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2018

The Official Publication of the Water Environment Association of Utah



DIGESTED news

Celebrating 50 Years of Clean Water

2018 WEAU ANNUAL CONFERENCE

APRIL 17-20 | DIXIE CENTER | ST. GEORGE, UTAH

Snyderville Basin Water Reclamation District
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INSIDE:

WEAU Election Information ■ Operator Spotlight Q&A



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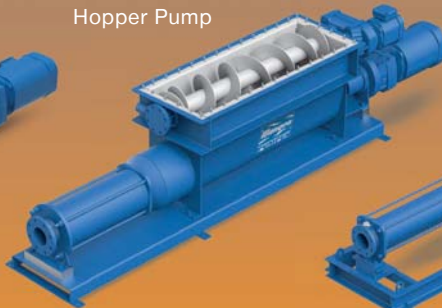
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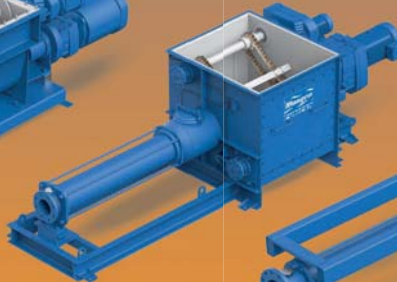
KL-S
Slurry Pump



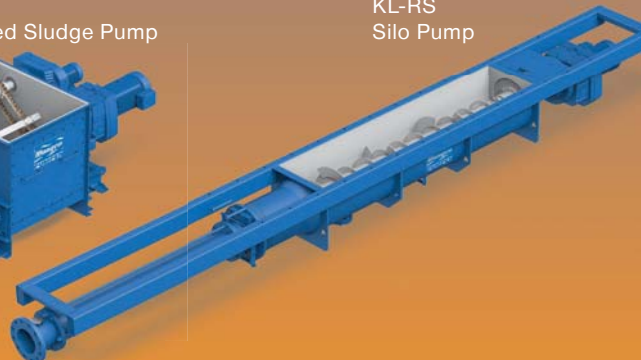
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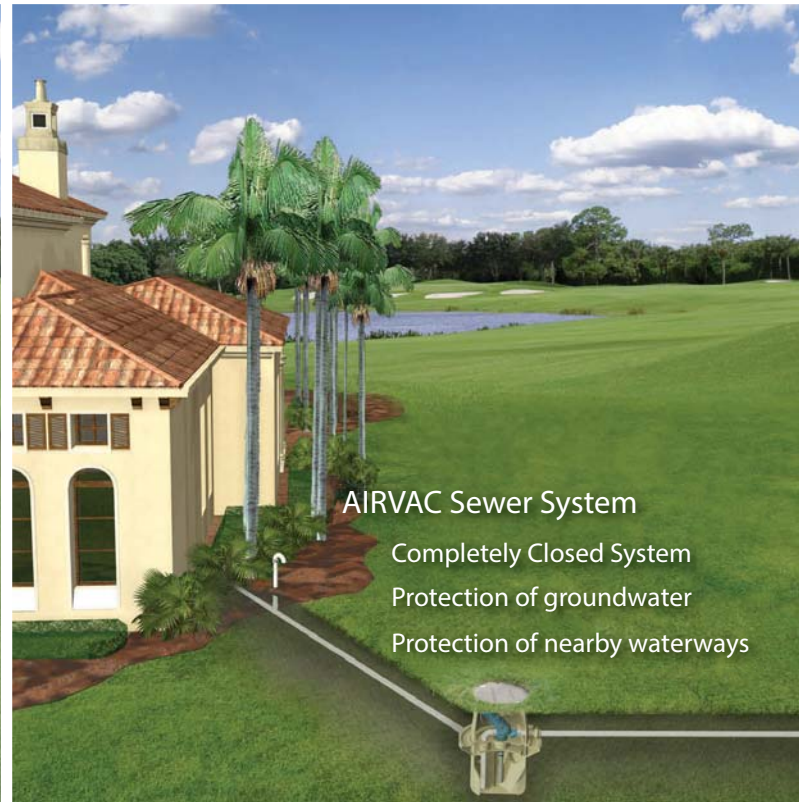


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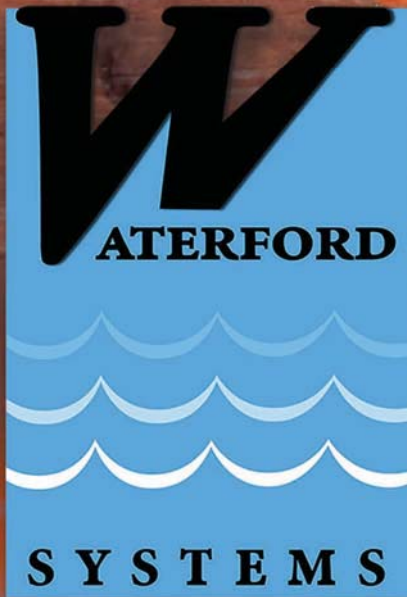


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Clint Rogers

What WEAU is All About

Recently WEAU had one of its best days ever. If you know Ken Burgener you know that every day has the potential to be the best day ever. You've got to love Ken's enthusiasm for life and love of learning. Ken was really excited to bring in Dr. Paul Cox, an ethnobiologist from Jackson Hole, Wyoming, to share his research on cyanobacteria for the WEAU Contaminants of Emerging Concern (CEC) seminar. You might say an ethno what? Dr. Cox believes he may have found a link or factor related to the contracting of Lou Gehrig's disease and Alzheimer's as a result of exposure to a toxin created by certain cyanobacteria. Check out Dr. Cox's research by viewing the video Toxic Puzzle (www.toxicpuzzle.com). I was really impressed at the passion Dr. Cox has for his research and his drive to find treatments or a cure for one of these diseases. The seminar also included a presentation from Ben Holcomb on the research being conducted on algal blooms in Utah Lake by the Utah Department of Water Quality, and a presentation from Dr. Ramesh

Goel of the University of Utah about the conditions that allow for cyanobacteria and cyanotoxins. Ken did a great job of organizing the event and special thanks to Michael Foerster and South Valley Sewer District for hosting the event.

The goal of these CEC seminars – we've had two so far– are to help provide education to our members. We are a training and education organization. There is no political or regulatory agenda, rather the seminar speakers have included both local and national talent presenting on scientific research. The CEC topics are often the ones that we get asked by the public because they see things in the news and are left wondering how to process the information and determine if there is risk to themselves and their families. The more we know as members of WEAU, the better I think we can do our jobs as water stewards and be a resource of information to our communities.

I told a story as part of some brief kickoff remarks I made at the CEC seminar that I think illustrates the value of asking questions and gathering information

beyond just an average or cursory level. The story below was originally published by author Benjamin Hardy in an article titled, 'One Behavior Separates the Successful from the Average.'

Original link:
medium.com/the-mission/one-behavior-separates-the-successful-from-the-average-936f7ff04793

A certain farmer had become old and ready to pass his farm down to one of his two sons. When he brought his sons together to speak about it, he told them: The farm will go to the younger son.

