Maine Water Environment NEWS

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President's Corner

By Matt Timberlake, Ted Berry Company

It is a bit unbelievable to think that more than half of the year has passed and we are already making room reservations and planning for the Fall Conference. One of the things I have learned in the last few months is how much work and effort all of the Past Presidents of our association have put into this organization. My respect and admiration of those that have gone before me only grows greater now that I can see how much they contributed and how much work it is to be President. That said I also realize how rewarding the experience is and how good it is to be able to make a difference for the good people of our Association.

Our Fall Conference is our premier event as an association and brings together the best in the industry. I always look forward to attending and participating. We have taken feedback from attendees and vendors and we hope to leave everyone seeing the value in attending. On a personal note, I spoke to a first time attendee and heard about how hard it can be to be attending for the first time – not knowing many people, not knowing your way around. I am asking each of our Past Presidents who attend this year to think of themselves as our ambassadors and to be on the lookout for a new face, someone that could use an invitation to sit with your group at lunch or maybe your after hours social gathering. Once, as a first time attendee myself I had someone do this for me and it meant the world to me and got me to come back again.

Our spring and early summer working with the Maine Legislature was something that may go down in history as the wildest roller coaster ride ever. We worked very hard to represent our members and support our mission, and although we do feel we accomplished what was possible, we still left disappointed in a few items. Much more on that in the fall…

I've worked hard to establish a weekly message that I hope connects our members to our association and helps make the association's ongoing work a little more real and accessible to all of our members. I hope you have found it helpful; the feedback I have gotten has been great. Other than my spelling and run on sentences even our editor, Mac, says it's O.K.!

I hope to see you up on the mountain in September, the program looks great. If I can help you in any way, please don't hesitate to contact me directly anytime.

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Upcoming Executive Committee Meeting Dates:

Aug. 18 – Executive Board Meeting/Summer BBQ, Sunday River

Oct. 20 – Monthly Meeting, Cassella Organics

Join us at the Annual Conference

The Maine Water Environment Association Fall Conference is an annual opportunity to bring together our community of wastewater professionals in Maine. Together we learn, grow, share, network, and recognize members for their outstanding efforts over the last year.

Our Conference is all about YOU; our members. Whether you are a seasoned veteran, a new or aspiring wastewater operator, work with a storm water system, a collection system operator, a contractor, a vendor who wants to connect with the industry, a regulator, or an elected official - the MeWEA Fall Conference has something for you and brings together an amazing group of dedicated professionals from a variety of backgrounds.

Our roots as an operator's association have not changed and we hope you find the technical courses offered this year representative of what our operators have asked for and need. Long-timer or first-timer please join us up on the Mountain for what looks to be another amazing Conference.

Our theme this year is "One Water". Technical sessions this year represent a variety of wastewater topics. A few session highlights are: Pump Station Drawdown Testing, Public Engagement through Virtual Tours, Hands On Nitrification and Denitrification, and Centrifugal Grinder Pumps on Thursday; as well as Alternative Nutrient Management, Automated Dewatering Systems, Collection System "Hacks", and Oxford's new wastewater system on Friday.

Hope to see you there!

Maine Clean Water Week Poster Contest Winners

In recognition of Maine Clean Water Week the Maine Water Environment Association again sponsored a poster competition for Maine students grades 1-12. The theme of the competition was "WHAT CLEAN WATER MEANS TO ME!" Over 600 posters were received from cities and towns throughout Maine and at the MEWEA Spring Conference winners were selected by the membership.

Students representing future generations of Maine citizens have shown their support by learning about the importance of water, ways that water is wasted, ways to conserve water, and how to protect the water we have. On Thursday June 8th, 2017 the winning students met at the Bangor Wastewater Treatment Plant and were recognized by the Maine Water Environment Association and Mayor Joe Baldacci.

Poster contest winners pose with Matt Timberlake and Jen McDonnell.

Winning students each received a check for $100.00 from MEWEA, which was a small token of appreciation for their efforts.

Winners:

Jordan Drake (Oxford) from Central Maine Christian Academy
Sophia Spiller (Augusta) from St. Michael School
Mackenzie Cates (Cutler) from Bay Ridge Elementary
Etta Crosman (Cutler) from Bay Ridge Elementary

ON MY SOAPBOX: Getting Stuff Done

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.***

Note: this will be my last Soapbox as editor of you association's newsletter. Two extremely capable ladies, Mo Dube and Bryanna Denis have stepped up to take the reigns and lift the newsletter beyond whatever I have been able to do with it. Maybe they will even allow me to "spout off" once in awhile with an occasional soapbox piece in the future.

