they have in collection systems especially with breweries and the high BOD that they produce. As Chris and I were about to head out, Jim provided me with an Essex Junction hat and t-shirt as parting gifts. Thank you!

Chris then took me down the road and showed me where his facility was located. After that he took me for a driving tour through the Town of Shelburne showing me where a few pump stations were located. He took me through Shelburne Farms which is located right on Lake Champlain. Chris provided me with a lot of history behind the farm and how it got to where it is today.

After the Shelburne Farms tour, I headed back to the hotel to check in. Chris showed me where the trade show was going to be for the next day and to meet back down in the lobby in a few hours for a meet and greet and dinner. I attended a meet and greet where I ran into Bob Fischer again and he introduced me to some of the GMWEA Board members. I also ran into a few vendors that were setting up for the next day's events. Once again, I was treated to a wonderful dinner by the GMWEA with Bob Fischer leading the way!

Day 3

The last day of the exchange ended with GMWEA fall trade show. The previous 2 days everyone had said how great of an event it was. It did not disappoint. I was able to meet a lot of new faces and even ran into a few vendors that I knew from Maine that were surprised to see me in Vermont.

This was a fantastic experience. The NEWEA operator exchange program is a valuable program and I wish that every operator could have the opportunity I had. As a wastewater operator it is always valuable to visit and tour other facilities. After having the chance to talk directly to operators at each location one thing was clear. For your facility to succeed in this field you need to work as a team. I would like to thank NEWEA and GMWEA Board for hosting me for three days along with everyone that took time out of their day to give me tours of their plants. I would like to also thank Jeff McBurnie and Chris Robinson for setting up my schedule for the 3 days. And lastly, I would like to thank my Superintendent Tom Connolly for his continued support and allowing me to participate in the program. 🌊

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This is your newsletter – if you have news you would like to pass along or an opinion to express that would be of interest to the membership of MWEA, we are always interested in receiving material and will make every effort to incorporate your submissions.

Bryanna Denis: bryanna.denis@wright-pierce.com

Mo Dube: Septagewoman@gmail.com

YORK SEWER DISTRICT HOSTS IMAGINE A DAY WITHOUT WATER

Phil Tucker, Assistant Superintendent, York Sewer District

On October 23, 2019 the York Sewer District and York Water District hosted an Imagine A Day Without Water event at the York Beach Ballfield. Both organizations worked closely with the local Elementary School to develop a program where students were split into 4 groups during a 1-hour period. Each major station is described below:

Station #1 - Touch a Truck This station featured a camera van from Brunswick Sewer District, as well as a pipe tap demonstration done by E.J. Prescott. Other equipment included ATVs from the York Water District, a jet/vac truck from Ted Berry Company, and a fire truck from the York Beach Fire Department.

Station #2 - Watershed Model This station featured 3 Enviroscape Watershed models that the children could interact with. Running those models were volunteers from the York Water District, York Parks and Rec Department, and Woodard & Curran.

Station #3 Toilet vs. Trash Game This is a game where the children must decide what goes in the toilet and what goes in the trash. There are 8 items to choose from and children do very well at this game; adults not so much. This was run by the Young Professional Committee.

Station #4 - Seed Planting Station At this station the children were given a peat pot and seeds for a native plant. After planting their seed in the pot, they were then taken to a sink that had no plumbing attached to it. Our volunteer would then turn the sink on and in this way drive the point home about what it would be like to have no water. This station was run by the Collection System Committee.

Other peripheral booths included:

- York Beach Beer Company (beer is 90-95% water), who had a glass with beer ingredients and no water.
- Wright-Pierce running a Water Trivia booth.
- Sanford Sewerage District with a demonstration on how toilet paper will break down in the waste stream and paper towels and “flushable” wipes will not.
- York Sewer District with a 4-minute video on the water cycle.
- York Water District with information about the District and what they do.
- New England Water Environment Association with educational materials for children.
- Commissioner Jerry Reid as well as State Representative Lydia Bloom were both at the event to speak to the children.

The event was an overwhelming success with the children and will be hosted by MEWEA again next year. 🌊



UNDERSTANDING INDUSTRIAL WASTEWATER LIMITS VS. HIGH STRENGTH SURCHARGE

Ted Danforth, TSD Environomics, Inc.

For those industries who discharge compatible pollutants (BOD, TSS, nutrients) to a municipal wastewater treatment system, unraveling the complexities of discharge regulations, permits, connection fees and user rates can be a daunting task. There is no overarching structure for establishing these limits and they often vary dramatically from town to town. Discharge limits and rates are usually established on a case-by-case basis and each facility receiving wastewater containing compatible pollutants has different criteria on which the limits are based. The cost and pretreatment requirements can be much different if you discharge to the City of Portland vs. City of Rockland. Not understanding these differences can cost an industrial operation hundreds of thousands, even millions of dollars in the operation of their facility.