The older son was furious! "What are you talking about?!" he fumed.

The father sat patiently, thinking.

"Okay," the father said, "I need you to do something for me. We need more stocks. Will you go to Cibi's farm and see if he has any cows for sale?"

The older son shortly returned and reported, "Father, Cibi has 6 cows for sale."

The father graciously thanked the older son for his work. He then turned



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to the younger son and said, "I need you to do something for me. We need more stocks. Will you go to Cibi's farm and see if he has any cows for sale?"

The younger son did as he was asked. A short while later, he returned and reported, "Father, Cibi has 6 cows for sale. Each cow will cost 2,000 rupees. If we are thinking about buying more than 6 cows, Cibi said he would be willing to reduce the price 100 rupees. Cibi also said they are getting special jersey cows next week if we aren't in a hurry, it may be good to wait. However, if we need the cows urgently, Cibi said he could deliver the cows tomorrow."

The father graciously thanked the younger son for his work. He then turned to the older son and said, "That's why your younger brother is getting the farm."

I see many 'younger son' examples in WEAU. Men and women who really get into the details of their jobs and become professional in their understanding. Typically, they also become a great resource to their employer and coworkers. That is what WEAU is all about! If you are just getting started in your career or maybe you lost that love of learning somewhere along the way, I encourage you to find it again and continue to grow your knowledge and skills.

WEAU elections are underway. I would encourage all to vote and support the candidates who have volunteered to put themselves out there as willing to serve and give of their time should they be elected. Send an email to elections@weau.org if you have not received an email with a link to your ballot.

It has been my pleasure to serve you this year as the President of WEAU. I certainly have learned more about the technical aspects of wastewater treatment, collections, biosolids, laboratory analysis, and safety, but getting to know all of you and seeing your dedication is where I find the real value of my WEAU membership.

Putting the spotlight on the unsung heroes of this field by supporting the Operations Challenge event, increasing public awareness and pride in what we do through the #MyWaterLegacy campaign, and our annual awards program have been the highlights of my time on the WEAU Board. I look forward to supporting Jeff Beckman and the rest of the Board in 2018–2019 as the Past President. If Matt Myers' smile and relaxed demeanor at Board meetings this past year is any indication, Past President of WEAU is not a bad gig!

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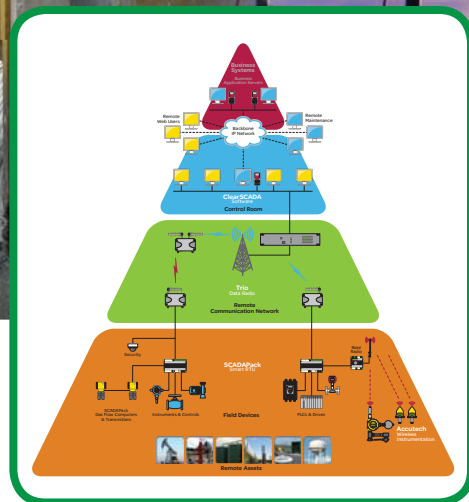
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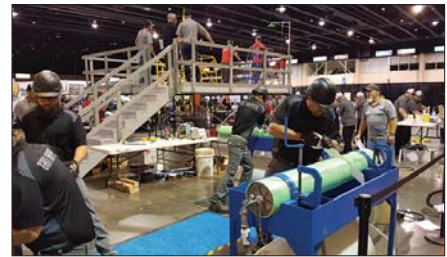
As the Annual Conference approaches, I would like to draw your attention to a couple up-and-coming highlights associated with the Conference.

First, you will find in this issue bios and pictures of several individuals who are up for election to several positions within the WEAU organization. If you don't know these people already, this issue will give you the opportunity to get to know them. As important as science and technology are to our industry, it truly is the people who make it work, so take some time to get to know these individuals better and shake their hand the next time you see them. This is your opportunity as a member to have your voice heard.

Second, included in this issue is a program schedule for the conference with a list of all the classes and

presentations that will be offered. There will be over 70 presentations available, as well as the Exhibit Hall, Operations Challenge, and many other activities and things to enjoy. No doubt hundreds of hours have been spent in preparation for this conference.

Enjoy the preview and I hope to see you all in St. George! 



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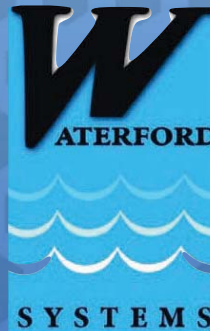


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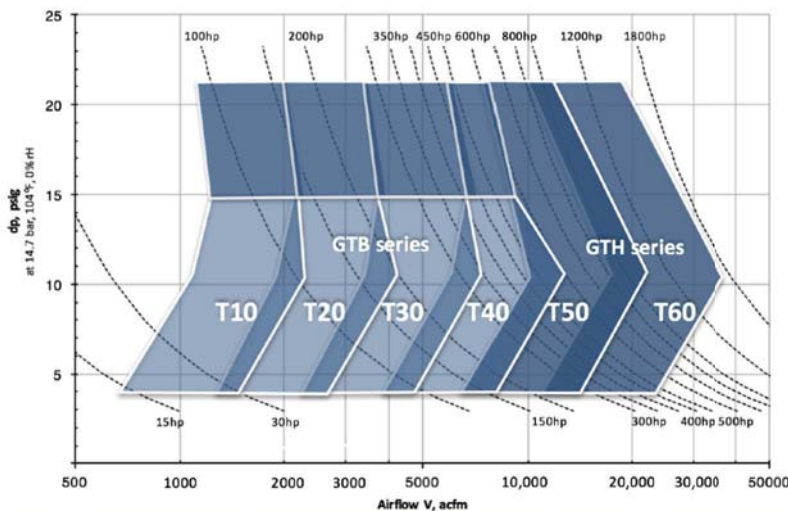
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2018 WEAU ANNUAL CONFERENCE

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WEAU PRE-CONFERENCE WORKSHOP APRIL 17, 2018

8:00 AM–1:00 PM

Workshop Title: Innovations in Wastewater Treatment and Collections

Coordinator: Dr. Ramesh Goel, Civil and Environmental Engineering, University of Utah

8:30 AM

INTRODUCTION/OPENING SPEECH:
AN OVERVIEW OF THE WORKSHOP AND
INTRODUCTIONS OF SPEAKERS.