So, getting stuff done. Whether we are talking about family, work, this association, or our government(s), a few simple concepts and procedures may serve us all well to remember. I will offer a few of my favorites here:

• Cooperation is always a good thing. It is literally the way that two or more people work together toward a common goal. We in the United States of America have a tendency to overvalue competition to the detriment of cooperation. Both are good things, but only one, cooperation, provides synergy to make a bigger whole out of two parts.

• Speaking of goals, the bigger the task, and the more important the outcome, the more imperative it is to ask the questions and agree on the answers to the questions, "What are we trying to accomplish? What is the Goal?" These questions need to be agreed upon before solutions and action items are debated. This simple principle would have served our elected representatives in Washington well in the recent healthcare debate. Simply stated, if two parties have different goals in mind, how are they ever going to agree on what actions to take?

• Speaking of the health care debate, another principle that would have been useful to consider is the idea that when an issue is going to affect another person or group, and that person or group is already anxious over how it will go, it is generally best to bring them in early. Failing to do so generally gets the "rumor mill" going, and whatever is reported by the rumor mill (insert mainstream media here if you wish) is generally worse than what is actually being considered. As an example think of times when a position description is revised or a change in the management structure is proposed. My experience has been the sooner you bring in people and explain what you are trying to do and why, the better it will be received. No one likes to feel that some major change has been "sprung on them".

• There is almost never a good time to make enemies. Even if your goals are somewhat different, it is simply not helpful to antagonize people you ultimately have to get along with. Whether it is a wild animal, a group of employees or your boss, backing someone into a corner makes them feel trapped and gives them reason to lash out – sometimes in wild and unpredictable ways. No matter how you slice it, this is rarely a winning formula!

• In this vein, one is well advised to take a little time to consider how other people or groups feel. That is, how will my proposal be received by the person or people sitting on the other side of the table (or across the aisle)?

• Try to avoid the "all or nothing" trap. This is sometimes known as the "My way or the highway" approach. If you are the supreme emperor, or hold all the cards, maybe you can get away with this attitude, but for most of us it is no good. We need the help and cooperation of others to accomplish good things. I often use a sports metaphor to illustrate this concept. Make sure your actions move the ball closer to the goal. Rarely do you score by taking the ball all by yourself, life is mostly a team sport!

• Try to remember that we generally have more in common than we have differences. For example, operators, engineers, vendors, contractors and even regulators generally share the same goals. We all want a clean environment and plants that work well to support that environment. I think we all want a health care system that is affordable efficient and covers as many people as possible. Every one of us is a human being that needs air to breath, water to drink, and other basic needs.

• Dish out praise and credit freely to others whenever you can do so sincerely. Few things will bring out future cooperation and make you stronger in the long run than recognizing the good work of others. Strong teams nearly always beat superstar individuals.

• Respect, courtesy, decorum, manners are all to be exercised as much as possible. You really can't get in trouble by being civil to other people. When was the last time you heard someone complain that another person was too gracious? Along these lines profanity is never helpful. At best using vulgar language shows a lack of vocabulary and ability to express oneself clearly, more often it makes you look out of control and/or mean. Loose the "F bombs".

• If you do happen to go off the rails, such as being taped uttering disparaging remarks about someone, or caught doing something you really should not, be quick to own up to your actions and apologize for any that were inappropriate. I think you will be surprised at how forgiving people are when you show that you understand what went wrong. We all realize that none of us are perfect – except me of course!

• This brings me to my last point. A little humor can really help things go your way. Just be sure that the joke is not mean spirited or at the expense of a person whose help you need. Laughter is indeed good medicine!

And so, my friends and neighbors, I will close this diatribe by wishing for you all success in your endeavors and all the best in your lives. Although we have a bad little habit of taking two steps backward for every three we take forward, I do believe the march of humanity is positive and we keep getting better all the time!

NEWEA Kicks Off Spring Conference on Cape Cod Talking Sharks

The New England Water Environment Association (NEWEA) held the annual spring conference at the Sea Crest Beach Hotel in West Falmouth, MA with a bit of an edgy topic: White Sharks. Cynthia Wigren, executive director of the Atlantic White Shark Conservancy (Conservancy), discussed White Sharks and their role in the ocean during the opening session.