It is important to differentiate between compatible pollutants and compounds that are considered toxic or untreatable in the typical municipal wastewater treatment facility (WWTP). Compatible pollutants can loosely be defined as those compounds that can be easily treated or removed at the WWTP; these are the compounds that the WWTP was designed to remove. Compatible pollutants usually consist of BOD5 and Total Suspended Solids (TSS), and less frequently, nutrients such as nitrogen and phosphorus compounds. These compounds, within reason, can be removed through the normal processes at a WWTP, albeit at

a cost. The toxic compounds are essentially everything that is not defined as "compatible."

There is a cost to remove BOD and TSS and it is relatively easy to calculate how many pounds and treatment cost for each pollutant entering the WWTP. Costs for sludge disposal, electricity (aeration), maintenance, labor and overhead can be tallied and allocated to each pound of pollutant. Because these costs are well defined, a municipality or authority may choose to allow discharges of elevated levels of compatible pollutants based on regular wastewater sampling and lab analysis. Municipalities may often also include a "cap" on the level; a level that cannot be exceeded in any case. Broadly stated, these surcharges are based on financial drivers, not necessarily regulatory or operational factors. Food and beverage processing facilities are the most common dischargers with high compatible pollutant levels leaving their facilities.

To better understand how surcharges are applied, an example of a fictitious surcharge calculation is provided below. Note that most municipalities allow a certain level of compatible pollutant discharge consistent with domestic wastewater, typically 200-300 mg/l for each parameter.

Example:

Discharge Parameters:

Flow – 150,000 gpd (0.150 mgd)
BOD in Discharge - 2,000 mg/l
TSS in discharge - 1,500 mg/l
Days of Operation - 20 days each Month –

Municipal Surcharge Fees:

Allowable BOD - 300 mg/l
Allowable TSS - 250 mg/l
BOD Surcharge - \$0.25/lb BOD
TSS Surcharge - \$0.18/lb TSS

BOD Surcharge Formula

$(\text{BOD mg/l} - 300\text{mg/l}) \times 8.34 \text{ lbs/gal} \times \text{Flow in mgd}$
 $\times \$0.25/\text{lb} = \$/\text{day}$

TSS Surcharge Formula:

$(\text{TSS mg/l} - 250\text{mg/l}) \times 8.34 \text{ lbs/gal} \times \text{Flow in mgd}$
 $\times \$0.18/\text{lb} = \$/\text{day}$

Inserting The Example Industrial Discharge:

BOD Surcharge/day = $(2,000 - 300) \times 8.34 \times 0.150 \times$
 $\$0.25/\text{lb} = \$531.68/\text{day}$ or $\$10,633.50/\text{month}$

TSS Surcharge/day = $(1,500 - 250)$
 $\times 8.34 \times 0.150 \times \$0.18/\text{lb} = \$281.48/\text{day}$
or $\$5,629.50/\text{month}$

In this example case, the industrial discharger would pay a total surcharge of \$16,263/month, above normal water and sewer rates. Clearly, this is something to consider when planning for relocation or expansion.



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MANAGEMENT CANDIDATE SCHOOL GRADUATION

Leeann Hanson, JETCC Training Coordinator

On September 12, 2019 nineteen students in Maine's Management Candidate School (MCS) received their diplomas for participation in an eleven month program designed to prepare mid-level drinking water and wastewater treatment plant personnel for career advancement in utility management. The graduation took place at Point Lookout in Northport, Maine during the annual Convention for Maine Water Environment Association (MeWEA).

The students all representing water pollution control professionals from across the state of Maine, participated in Maine's tenth consecutive management curriculum over ten years.

As part of the program, students attended one day of classroom training in Bangor each month from November 2018 to September 2019. The overall curriculum included personnel management, supervisory skills, labor relations, budgeting, and engineering basics. Monthly classes were held at Bangor Water District. In lieu of a February class students participated in Maine Water Utility Association's (MWUA) Convention and Trade Show in Portland. The MCS was coordinated by NEIWPCC's Maine Joint Environmental Training Coordinating Committee (JETCC) with support from the Maine Department of Environmental Protection (DEP), Maine Department of Health and Human Services (DHHS), Maine Water Environment Association (MeWEA) and Maine Water Utilities Association (MWUA).

For more information, contact Leeann Hanson, JETCC Training Coordinator at (207) 253-8020. 