Dr. Ramesh Goel, University of Utah

8:45 AM

PRESENTATION 1: ADVANCEMENTS
IN LIQUID TREATMENT TRAIN
TECHNOLOGIES – THE DILEMMA
FACING TREATMENT PLANT OWNERS
Use tried-and-tested nutrient removal
technology or invest in new and developing
technologies to address current and
upcoming nutrient removal requirements

*Mr. Henryk Melcer, Senior Process
Engineer, Brown and Caldwell*

9:30 AM

PRESENTATION 2: AERATION
SYSTEM DESIGN AND CONTROL –
A CRITICAL CONSIDERATION IN THE
PERFORMANCE OF BIOLOGICAL
NUTRIENT REMOVAL (BNR) SYSTEMS

*Dr. Joe Rohrbacher, Senior Associate,
Hazen and Sawyer*

10:15 AM

Break/Coffee/Tea

10:45 AM

PRESENTATION 3: WATER
SUSTAINABILITY AND THE BEGINNINGS
OF POTABLE REUSE IN NEVADA

*Mr. Rick Warner, P.E., 2017–2018 Immediate
Past President of the Water Environment
Federation (WEF) and Senior Engineer for
the Washoe County (Nevada) Community
Services Department*

11:30 AM

PRESENTATION 4: THE RISE
OF THE SMART CAMERA TO
LOOK INTO COMPLEX SEWERS

*Mr. John Marteliz, Cottonwood
Improvement District*

2018 WEAU ANNUAL CONFERENCE AGENDA

TUESDAY, APRIL 17, 2018

7:00 AM–4:00 PMRegistration
8:00 AM–12:30 PMPre-Conference
Workshop
9:00 AM–5:00 PMVendor Setup
10:00 AM–3:00 PMSetup Ops Challenge
2:00–4:00 PM ... Ops Challenge Process Test
1:30–5:30 PM Golf Tournament
5:30–7:00 PM NASTT Skeet Shoot
(Purgatory Clay Sports)

WEDNESDAY, APRIL 18, 2018

7:30 AM–5:00 PMRegistration
8:00–9:30 AM Continental Breakfast
(Exhibit Hall)
8:00 AM–5:00 PM Exhibit Hall Open
8:00 AM–4:00 PM Operator Challenge
(Exhibit Hall)
8:30 AM–12:00 PM State of Utah Water
Quality Board Meeting
11:45 AM–1:20 PM Opening Luncheon
(Exhibit Hall)

Technical Session A | 1:30–5:00 PM

1:30–2:05 PM Technical Sessions A-1
2:10–2:45 PM Technical Sessions A-2

2:45–3:30 PM Break in Exhibit Hall
3:30–4:05 PM Technical Sessions A-3
4:10–4:45 PM Technical Sessions A-4
5:30–9:00 PM Combined Operator's BBQ
(JC Snow Park) and Fiesta Fun Night
(Fiesta Fun Center, 171 E. 1160 S.,
St. George, UT)

THURSDAY, APRIL 19, 2018

7:00–8:15 AM YP Breakfast
(Black Bear Diner, 1245
S. Main Street, St. George, UT)
8:30–3:30 PM Exhibit Hall Open

Technical Session B | 8:30–12:00 PM

8:30–9:05 AM Technical Sessions B-1
9:10–9:45 AM Technical Sessions B-2
9:45–10:30 AM Break in Exhibit Hall
10:30–11:05 AM Technical Sessions B-3
11:10–11:45 AM Technical Sessions B-4

12:00–1:20 PM Business Lunch
(Exhibit Hall)

10:00 AM–3:30 PM YP Blood Drive
(Exhibit Hall)

Technical Session C | 1:30–5:00 PM

1:30–2:05 PM Technical Sessions C-1
2:10–2:45 PM Technical Sessions C-2
2:45–3:30 PM Break in Exhibit Hall
3:30–4:05 PM Technical Sessions C-3
4:10–4:45 PM Technical Sessions C-4
6:00–8:00 PM Banquet and Awards
(Ballroom)

FRIDAY, APRIL 20, 2018

7:00–8:30 AM WEAU Board Meeting
8:00–9:00 AM Continental Breakfast
(Lobby)

Technical Session D | 8:30 AM–11:15 PM

8:30–8:55 AM Student Design
Paper Presentation
9:00–9:40 AM Technical Sessions D-1
9:45–10:25 AM Technical Sessions D-2
10:30–11:15 AM Technical Sessions D-3

11:20 AM FINAL RAFFLE

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TECHNICAL PROGRAM SCHEDULE

Wednesday, April 18

	Sunbrook A	Sunbrook B	Sunbrook C	Entrada A	Entrada B	Entrada C	Exhibit Hall
8:30–12:00	State of Utah Water Quality Board Meeting – Garden Room						Operator Challenge Ongoing Exhibits Open
Session A	Sunbrook A	Sunbrook B	Sunbrook C	Entrada A	Entrada B	Entrada C	Exhibit Hall
	Pretreatment	Safety/Asset Management	Public Outreach	Collections	Nutrients	Operations/Laboratory	
	Moderator – TBD	Moderator – TBD	Moderator – TBD	Moderator – TBD	Moderator – TBD	Moderator – TBD	
1:30–2:05	360 Degree View of Pre-treatment <i>Sarah Leavitt</i>	What Would Noah Do? Do We Have a Flood Plan? <i>Chad Burrell</i>	Construction Trades: A career <i>Glenn Perry</i>	Winning the War Against Wipes <i>Tim Miller</i>	The Costs of Phosphorus Removal: Chemical versus Biological <i>Anne Conklin</i>	Observation of Prokaryotes (Cyanobacteria, Filamentous, etc.), Protozoa, Metazoan May Increase Wastewater Treatment Efficiencies <i>Ken Burgener</i>	Exhibits Open
2:10–2:45	Selenium Wastewater Conditioning for Plant Cultivation <i>Marcus G. Theodore</i>	A Practical Approach to Asset Management <i>Brandon Heidelberger</i>	Jordan River TMDL Studies Update <i>Carl Adams</i>	UV-Light Cured CIPP Lining for Pipeline Rehabilitation <i>Jeff Maier</i>	Managing Phosphorus in Municipal Wastewater: Learning from Pilot Scale Study at Central Valley Water Reclamation Facility (CVWRF) <i>Sunayna Dasgupta</i>	Total Nitrogen Testing: Now Faster and More Accurate <i>Taylor Reynolds</i>	Exhibits Open
2:45–3:30	Break – Exhibit Hall						
	Sunbrook A	Sunbrook B	Sunbrook C	Entrada A	Entrada B	Entrada C	Exhibit Hall
	Nutrients	Project Delivery	Public Outreach	Collections	Nutrients	Operations	
3:30–4:05	Ultra-Low Phosphorus Limit: How Low Can You Go and What Does It Take to Do It? <i>Michael Conn</i>	Should Utah Wastewater Utilities Consider Alternative Delivery for Large Improvement Projects? <i>Randy Zollinger</i>	Utah Storm Water Program Update <i>Jeanne Riley</i>	Deliberating Tunnel Projects <i>Benny Siljenberg</i>	Chemical Phosphorus Removal: Utah Case Studies Using Jar Testing to Confirm Chemical Efficiencies, Dose, and Cost <i>Jeff Zidek</i>	Sewer Structure Rehabilitation <i>Scott Wendling and John Raymond</i>	Exhibits Open
4:10–4:45	Enhancing Phosphorus Removal System in Wastewater Lagoon <i>Pei Huang</i>	Successful CMAR Project: What Does It Take? <i>Gregory K. Ayres</i>	Cyanobacteria in Utah Lake – Toxin and Non-Toxin Producing: Molecular Level Study <i>Hanyan Li</i>	Sewerpipe Condition Assessment/ PACP Coding <i>Brian Romrell</i>	Aeration Basin Profiling: A Tool to Help Resolve Process Upsets <i>Lee Rawlings</i>	Boosting Conservation and Efficiency for Water and Wastewater Treatment: Automated Solutions for Optimizing Aeration Blowers <i>Todd Nelson</i>	Exhibits Open