"As an apex predator, white sharks play an important role in the ocean ecosystem and provide an excellent indication of the health of that ecosystem. Essentially, in any ecosystem, it is not possible to have a healthy population of apex predators unless the entire system is reasonably healthy, and all organisms making up the food chain are prospering. Thus, the health of the white shark population in New England waters is a testament to the work that water quality professionals do every day, and the fact that white sharks regularly frequent Cape Cod Bay and other waters previously impacted by human activity demonstrates the gains that have been made in recent decades. Further, it is well known that oceans generate half of the oxygen that people and other land animals breathe and adsorb vast quantities of carbon dioxide from the atmosphere making healthy oceans vital to the health and survival of mankind and the planet as we know it". {*Explained Ms. Wigren in her remarks during the opening session.*}

Ms. Wigren also dispelled a few of the myths and misconceptions that have dogged these creatures for years. For example, more than 1600 people were bitten by other people in New York City alone compared to just 81 people worldwide who were bitten by sharks. That means the rate of human bites in New York City was nearly 20 times the rate of shark bites worldwide! Of those shark bites, only four resulted in a fatality. Compare this to the 17,154 tons of shark fins and 121,641 tons of shark meat that were traded worldwide in 2011 (these statistics are available from the United Nations fish and agriculture organization).

Clearly, sharks have much more to fear from us than we do from them! While encounters with sharks are rare, shark safety is still important. Safety tips include:

- not swimming near seals,
- avoid swimming at dawn and dusk, and
- swim and surf in groups.

Those who want more information on this subject, or want to support the work of the Conservancy are encouraged to download the Sharktivity App or go to www.atlanticwhiteshark.org.

White shark peruses harbor seal off Cape Cod. (Wayne Davis photo)

Tracking white sharks. (Wayne Davis photo)

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Force Maine Heading to the Windy City and WEFTech

By Alex Beuchner, Biddeford WWTF

So it's that time of year again...you fellow subscribers to *Niche Trade Sports Illustrated* know what I'm talking about - The Operations Challenge Nationals at WEFTEC. It's the event everyone is talking about, where the best operators from all across the globe meet to find out who is the fastest, strongest, and smartest in five wastewater-related events. So why are *we* going you ask? What the hell guy?! It's because we are the fastest, strongest, and smartest group of operators in the New England area!

Well… the *second* fastest, strongest, and smartest. In case you missed it, and I can't imagine that you did, Maine's own Operations Challenge team, *Force Maine,* placed 2nd overall in the regional event during the NEWEA Spring Meeting in Cape Cod back in July. We were topped only by the mighty (and possibly blood-doping) Ocean State Alliance from Rhode Island. The Franken Foggers from Connecticut placed 3rd. The top three New England teams will showcase their skills at Nationals.

This is an exciting year for *Force Maine* because we are welcoming *two new members* to the team:

Riley Cobb has joined us from the Saco Water Resource Recovery Department.

Nate Melanson from the Lewiston-Auburn Water Pollution Control Association, Nate will also be our new team coach.

Other members of the team include Ops Challenge veteran, Dan Laflamme from the City of Biddeford, and Scot "12 Toes" Lausier from the Sanford Sewerage District. Last (and also least), is myself Alex Buechner, also from the City of Biddeford.

The Operations Challenge is a fun and exciting way to learn to be a better operator, meet new people, learn about cool new technology, explore new places, and just generally get jazzed up about protecting the environment through clean water. Want to get involved? Let us know. Anyone who is willing to volunteer their time can share in this experience – be it, team members, coaches, judges, event coordinators, donors, spectators, super fans, regular fans, mascots, groupies (or as WEF officially coined them, "Poopies". I know- Gross, right? Blame WEF for that. I certainly did not just now make that up...)

I've said this before, and I'll say it again… I would ask you to wish us luck, but when you are this good, you don't need luck. Granted, I was totally wrong when I said that before. So maybe you better wish us some luck…..

Force Maine placed second at the regional Operators Challenge.

The Art of Brewery Wastewater Characterization

By Ted Danforth

(***Editor's note:*** *With the increasing popularity of micro-breweries, it seems that a new operation is springing up just about everywhere)*

I never cease to be amazed at the reluctance of many brewers to spend a couple of thousand dollars to find out what is in their wastewater before spending tens or even hundreds of thousands of dollars on the treatment needed to comply with regulations. Penny wise/pound foolish?

When facing the challenge of complying with municipal wastewater discharge regulations, there is nothing more important than accurate characterization of the wastewater under scrutiny. Without knowing the wastewater constituents and volume it is nearly impossible to predict compliance and the treatment systems required to achieve it. Imagine brewing the next batch of a successful session without a recipe! Kind of similar issues!

So, what does characterization mean? In short, it means that you have an accurate representation of the pollutants contained in the wastewater (BOD_5, Suspended Solids, pH, Oil and Grease and others) and the average and peak flows leaving the facility throughout the day. Omitting any of this information from the characterization risks moving forward with a flawed plan. Although one would think that wastewater is similar for most breweries, in fact wastewater from different facilities can vary dramatically from site to site.