Front Row L to R: Rebekah Sirois, Portland Water District; David Poulin, Maine Water Company-Skowhegan; Jamie Bowden, Maine Water Company-Bucksport; Ralph Howe, BR Fuels. Second Row L to R: Adam LePrevost, Town of Bar Harbor; Paul Farquhar, Maine Water Company-Millinocket; Lee Cumber, Greater Augusta Utility District; Steven Bechard, Madawaska Water District. Third Row L to R: Zachary Lovely, Hallowell Water District; Ron Kelton, Portland Water Resources; Cody Smith, Guilford-Sangerville Sanitary District; Erica Kidd, Auburn Water District; Mark Madore, Madawaska Pollution Control Facility. Back Row L to R: Patrick Smith, Bangor Water District; Jeff Faulkner, Bangor Water District; David Witham, Warren Sanitary District; Wade Duplisea, Bangor Wastewater; Anthony Young, Bangor Wastewater. Inset: Isreal Colpitt, Greater Augusta Utility District

Understanding Industrial Wastewater Limits cont'd

Pollutants and parameters that are considered "incompatible" include heavy metals (Cd, Cr, Cu, Ni, Zn...), organic compounds, pH and many others. These compounds are typically limited with a specific number, above which a user can't discharge. A discharger who exceeds these limits are considered in violation of their permit or applicable regulations and can be liable for enforcement action. These parameters are regulated to prevent toxicity to the WWTP operation, contamination of the residuals managed by the facility or can pass through the WWTP and get into the receiving waters of the WWTP discharge. Penalties for violating these "hard" discharge limits can be severe and costly, including the loss of a permit and ability to discharge.

Many municipalities or WWTP authorities establish hard limits for compatible pollutants and some have no formalized limits at all. In some cases, the regulations that impact industrial discharges are obscure or are out of date; or are in the process of changing or becoming more stringent.

It is critical for industrial dischargers to understand the current and pending regulations that apply to the wastewater to be discharged to the local authority. Assessing the impact of the discharge regulations and fee structure can mean the difference between a financially stable and healthy relationship with your local wastewater treatment authority and one fraught with extensive additional costs, complex treatment systems and challenges with local/state regulators.

A quick meeting with the applicable regulators prior to locating within an area (or starting a new industrial process) and some good data on the characteristics of the wastewater discharged from your facility can go a long way in reducing future headaches. 



EMERGING CONTAMINANT / PFAS ANALYSIS

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WASTEWATER TREATMENT PLANT TOUR – PENOBSCOT COUNTY – TOWN OF EAST MILLINOCKET

Bryanna Denis, Wright-Pierce; Co-editor MEWEA Newsletter

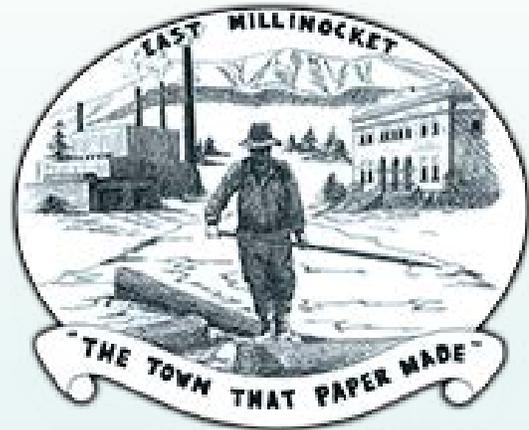
I've had a busy summer and just returned to work from maternity leave last month. Consequently, I've been scrambling to catchup on several projects that I've been working on throughout the state. Normally for this article I like to travel to a WWTF and actually tour the facility, but for this newsletter, I unfortunately had to forgo that opportunity. Though I would have loved to take the drive up to East Millinocket and meet the crew, especially when the fall foliage was on display. The following writeup is a smattering of various brochures and reports regarding the East Millinocket plant and its recent upgrade.

Historically, the Town of East Millinocket discharged primary treated wastewater to the Great Northern Paper's (GNP) wastewater treatment facility (WWTF) prior to discharging into the Penobscot River. When the former Great Northern Paper (GNP) Mill Closed in 2014, the Town of East Millinocket faced a challenge in terms of how to operate and maintain the mill's 30 MGD secondary WWTF.

The existing GNP lagoon was reconfigured into a 15 million gallon traditional 3-cell aerated lagoon for secondary treatment. The upgrade was designed by Wright-Pierce and involved construction of a 3-cell lagoon; headworks facilities including a new building, new blower building to house aeration equipment, effluent disinfection system including a new chlorine contact tank and outfall piping, and renovations to the Town's existing control/administration building. Penta Corporation completed the construction in the fall of 2019.

The Town obtained \$12.7 million to fund the project including: a USDA RD loan/grant package; a CBGD public infrastructure grant; monies from the Maine DECD Dolby Landfill; and Maine DEP SRF funds with principal forgiveness.

The WWTF has an average influent flow capacity of 0.2 MGD, a maximum monthly flow capacity of 1.5 MGD and a peak flow capacity of 2.5 MGD. The upgraded WWTF has capacity to take municipal and light commercial wastewater from the Town and leachate from the State's Dolby Landfill in order to continue to preserve the water quality in the West Branch of the Penobscot River which is vital to the prosperity of the Katahdin Region. 🌊



The WWTF ribbon cutting ceremony held on October 25, 2019



Wastewater Treatment Facility Blower and Headworks Buildings

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