Thursday, April 19

Session B	Sunbrook A	Sunbrook B	Sunbrook C	Entrada A	Entrada B	Entrada C	Exhibit Hall
	Biosolids	WWTP Design	Sustainability	Collections	Nutrients	Operations	
	Moderator – TBD	Moderator – TBD	Moderator – TBD	Moderator – TBD	Moderator – TBD	Moderator – TBD	
8:30–9:05	Central Davis Sewer District: Dewatering Facility Project <i>Jim Goodley</i>	The Multiple Choices of Biological Phosphorus Removal Process: What To Do <i>Henryk Melcer</i>	Management of Dissolved Methane in Anaerobic Effluents <i>Vedansh Gupta</i>	Interpreting and Understanding Geotechnical Reports <i>Ryan Cole</i>	Resource Recovery at South Davis <i>Larry Scott Rogers</i>	Grade 1 and 2 Process Certification Preparation <i>Sharon Burton</i>	Exhibits Open
9:10–9:45	Biosolids Administrative Details <i>Dan Griffin</i>	Facing Dechlorination? How Calibrating the Permitting Model Can Avoid Costly Changes <i>Andrew Hobson</i>	Struvite Harvesting: Creating Value from Wastewater <i>Luke Wood</i>	Northwest Quadrant Development Planning and Implementation <i>Derek Velarde</i>	Overcoming Murphy's Law: Start-up of Two Full-Scale ANITA Mox Sidestream Deammonification Systems <i>Brad Mrdjenovich</i>		Exhibits Open
9:45–10:30	Break – Exhibit Hall						
	Sunbrook A	Sunbrook B	Sunbrook C	Entrada A	Entrada B	Entrada C	Exhibit Hall
	Biosolids	WWTP Design	Sustainability	Collections	Nutrients	Operations	
10:30–11:05	Struvite: Turning a Potential Maintenance Problem into an Opportunity <i>Terry Goss</i>	Weird Science: Creation of a Models and Sizing Calculations for Grit Removal Systems <i>Ryan Asbury</i>	Wasatch Resource Recovery Project <i>Larry Scott Rogers</i>	How do I get the stink out of my sewer? <i>Blaine Bowden</i>	So You Want to Do Bio-P? Not So Fast My Friend! <i>Paul Krauth</i>	Grade 3 and 4 Process Exam Preparation <i>Sharon Burton</i>	Exhibits Open
11:10–11:45	Optimization of Digesters for Resource Recovery <i>David Perry</i>	CVWRF Influent Channel Rehabilitation Project <i>Mike Kobe</i>	On-site Generation of Hypochlorite for WWTP Disinfection <i>Jeff Rhodes</i>	Choice Words for a Sewer Backup: What to Say and What Not to Say! <i>Brent Oakeson</i>	Aerobic Granular Sludge Technology for Treatment of Landfill Leachate <i>Aditi Podder</i>		Exhibits Open

Thursday, April 19

Session C	Sunbrook A	Sunbrook B	Sunbrook C	Entrada A	Entrada B	Entrada C	Exhibit Hall
	Biosolids/Innovative Equipment	Utility Management	Public Outreach	Collections	Nutrients	Operations	
	Moderator – TBD	Moderator – TBD	Moderator – TBD	Moderator - TBD	Moderator - TBD	Moderator – TBD	
1:30–2:05	Impact of Upgraded Polymer Activation on Sludge Dewatering <i>Yong Kim</i>	Is An Integrated Watershed Management Approach a Viable Alternative to Simply Meeting End-of-Pipe Limits? <i>Jeff DenBleyker</i>	WEF Social Media and Public Outreach Seminar <i>Rahkia Nance</i>	Pharmaceuticals in Wastewater Collection Systems <i>Josh Wagstaff</i>	CWRF Pilot Plant: Lessons Learned <i>Sharon S. Burton</i>	Preliminary Treatment <i>Bryon Peterson and Hadley Gunn</i>	Exhibits Open
2:10–2:45	Intensified Biological Process for High-Efficiency ammonia Removal <i>Adrian Williams</i>	Turning Data into Knowledge: Optimizing Data Collection and Management <i>Steven Myers</i>		How do you Prepare for an OSHA Inspection? <i>Jason Watterson</i>	CWRF Pilot Plant – Part 2: What We Learned from the Data <i>Bryan Mansell</i>	Hair in the Digesters <i>James Magill</i>	Exhibits Open
2:45– 3:30	Break – Exhibit Hall						
	Sunbrook A	Sunbrook B	Sunbrook C	Entrada A	Entrada B	Entrada C	Exhibit Hall
	Innovative Equipment	Miscellaneous WW Topics	Miscellaneous WW Topics	Collections	Nutrients	Operations	
3:30–4:05	Untangling Centrifugal Turbo Blowers: Understanding the Variety of Single Stage Blower Technology <i>Scott Matthews</i>	DWQ Update of Progress Towards Adoption of US EPA 2013 monia Criteria <i>Chris Bittner</i>	Study of Fecal Pollution in Jordan River Tributaries Using Microbial Source Tracking Tools <i>Ahmed Karimi</i>	Environmental Permitting for Sewer Construction Projects <i>Jamie Tsandes</i>	Advanced Biological Nutrient Recovery for Strict Nutrient Limits in Great Lakes Region <i>Garrett Pallo</i>	How to end pump ragging without replacing existing pumps or adding more equipment <i>Jordan Boone</i>	Vendor Breakdown
4:10–4:45	Non-Contact UV Disinfection: Principles and Application <i>Jay Garcia</i>	Comparing Harmful Algal Blooms From This Year to Last: A Year in Review <i>Ben Holcomb</i>	Enviro DIY Open-Source Wireless Data Logging for Low-Cost Monitoring Network <i>Renn S. Lambert</i>	Emergency Rehabilitation of the St. James Interceptor Siphon by CIPP Methods in Winnipeg, Manitoba <i>Adam Braun</i>	Atmospheric Deposition Nutrients – Utah Lake <i>LaVere B. Merritt</i>	Oquirrh Mountain Compost and Central Valley Biosolids <i>Joshua Hunsaker</i>	Vendor Breakdown