Before designing a plan to characterize the wastewater, it is important to understand the "driver" for the treatment of the waste -- both regulatory and financial. A clear understanding of the applicable regulations is critical to success in characterization and treatment system design. If regulations are driving the assessment, which parameters are regulated and at what levels? With an understanding of the needs driving treatment, a practical characterization and sample collection effort can proceed.

Sample collection involves the collection of wastewater samples from the point where all process wastes come together. Sounds simple, right? Not really. Access to the right sampling point is often obscure and difficult or impossible to access. Should you take a grab sample, a flow based 12 hour composite, 24 hour composite or time proportional composite sample? It depends, some analysis (such as pH) need to be grabs, while others need to be composites.

Analysis of the samples is just as critical as proper collection. Knowing what to sample and analyze samples for and the right laboratory to analyze the samples are all critical components of a wastewater characterization program. Once again, an error here can cause dramatic and costly issues later. It is also critical to take a number of samples during a variety of production operations covering a range of products to obtain an understanding of the variability of the wastewater to be treated.

Flow monitoring is a necessary component as well. Knowing the constituents in the wastewater aids in the selection of

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Fixing the EPA's Clean Water Problem

By Mark Gibson, Kylos Engineering, LLC

The year of the Apollo moon landing, Time magazine featured an arresting photo of the Cuyahoga River on fire, with flames leaping up from the water, engulfing a ship - a product of decades of pollution. The photo was actually taken in 1952, long before this transformational event that catapulted the environmental movement.

After 1969, the Clean Water Act became law, and we no longer see such carnage. Regulations on so-called "point sources" ratchet pollution so much that the industry now espouses "zero-emission" factories. But creating National Pollution Discharge Elimination System (NPDES) permits has done practically nothing to abate eutrophication and severe water impairment. The 'dead zone' in the Gulf of Mexico and rampant algae blooms in Lake Erie are caused by excessive nitrogen and phosphorus - biological building blocks (nutrients) - arguably the most prolific threat to water.[1]

Nutrient pollution is staggering. Algae blooms in Lake Erie deprived 400,000 people in Toledo of water and forced $13 million in water treatment. Galveston Bay suffered $15 million in shellfish bed closures. For every 10 miles that red tides affect Florida coasts, their communities lose $5 million a week in tourism. The National Oceanic and Atmospheric Administration estimates that dead zones cost over $82 million per year in lost fisheries and tourism.[2,3] This is a worldwide problem, from the Baltic Sea to the Adriatic Sea to the North Sea.

Mandates Miss the Point

The overwhelming source of this pollution is from so-called "nonpoint sources". In EPA parlance, a nonpoint source is anything that isn't a point source, i.e., anything without a discharge permit. The main cause of such nonpoint source pollution - the big elephant in the room that few wish to discuss - is agriculture. Agriculture is immune from the Clean Water Act, and few regulatory teeth exist to bite on other nonpoint sources, like golf courses, septic tanks, or dog poop.

None of this is lost on environmentalists. Since the turn of this century, the water litigation tool of choice has been the 303(d) impairment suit. Enviros' 303(d) claims have amassed $80 billion in consent decrees against municipalities (that is, you and I), forcing construction of advanced sewage treatment and stormwater controls. The movement has leveraged total maximum daily load (TMDL) regulations, properly coined "Too Many Damned Lawyers." It tries to force remedies for the Gulf of Mexico or any place where fish or fauna are harmed. as we saw during the Reagan Administration, during the Trump Administration we can expect environmental organizations to enjoy record fundraising, fueling a tidal wave of lawsuits. While litigation and public costs mount, it's not doing much good.

Take the Chesapeake. Since 2003, about 500 sewage plants along the bay were forced to purchase $7 billion in upgrades, decreasing their phosphorus and nitrogen loads by 29 and 39 percent, respectively.[4] Yet today, only 37 percent of the bay meets water quality standards, and 74 percent of the tidal segments have partial or full impairments, while 40 percent of the nutrient loadings are from agriculture and 19 percent from sewage plants (which load less nutrients than out-of-basin air pollution).[5,6]

A vexing aspect of EPA regulation is how liability for nonpoint pollution shifts to point sources. Under EPA guidance, "There must be reasonable assurances that nonpoint source reduction will in fact be achieved. Where there are not reasonable assurances … the entire load reduction must be assigned to point sources."[7] As a Park Foundation grant beneficiary from the University of Alabama School of Law relates, "Eventually, you end up with a horrible situation where you're not complying with water quality standards, and only choice is to make the point sources comply even more, or clean up their act even more incredible cost, or to do more enforcement against the point sources."[8]

Yes, that's right: Via wastewater bills, you and I get to pay for agriculture's pollution.

A few years ago, Denver's wastewater authority was accused of impairing the South Platte River. Spurred by environmental litigation, the city was forced to buy advanced nutrient removal technologies for an extra $211 million.[9] Denver wastewater officials testified, "In nutrient-impacted watersheds where point sources are a *de minimis* contributor … it will be exceedingly difficult for … utilities to garner community support and funding for expensive treatment technologies that result in little to no improvement in overall water quality. … This is especially evident in the Gulf of Mexico and Chesapeake Bay."[10]

The Iowa Example

In Iowa, a few dozen miles upstream of Des Moines, lay the most productive corn and soybean farming in the world. Called the Des Moines Lobe, it also produces the largest nutrient loads to the Gulf of Mexico.[11] Not surprisingly, the Des Moines River's average nitrate level veers to 13 mg/L, compared to EPA's maximum limit of 10 mg/L.[12] The City of Des Moines uses this river for drinking water; its utility spends up to $7,000 daily for nitrogen treatment to produce legal drinking water. Another $180 million may be needed to treat the farm-impacted water.[12] Ironically, a few miles downstream of Des Moines' river intakes, their wastewater authority spent $1 billion for upgrades to reduce emissions.

So costly is Des Moines' plight that its Water Works' CEO (an attorney), Bill Stowe, is spearheading a groundbreaking lawsuit against upstream counties governing agricultural drainage districts in order to stop the districts' nutrient releases. A true leader among water authority administrators, Stowe has stoked a virtual war in corn country: Big City vs. Rural Agriculture.

Yet, six months before Des Moines filed suit, a few miles from Stowe's office, another brilliant leader, Dean Lemke, worked to address the problem at the Iowa Department of Agriculture and Land Stewardship. Lemke directed a precedential assessment of edge-of-field and on-farm nutrient reduction techniques when he published the Iowa Nutrient Reduction Strategy. Apparently ignored by regulators was the report's finding that constructed wetlands can reduce nitrogen loads for $2,800 per ton, bioreactors can do so for $1,800 per ton, and controlled drainage management and buffers work at $2,500 to $3,800 per ton.[13] The report acknowledged that 130 of Iowa's wastewater plants will be permitted to reduce nitrogen for about $6,800 per ton - in

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Fixing the EPA's Clean Water Problem cont'd

order to decrease statewide loads 4 percent.

Why are Iowa's ratepayers subsidizing expensive sewage technologies for a mere 4 percent reduction? Such a scheme is like an elephant giving birth to a gnat: implausible and painful to watch.

Based on the state's figures, if Iowans were to subsidize farm-centric mitigation rather than end-of-pipe wastewater technology, nitrogen loading could decrease threefold. As the EPA's Iowa "regulate the wastewater plants" strategy inevitably fails, Iowans should expect their cost to go even higher as regulations spiral; engineering and construction firms win, farmers take flak, Iowa and the environment loses - just like the Chesapeake.

Cost-Effective Accountability

The economic elegance of mitigating nutrient sources near to the farm is bootstrapped by additional science.

Engineers from powerhouse Black & Veath calculated what it would take to cut nutrient in the Illinois River Basin with simple near-stream treatment plants. Reducing nitrate loads to the Gulf of Mexico by up to 20 percent was estimated to require merely $760 million, at less than $2,000/ton of nitrogen removed.[14] By comparison, Rockford, IL, spent an extra $30 million to remove about 3 mg/L of nitrogen, a marginal cost of around $5,000/ton.[15] In the Chesapeake, enhanced nitrogen removal at sewage plants has cost $6,000/ton.[16]

The Wetlands Initiative in Illinois analyzed seven Chicago wastewater plant upgrades. They determined 200,000 acres of passive wetlands would save $1.6 billion, compared to Chicago's retrofits.[17] From the National Association of Clean Water Agencies, "The cost to remove a pound of nitrogen or phosphorus from farm runoff and drainage is typically 4-5, sometimes 10-20, times less than the cost to remove the same amount from municipal wastewater or stormwater."[18]

Confounding environmentalists is the reality that as EPA regulators force ratepayers' wastewater upgrades, greenhouse gas emissions increase. Regulating nitrogen releases below 3 mg/L decreases nutrient loads by 1 percent, while increasing greenhouse gas emissions by 70 percent.[19] In the interest of the environment, when it comes to sewage regulation, we have come to the point of diminishing returns.