Friday, April 20

Session D	Sunbrook A and B	Sunbrook C	Entrada A	Entrada B	Entrada C	Exhibit Hall
	Utility Management/DWQ Update		Operations	Collections		
	Moderator – TBD		Moderator – TBD	Moderator – TBD		
8:30–8:55	WEFTEC Design Competition tStudent Paper Presentation	Closed	Closed	Closed		-
9:00–9:40	The Science of Politics - Where We Are Today <i>Leland Myers</i>	Closed	Operator Challenge Process Test Review <i>Paul Krauth</i>	Benefits and Challenges of Mechanical and Chemical Root Control <i>Evan Housley</i>		-
9:45–10:25	Utah Division of Water Quality Priorities <i>Erica Gaddis</i>	Closed		Sealing the Collection System: With a Focus on Main-to-Lateral Rehabilitation <i>Michael Jerab</i>		-
10:30–11:15		Closed	Closed	Collection System Jeopardy <i>Mike Foerster</i>		-

2018 WEAU ANNUAL CONFERENCE

YOU'RE INVITED! 2018 WEAU ANNUAL GOLF TOURNAMENT

FORMAT

Four-person scramble

WHEN

Tuesday, April 17, 2018
Shotgun start at 1:30 pm

WHERE

Sunbrook Golf Course
St. George, Utah

GREEN FEES

\$50.00 per person (includes cart and lunch)

LUNCH

Box lunches & drink provided (available at 12:00 pm)



CONTACT

Jeff Beckman
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Draper, UT 84020
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REGISTRATION FORMS AND FEES ARE DUE BY APRIL 7, 2018.

Register online at www.weau.org or by returning this registration form to Jeff Beckman (see above) along with a check payable to WEAU Golf Tournament.

Contact Jeff Beckman at 801-495-2224 with questions. We will match single players to fill foursomes.

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2018 WEAU ANNUAL CONFERENCE

2018 Rocky Mountain Chapter NASTT SPORTING CLAY EVENT

Tuesday, April 17 at 5:30 pm
Purgatory Clay Sports
\$20/person (includes 50 targets and 50 shells)



DIRECTIONS

From St. George, take I-15 North to exit #16. Go south on SR-9 to the second set of stoplights. Turn right (south) and follow the Southern Utah Shooting Sports Park Signs.

WHAT YOU WILL NEED

A SHOTGUN: Bring your own or rent one at the club for \$5.00.

EAR AND EYE PROTECTION: All people at the range are required to wear ear and eye protection at all times.

HAT: We can't predict where broken clays will land after they are shot so we recommend a hat to protect your face.

CLOTHES: Wear good shoes/boots that will allow you to walk the course in comfort. We discourage the use of sandals. Comfortable clothes that allow you free movement are best.

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Lightweight CheckMate® Inline Check Valves prevent sewer systems' offending odors from escaping, while still allowing water to discharge when needed. The CheckMate® Valve is designed to eliminate the backflow of unwanted methane and hydrogen sulfide gases that typically result in complaints about odor from the general public.



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CheckMate® Inline Check Valves have become a frequently specified solution for commercial and residential areas where complete, dependable backflow prevention is necessary. The CheckMate® Valve's maintenance-free, passive operation provides years of trouble-free service – even when the valve is partially buried.



INTERCEPTOR AND MANHOLE INSTALLATIONS

CheckMate® Inline Check Valves are used for interceptor and manhole installations because they are ideal for preventing water from backflowing into a sewage treatment plant. The CheckMate® Valve's innovative inline design allows it to be installed without modifications to structures such as interceptors, manholes and vaults.



STORMWATER RUNOFF

The CheckMate® Inline Check Valve is the valve of choice for both municipalities and commercial property owners in stormwater and general drainage applications. Because the CheckMate® Valve utilizes dissimilar elastomers and fabric in the hinge area, there are no mechanical parts to warp or corrode. It is maintenance-free!



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The Tidflex® TF-1 Curved Bill Check Valve is designed with enhanced sealing to improve headloss. The improved TF-1 design allows the valve to handle long-term water weight while maintaining structural integrity. The spine is at a greater vertical angle, making it able to withstand the cantilever effect when water is flowing through the valve. The TF-1 is constructed of rubber, making it immune to rust, corrosion and weathering.



SERIES 35-1 CHECK VALVES

The flat-bottom Series 35-1 features an integral rubber flange, allowing them to be mounted to flanged outfall pipes or directly to headwalls where the pipe is flush. The flange size drilling conforms to ANSI B16.10, Class 150#, or can be constructed with DIN, 2632 and other standards. The Series 35-1 Check Valve is furnished complete with steel or stainless steel backup rings for installation.



SERIES 39 CHECK VALVES

The Tidflex® Series 39 Inline Check Valve features a fabric-reinforced elastomer check sleeve housed in a cast iron body with ANSI 125/150 flanges, allowing for easy installation into any piping system. The valve's operation is silent, non-slammng and maintenance free. Sliding, rotating, swinging and plunging parts are completely eliminated. The body is equipped with flush ports and a clean-out port and can be epoxy coated.



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2018 GENERAL ELECTION *Reminder*



Elections for the 2018–2019 WEAU Board will be online this year. For ballot information, visit www.weau.org.



Clint Rogers

It has been my pleasure to serve you this year as the President of WEAU. I certainly have learned more about the technical aspects of wastewater treatment, collections, biosolids, laboratory analysis, and safety, but getting to know all of you and seeing your dedication is where I find the real value of my WEAU membership.

Putting the spotlight on the unsung heroes of this field by supporting the Operations Challenge event, increasing public awareness and pride in what we do through the *#MyWaterLegacy* campaign, and our annual awards program have been the highlights of my time on the WEAU Board.

I'm excited about all of the candidates on this ballot who have volunteered to

be considered for positions of leadership going forward. Our association is in good hands, regardless of the outcome. I look forward to supporting Jeff Beckman and the rest of the Board in 2018–2019 as the Past President. If Matt Myers' smile and relaxed demeanor at Board meetings this past year is any indication, Past President of WEAU is not a bad gig!



Jeff Beckman, P.E.

Jeff has been an active member of WEAU for nearly 19 years. He has served on various committees throughout the years. Most recently, Jeff has served as the Chairman for the WEAU Mid-Year Conference. He has also organized the golf tournament for annual conference for many years.

Jeff completed his education at Utah State University. Go Aggies! He started working with Bowen Collins & Associates in 1998, and has been there ever since. He currently is a principle engineer with BC&A. His professional career has been spent working mostly on wastewater projects, however, he

has experience with a broad range of water resource related projects. He enjoys working in the wastewater field and feels that our efforts enhance the quality of life throughout Utah. Jeff appreciates the professional training and relationships that are provided through WEAU, and looks to continue his involvement for years to come.

CANDIDATES

VICE PRESIDENT
Chris Reilley (Central Valley WRF)

DIRECTOR
Christina Osborn (JUB)
Matt Garn (DWQ)
Rob Jaterka (Magna)
Sarah Leavitt (Payson)

WEF DELEGATE
Sherry Sheffield (South Valley WRF)

PWO REPRESENTATIVE
Jeremy Deppe (Central Valley WRF)
Gordon Call (North Davis)
Clay Marriott (Central Weber)

TREASURER
John Richardson (Carollo)



Chris Reilley

Candidate, Vice President

Chris Reilley has been at Central Valley Water Rec (CVWRF) for over 23 years. He is consistently gaining versatile experiences, which have helped develop him into a well-rounded presence in the industry. Chris has been a parts runner, utility worker, control room operator, belt filter press operator, industrial mechanic, industrial mechanic supervisor, and is currently working as the Maintenance Manager at CVWRF. He completed his Apprenticeship and AAS Degree as a Facilities Maintenance Technician at Salt Lake Community College, and he passed all the Operator and Maintenance Certification Exams.