The Idaho Example

The saneness of nonpoint source cure is proven - under EPA permit - in Idaho. A growing city surrounded by phosphorus-rich farmland, Boise faced regulatory pressures on its sewage plant expansion. Avoiding costly conventional upgrades, the city devised a plan to treat agricultural runoff with simple alum-based dosing. Their Dixie Drain facility opened this year at a cost of $17 million, in lieu of spending $55 million for high-tech wastewater treatment. It only took Boise a decade with continuous congressional prodding to force EPA to agree to the innovation.[20]

This suggests a better way of doing business: Call it nutrient farming or nonpoint source mitigation; it's really nutrient pollution offsets. As Boise shows point sources should be encouraged to meet permit obligations with nonpoint source offsets - similar to Clean Air Act offsets.

Let's get real. Regulating agriculture is off the table; it's not going to happen in our lifetime - outside of a few communal conclaves in California. Barring a game-changing legal precedent out of Des Moines, the reality is that farmers will do what we pay them to do. It is economically and environmentally inefficient to expect otherwise.

A Path Forward

Conventional-thinking engineers argue that wetlands and bioreactors won't offset pathogenic and other releases. Granted, but hybrid solutions controlling nutrient and pathogens collectively (basinwide) will maximize environmental quality at least cost - better than being held hostage to capital-intensive, high-tech contraptions tied to massive billable hours for consulting firms. New thinking and modern monitoring will remedy the challenges of aggregating and policing nonpoint source methods, as demonstrated by Dean Lemke's amazing achievements at the Iowa Department of Agriculture and Land Stewardship - where the country's most comprehensive plot-specific inventory of near- or in-field agriculture mitigation opportunities has been amassed.

It's long past time for a new model. EPA must aggressively encourage NPDES permit holders with nutrient liabilities to employ offsets with simple, verifiable technologies. This must not be confused with "nutrient banking" or "water quality trading," where environmentalists have hijacked these convoluted schemes and diluted them with "trading ratios" to foster perpetual condemnation of agricultural land.

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Fixing the EPA's Clean Water Problem cont'd

We all eat food, and we're all part of the nutrient cycle. If sewage fees are proxy for our collective nutrient pollution, then (ratepayers') wastewater authorities must be encouraged to seek least-cost paths to reduce basinwide pollution. EPA and its guidance should help leaders like Lemke and Stowe work together. As such an approach improves our water, support for environmental fundraising and 303(d) litigation evaporates.

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About the Author

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Staffing News at St.Germain Collins | Sentry EHS

Grant Austin

St.Germain Collins is pleased to announce the promotion of Sandra Perry and the addition of Grant Austin to our team.

Sandra Perry has been promoted to Director of Environmental, Health and Safety Services. Sandra will oversee the Environmental, Health & Safety (EHS) group who provide regulatory compliance services to energy, waste & recycling, manufacturing, and higher education clients. She has been with St.Germain Collins since 2015, and has more than more than 25 years of comprehensive regulatory compliance experience throughout New England.

Sandra Perry

Grant Austin joins St.Germain Collins as a Senior Project Manager and Environmental Scientist. Grant will help clients with Environmental Site Assessments (ESAs), site remediation oversight, permitting and other environmental services. He has nearly 20 years of experience as an Environmental Scientist working with lenders, developers and other businesses to successfully complete more than 250 ESAs and numerous site remediation projects.

Contaminants of Emerging Concern in Biosolids and Residuals - PFAS

By Jeff McBurnie, Casella Organics

What are PFAS?

PFAS stands for Per- and PolyfluoroAlkyl Substances. These are synthetic, long-chain carbon-based chemicals that have been used in the manufacture of non-stick cookware (like Teflon) and food packaging, stain-resistant fabric and carpeting (think Scotchgard), and aqueous film-forming foam (AFFF).

What are the issues with PFAS?

These chemicals, which have been widely used throughout the country, have been found in water, soil, and even human blood serum. The two most widely used of these chemicals, perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS), have been linked to several diseases including cancers (primarily in laboratory animal studies but also in humans in highly impacted areas). Despite the observation of these potential links, the actual cause-effect relationship has not been conclusively established. While both chemicals have been pulled from production and use in the US, they are still available in many other countries and still used in the manufacture of products that may be imported to the US. Their release to the environment is still ongoing, but has slowed significantly. Generally, concentrations in blood serum are starting to decline.

Highly impacted areas have been identified in the vicinity of industrial sites where these chemicals were produced or used in a manufacturing process. Environmental contamination has also been found in areas surrounding airports and firefighting training centers, where AFFFs are or were routinely used. Impacts to drinking water have been associated with both airborne and waterborne releases of these contaminants.

What are the issues specific to biosolids and residuals?

Because of the historical widespread use and environmental persistence of PFAS, these compounds can be found in measurable concentrations in biosolids and other residuals such as short paper fiber. A concern is that the mechanism by which these chemicals might leach from land applied biosolids and residuals is currently not fully understood, so there are questions regarding what might be safe levels of PFAS in land applied materials and in soil.

Beyond the uncertainty with the risk of exposure, another problem is that the only EPA-approved method for testing PFAS is for Drinking Water. No such approved protocols currently exist for ground and surface waters, nor for solids. Regardless of the availability of approved methods, very few laboratories in the US and Canada are certified to analyze samples for PFAS. Finally, sampling procedures have not been developed for these compounds in these other matrices, that is, until recently.

What is happening in the regulatory arena?

USEPA has established a lifetime exposure advisory level of 70 parts per trillion (nanograms per liter) for PFOA and PFOS combined. This advisory level is highly conservative, nevertheless, some States have chosen to establish lower advisories, and at least two have established lower Drinking Water standards. (Note: a standard is enforceable, an advisory is typically not).

What is our (the 'industry's') response?

In my capacity as the Residuals Management Committee chair, I have been part of a PFAS advisory group assembled by the North East Biosolids & Residuals Association (NEBRA). The group's mission is to review, research and understand the various aspects of PFAS contamination; assemble, enhance and expand scientific support; and ensure that any newly established regulatory standards are science-based. The group consists of generators of potentially affected materials, biosolids and residuals recyclers, academic researchers, and consultants. The group routinely interacts with, seeks input and feedback from, and supplies information to regulatory agencies throughout the Northeast.

Specific efforts by the Group, and more specifically NEBRA, have been the development and presentation of several PFAS-related webinars; the solicitation, review and publication (without attribution) of PFAS results from New England and other biosolids and residuals products and associated media; the creation and publication of a PFAS in Biosolids Fact Sheet; the development of a Sampling and Analysis Plan Guide for materials potentially contaminated by PFAS; a PFAS leaching literature review (in progress); and the expansion of research of PFAS fate and transport from land applied biosolids and residuals (currently at the planning and funding stages).

This is a very simplified overview of the state of knowledge regarding PFAS. For a more comprehensive discussion, please go to the NEBRA Microconstituents/Trace Chemicals webpage at: www.nebiosolids.org/microconstituents/

More current information and the PFAS Sampling and Analysis Planning Guide can be found in the Members Only section of the NEBRA website.

What Are Those YPs Up To Now?

By Michael Guethele, Wright-Pierce

The Young Professionals Committee recently organized an event in coordination with the NEWEA Young Professionals committee, part of their signature "Poo and Brew" events, that incorporates a tour of a wastewater treatment facility followed by a brewery tour. The event was organized with a tour by Dylan Leslie at the South Portland Water Resource Recovery Facility, and included an overview of the City's stormwater treatment and conveyance led by Fred Dillon. The event ended at Foulmouthed Brewing, and allowed for continued conversation. Overall, the event included both MEWEA and NEWEA members and provided a great opportunity to showcase one of our facilities to a growing audience while allowing for a great networking opportunity.

Our annual networking event, the Androscoggin River Paddle, a flatwater paddle in conjunction with the Source To Sea event organized by the Androscoggin Land Trust took place on August 3rd. It was a beautiful evening paddle, with the event ending at Gritty McDuff's in Auburn.

Over the next few months, our attention turns towards planning our fall events.

Portland Greenfest: September 9 in Portland

For the third year in a row we will have a table at Portland Greenfest, an event in Monument Square that highlights our continued work within the water quality community. Hoping to pair with local governments.

Fall Convention: September 20-22

Look for us at the MEWEA Fall Convention! We will be raising money for our scholarship at the Golf Tournament, will be running Thursday's Vendor Raffle, and will be awarding this year's scholarship and YP Award.