Chris has been very involved with the WEAU as both a participant and a strong supporter of the Operations Challenge, on both a local and a national level. He has been on the WEAU Board as the PWO Representative and also as a Director for three terms. Chris has helped in many different ways throughout the industry; he has trained and helped operators prepare for certification exams, and has helped both teams and individuals in the Operations Challenge events.

Chris enjoys working hard and playing hard, and he can be found serving his community in many different ways,

such as in scouting, umpiring, and participating in local church activities. Chris grew up in Taylorsville, Utah and currently lives in Grantsville with his wife and five children. Chris enjoys participating in many different sport activities, loves being in the mountains, and doing many of the activities surrounding the great outdoors. His true passion and drive is his family; he loves serving them and the people he comes in contact with, wherever he is. He finds great enjoyment helping others learn and understand the value of water and the industry that we serve.



John Richardson

Candidate, Treasurer

John Richardson is a project manager with Carollo Engineers, Inc. with 19 years' experience, including facility planning, as well as design and construction of industrial, municipal, and federal treatment and infrastructure facilities. He has a B.S. in Environmental Engineering from Utah State University and an M.S. in Civil Engineering from the University of Utah.

He has published peer-reviewed papers on anaerobic digestion and is a licensed Professional Engineer in Utah, Nevada, and Idaho. Mr. Richardson has also enjoyed serving on the WEAU Biosolids Committee for over seven years. He has had the opportunity to work on a broad range of projects for facilities, ranging in size from 100,000 gallons per day to over 100 million

gallons per day with construction costs ranging from \$1M to \$100M.

He has been married to his wife, Bonnie for 19 years; Bonnie is a biochemist and project manager for an international pharmaceutical company. They have four children and reside in Draper, Utah, and they enjoy outdoor activities, including snow skiing, hiking, and camping.

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Christina Osborn, P.E.

Candidate, Director

Christina Osborn, P.E. has 15 years' experience with planning, permitting, designing, and operating water/wastewater treatment plants, water reclamation facility projects, and stormwater systems. She has been at J-U-B Engineers, Inc. for 11 years and currently serves as a Project Manager in the Salt Lake City office. Christina has been a WEAU/WEF member for 11 years

and previously chaired the WEAU Young Professionals Committee. She is the Founder and President of Women of Water (WoW), an organization open to women and men that seeks to educate, empower and engage women in the water and wastewater industries. Christina has a B.S. in Civil/Environmental Engineering from Seattle University and a M.S. from the

University of Colorado at Boulder in Civil/Environmental Engineering. Prior to joining J-U-B, she spent over two years serving as a volunteer water engineer in the Dominican Republic with the U.S. Peace Corps. When she is not working, Christina likes to hang out with her kids, backcountry ski, hike, travel, and bake. She is excited to get more involved with WEAU again as a Director!



Matthew Garn

Candidate, Director

Matthew Garn joined the Division of Water Quality as an Environmental Engineer in July 2004 and became the Manager of the UPDES Surface Water Section in February 2017.

Matthew studied at the University of Utah and earned his degree in Civil/Environmental Engineering. He resides in South Jordan, Utah with his wife and three children. In

his free time Matthew enjoys traveling with his family, watching movies, and playing basketball. Most people look up to him, as he is currently the tallest employee at DEQ.



Rob Jaterka

Candidate, Director

Hello, my name is Rob Jaterka. I have been employed with the Magna Water District for the past 18 years. In that time, I have acquired a grade four certification in water distribution, water treatment, collections, and a grade one in sewer treatment. Currently I am the PWO representative for the WEAU. Being involved

with the WEAU has been a great experience and one in which I would like to continue.

The Operations Challenge was my doorway into the WEAU. I have been involved with Magna's team for the last six years. This has been one of the greatest experiences of my career.

My lovely wife, Joei has been able to put up with me for 16 years. We have two beautiful daughters: Morgan, 16 and Rilee, 13. In our family's free time, we all enjoy riding and competing with our many horses, bow hunting, and just enjoying nature.

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Sarah Leavitt

Candidate, Director

Writing a bio is like writing a cover letter for a job or a profile for a dating site, trying to figure out what exactly you, as the reader, really wants to know.

I began working for Payson City in January 2004 and transferred to the Sewer Department November 2005. Like many people, I have several responsibilities: I perform every task of the Pretreatment Program; help with POTW permit reports, department budget and collection reports; give plant tours; create public educational documents; oversee the department website; and present ordinances and reports to Mayor and City Council. I also

oversee the Wellness Program for Payson City employees and help with Payson City social media outlets.

My WEAU experience began in 2007 when I became a member. My main objective in becoming a member was to attend Pretreatment trainings so I could learn from the experts. Shortly after, I was asked to join the Pretreatment Committee. In 2011, I became the Pretreatment Co-Chair and then rolled into the Chair position in 2013. In 2016, I was elected as a Director on the WEAU board. Serving on the board the past two years has been a great experience.

One key concept I have learned from my work and WEAU experience thus far is the importance of building positive relationships; it's not just the relationships with your co-workers, but the ones you build with the community, government agencies and wastewater/pretreatment professionals. It makes your work load easier when you acknowledge that we are all in this together. Overall, the true highlight of being a member of WEAU is working with and getting to know so many wastewater and pretreatment professionals from around the state.



Sherry Sheffield

Candidate, WEF Delegate

I currently work at South Valley Water Reclamation Facility as the Lab Director. I started out as a Lab Technician 13 years

ago and was lucky enough to be in the right place at the right time. I absolutely love working in wastewater – most of the

time. It is such a great feeling to know that we are protecting the environment and the public, even when it's not always appreciated. I think one of the best things about WEAU and WEF is the opportunity to educate the public about what we do and why the people who work in wastewater are awesome!

I also love that WEAU and WEF provide opportunities for those of us in the field to get to know each other and share information, issues, and knowledge. I have met many wonderful and amazing people as I have served WEAU on the lab, Young Professionals, and awards committees, as well as on the board. I also enjoyed serving as a lab judge for the Operations Challenge at the WEAU Annual Conference for several years and as a competitor in the challenge for two years.

I have a B.S. in Zoology from BYU and a M.S. in Environmental Science and Policy from Johns Hopkins University. My hobbies are reading; spoiling my 29 nieces and nephews, four nephews-in-law, and three great-nephews; hanging out with friends and family; and painting by sticker.



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Jeremy Deppe

Candidate, PWO Representative

I have been with Central Valley Water Rec. for 17 years. My first 14 years I worked in operations as a grade 4 DRC operator. The last few years I

have been working in the accounting department. I run the purchasing and warehouse duties for Central Valley Water Rec. I have competed and judged

in the Operations Challenge locally and nationally. I look forward to the next year as the new PWO rep for Utah.