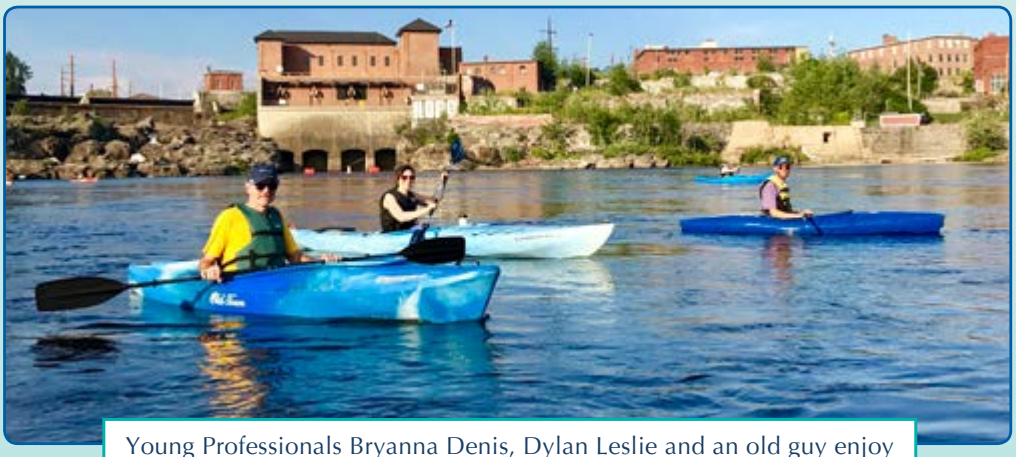
Maine Stormwater Conference

We are still finalizing the details, but we'll be organizing a fun evening get-together at the state's bi-annual stormwater conference.

Please stay tuned for more information on our many exciting events for the end of summer and fall as those plans get finalized.

If you would like to get involved or have any questions, please contact the Mike Guethle, YP Committee Chair, at michael.guethle@wright-pierce.com

Group tour at South Portland's WRRF



Young Professionals Bryanna Denis, Dylan Leslie and an old guy enjoy the after hours paddle on the Androscoggin River

The Art of Brewery Wasterwater Characterization

cont'd from pg 5

technology for treatment and knowing the flow and its variation determines the size of the system components. Keep in mind that although the total volume generated daily is important, the rate of generation and its variation is also important. In many cases, the majority of the water use and wastewater discharged occurs over a very short time period. Collection and pumping systems need to be sized accordingly.

In summary, wastewater flows and pollutant components vary dramatically from facility to facility and the regulations can also vary from municipality to municipality. Mistakes or oversights in accurate wastewater characterization will have dramatic impacts on the cost and effectiveness of the treatment system installed to meet local limits and reduce possible surcharges. Although general characterization from similar facilities is a good place to start, do not rely on "typical characteristics" to assess your facility's discharge. A couple of useful resources are the Brewer's Association's "Water and Wastewater: Treatment/Volume Reduction manual" and EPA's wastewater sampling at https://www.epa.gov/sites/production/files/2015-06/documents/Wastewater-Sampling.pdf

Always contact your local Industrial Pretreatment Coordinator from the municipality accepting the discharge and remember there are always consultants that can offer suggestions and assistance.

Maine Water Environment Association

Upcoming Events

Date	Day	Time	Event	Location
Sept. 9	Sat.	3:00 p.m.	Portland Green Fest	Portland - TBD
Sept. 20	Wed.	11:00 a.m.	MEWEA Golf Tournament	Sunday River Golf Club
Sept. 21 & 22	Thurs.- Fri.	8:00 a.m.	MEWEA Fall Convention	Sunday River
Sept. 30-Oct. 4	Sat.-Wed.		WEFTEC	McCormick Place, Chicago, IL
Oct. 4 & 5	Wed.-Thurs.	8:00 a.m.	MMA Convention	Augusta Civic Center
Oct. 20	Fri.	9:00 a.m. 12:00 p.m.	Executive Board Meeting	TBD (Member Facility)
Oct. 23-24	Mon.-Tues.		Maine Stormwater Conference	Holiday Inn by the Bay , Portland
Oct. 25-26	Wed.-Thurs.		Northeast Biosolids and Residuals Conference	Hilton Hotel, Burlington, VT
Nov. 17	Fri.	9:00 a.m. 12:00 p.m.	Executive Bd Meeting/Budget Workshop	Maine Municipal Association
* Dec. 15	Fri.	9:00 a.m. 12:00 p.m.	Executive Bd Meeting/Holiday Luncheon	Maine Municipal Association

** Lunch Provided*

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 MWWCA we are always interested in receiving material and will make every effort to incorporate your submissions.

MEWEA E-Mail Database

All current members of MEWEA should receive periodic e-mails, which may include the most recent newsletter, conference and training announcements, or regulatory updates. If you haven't received any e-mails from the organization recently, you may wish to update your information in the distribution list by sending your current e-mail address to Joan Kiszely at jkiszely@memun.org. Don't miss out on the exciting networking and educational opportunities MEWEA provides!

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Maine Water Environment NEWS

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