Gordon Call

Candidate, PWO Representative

I was born and raised in Ogden, Utah, the seventh of eight children. I graduated from Bonneville High where I played tail back on the football team. I served a mission in Connecticut. I met the love of my life, Nicole, at Weber State University. We have been married for 26 years and have four children: three daughters – Courtney, Kaitlyn and Katherine; and one son, Duncan. Courtney was married last summer, so now we also have a son-in-law, Brandt. My family is my priority

and I love them very much. I have always enjoyed sports and competition. Whether I'm playing on a team, coaching my kids' teams, or watching sports, I am excited about it. I also enjoy motorcycles, skiing, and cruises.

I learned about an opening at North Davis Sewer District (NDSD). Jeff Macfarlane, the pretreatment coordinator, told me about the job and was willing to have me list him as a reference. I applied and was hired. I've never looked back.

I have progressed from a Grade I Operator to my current position as a Grade IV DRC Operations Lead. NDSD has given me the opportunity to provide for my family in a way that has been very fulfilling. I have had opportunities for personal growth, leadership, and competition in the Operations Challenge.

Hands down my favorite part about NDSD is the people. I am honored to work with amazing people from the top down to the newest employee.



Clay Marriott

Candidate, PWO Representative

Hello, I am Clay Marriott, lead Collections Operator and grade IV Waste Water Treatment Operator at Central Weber Sewer Improvement District in Ogden, Utah.

Central Weber's collection team and I are currently updating the collections system. We use GPS surveying, cleaning, and inspecting, and we perform regular maintenance to our collection system. I oversee the SWPPP (Storm Water Pollution Prevention Plan) and have built a utility map for Central Weber. I am also a member of our plant chlorine and

safety teams. I perform many maintenance projects. In addition to my Central Weber participation in the Watt Smart Energy program, I was responsible for the effluent project, which helped save significant energy costs. I studied Construction Management at Weber State University while working in the construction field for eight years. I was also able to work on a ranch for several years before I started my career at Central Weber. I enjoy challenges that arise in this industry and I thrive on finding solutions to these challenges.

This is my seventh year participating in Operations Challenge. I have competed on two national teams. The opportunities and lessons I have learned are priceless. The friendships I have made and cherish are the greatest assets of Operations Challenge.

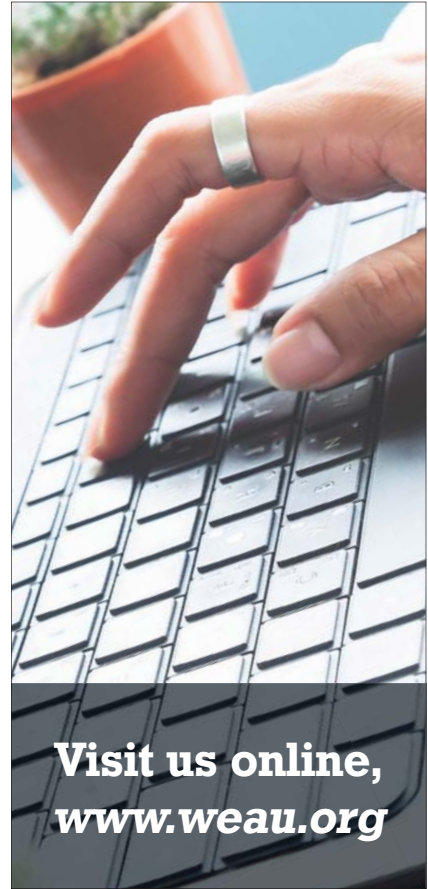
My wife, Heather and I currently operate a small business that revolves around our family's love and passion for showing and raising animals. Together we are raising three busy kids: Stockton, 11; Ridge, 8; and Maysa, 5. Life at the Marriott Ranch is always a wild ride and we wouldn't want it any other way. [DJI](#)

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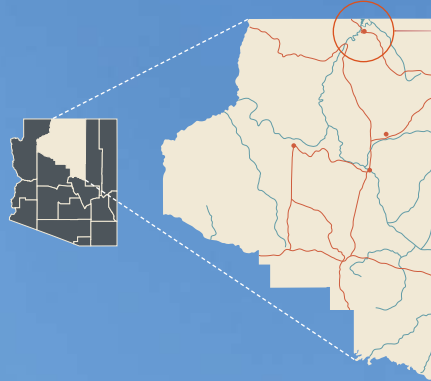
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PRETREATMENT CONFERENCE

Brett Nelson



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The Region 8 Pretreatment Association, in conjunction with Region VIII EPA, is hosting their 28th annual pretreatment conference in Page, Arizona, May 8–10, 2018 at the Courtyard by Marriott. Come and hear presentations from experts in the field of pretreatment and other relevant topics. The presenters this year come from all over the United States and cover multiple subjects, including Low Level Mercury Limits, Enforcement Cases, Building a Criminal Case, Starting a New Pretreatment Program, and much more. This conference provides valuable information to pretreatment professionals nationwide, so come join us for three great days of training and networking. Whether you are a seasoned professional or just starting out, this training is beneficial to everyone.



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Operator Spotlight Q&A with Mike Brown

(Central Valley Water Rec)

Tell us a little about yourself.

I was born in 1988 at St Mark's Hospital and have lived in the great State of Utah my entire life. I graduated from Taylorsville High School. I'm married and my wife, Amanda and I have two little boys who I couldn't be more grateful for: three-year-old Abel and six-month-old Atlas. My family is my greatest achievement and the greatest blessing I will ever receive. Together we love camping, fishing, family barbeques, and going on vacations. In my spare time I love to play golf, tattoo myself, and hang out with my buddies from Central Valley.

What drew you to CVWRF (Central Valley Water Rec.) originally?

I was working for my stepdad doing construction at a young age and decided that I didn't want to spend my life doing that type of work. My mother works for Cottonwood Improvement District. She had told me to come down to Central Valley and apply. I had no idea what a wastewater treatment plant was or what I was getting myself into, but I'm sure glad I did, and the rest is history.

And how has CVWRF changed since?

The biggest change since I have been at Central Valley is Cl_2 and SO_2 for disinfection, to UV light. The personnel have changed quite a bit as well.

What is your role at CVWRF?

I am a grade 4 wastewater certified operator. My role at CVWRF is the Sunday through Wednesday dayshift DRC position.

What has been your favorite project at CVWRF?

I don't have a favorite, but I can say I like taking on any project that arises; the process and the ideas along the way from the start to finish is what intrigues me the most about a project.



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What have you gained most from working at CVWRF?

I have pretty much grown up here at CV. In my 12 years of working here this place has taught me many things, but what stands out the most is that hard work, honesty and dedication go a long way.

What is your favorite part about working for CVWRF?

The people I get to work with every day make the job fun and the ability to learn new things every day. Also, the opportunity to make a difference in our community by treating the wastewater safely, efficiently, and sustainably.

What is your proudest moment at CVWRF?

My proudest moment has been that when I first hired on, I set a goal for myself to become the youngest employee to become a grade 4 DRC. I achieved that goal at age 24.

Do you have an office nickname? What is it?

I have a couple nicknames: Leroy and Brownie.

What advice would you give to recent new hires?

Work hard, be honest and keep your nose down. If you want something in this company then don't give up until you achieve it. CVWRF is not just a job: it's a career. It has its challenges, but we have a great team here and people who care about each other and their jobs.

What are three career lessons you have learned thus far?

Honesty goes a long way. Be patient and understanding, and don't take anything for granted.

When did you first compete in the Operations Challenge?

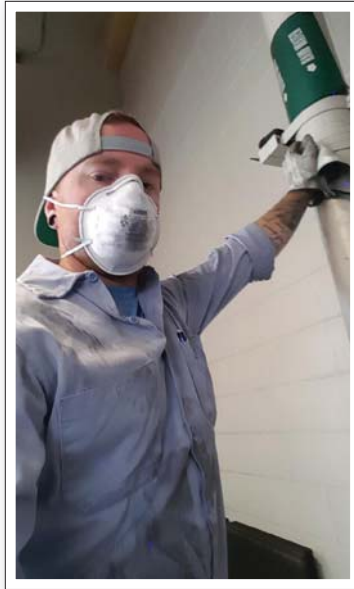
2012 was the first time I was able to compete on the Operations Challenge team.

What has competing in the Operations Challenge done for you and your career?

Teamwork is one of the most important aspects of the job. If everyone is working together like a well-oiled machine, the job gets done faster and more efficiently – just like in the challenge team.

How many times have you won locally and how many times have you gone to nationals?

I've won once locally and competed once at nationals.



What is your favorite memory about the Operations Challenge?

Being able to make two straight cuts on the collection event in less than 15 seconds.

What three qualities best describe you?

I love my family, I don't take life too seriously, and I have big heart.

Tell us something about yourself that would surprise us.

If I wasn't a water treatment operator, I would have liked to have been a pathologist.

Top three life highlights?

Getting married, my two boys, and my career here at CVWRF.

I have worked with Mike Brown since he first started at Central Valley Water Rec. Mike is dependable, honest, and just an all-around great guy. I have no doubt that he will be one of the future leaders of Central Valley Water Rec. Keep up the good work!

- JD 



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Mark Patrick McGuire and Katie Foreman

U.S. states, EPA coordinating on best approaches to nutrients permitting

ACWA, WEF join with U.S. EPA to host seven workshops



In early December 2017, representatives from 24 state clean water programs involved in managing nutrient pollution, as well as headquarters and regional staff from the U.S. Environmental Protection Agency (EPA), met for three days to learn, discuss, and confer on a broad range of nutrients permitting issues. Presentation topics included nutrient removal technologies, nutrients reduction strategies, variances, water quality trading, watershed-based and adaptive management approaches, integrated planning, and more. Participants also had the opportunity to work in small groups on three specific issues:

- nutrient removal technology implementation at water resource recovery facilities (WRRFs);
- overcoming impediments to permitting for nutrients; and
- integrating total maximum daily loads (TMDLs) with permits.

The workshop, held in Boise, Idaho, was the first in a series of seven meetings to be held between 2017 and 2021 by the Association

of Clean Water Administrators (ACWA; Washington, D.C.), with support from the Water Environment Federation (WEF; Alexandria, Va.), as part of a cooperative agreement with EPA. The workshops are intended to assist with achieving several objectives and environmental outcomes by bringing together state, tribal, territorial, federal, and other stakeholders. The goals are to identify challenges and barriers to nutrient permitting program implementation, highlight opportunities for program improvement and enhancement, showcase innovations and achievements, and identify and attempt to solve the most intractable issues.

States employ various approaches to nutrient permitting

A major takeaway from the Boise workshop was that states manage nutrient pollution through permitting in myriad ways. For example, Montana, Iowa, and North Carolina approach nutrients permitting via numeric

nutrient criteria, performance-based actions, and water quality trading, respectively.

Montana: Montana adopted numeric nutrient criteria in 2014 to combat nutrient pollution. The development process for the criteria included three components:

- identifying geographic zones for specific criteria;
- understanding the cause-effect relationships between nutrients and beneficial uses; and
- characterizing water quality for reference sites.

Because nutrient concentrations vary naturally, Montana tested different geospatial frames and reference sites for nutrient concentration variation. To develop permit limits based on the criteria, Montana used EPA's 1991 *Technical Support Document for Water Quality-based Toxics Control*. Ongoing work in Montana will lead to other large-river nutrient standards and additional site-specific wadable stream standards.

Iowa: Iowa employs a nutrient reduction strategy to combat nutrient pollution. In Iowa, numeric nutrient criteria development presents significant challenges. Therefore, in lieu of adopting numeric nutrient criteria, Iowa hopes to achieve nutrient load reductions through performance-based actions. Working closely with the regulated community to adopt performance-based discharge limits, Iowa establishes limits based on the effect of the pollutant in the water and the feasibility and reasonableness of treating the pollutant. Iowa focuses on major and minor municipal WRRFs and industries that treat more than 3.8 million L/d (1 mgd). Under this approach, there has been considerable progress in nutrient pollution reductions at point sources throughout the state.

North Carolina: North Carolina uses water quality trading to combat nutrient pollution. North Carolina implements nutrient trading programs in specific watersheds where impairments have been identified. In these watersheds, point sources have a collective nutrient allocation ("bubble") permit. Pursuant to this joint compliance approach, allocation is sold or leased among these facilities through an independently-operated compliance association. So long as the collective cap is met, individual nutrient limits are not enforced.

States and EPA offer solutions to complex issues

At the Boise workshop, participants focused on the three issues mentioned above (technology implementation, permitting impediments, and TMDL integration).

Technology implementation:


Participants named some of the significant barriers to technology integration as affordability, resource constraints, operator expertise, and political will. They also identified some solutions, including targeted technical training and greater public education on the need for such technologies at WRRFs.

Permitting impediments: Regarding impediments to permitting, participants identified affordability, lack of data, and resource constraints as challenges. One solution identified to mitigate these problems included changing the five-year National Pollutant Discharge Elimination System (NPDES) permit cycle to 10 years. Other solutions included increasing flexibilities for states, implementing stronger regulations for nonpoint sources, integrated planning to identify issues and priorities for regulators and the regulated community, increased support and technical training, and public education.

TMDL integration: In the final session on integrating nutrients TMDLs with permits, participant attendees acknowledged that communication gaps are a major barrier to adequate integration. They identified the existence of communication gaps between regulators and stakeholders and with permitting and TMDL staff. Many participants described better communication among the various interested parties as an important goal for resolving this challenge.

Future meetings

ACWA and WEF plan to tackle these three issues and more in greater detail at the next six nutrients permitting workshops. These workshops provide states and EPA, as coregulators, the opportunity to identify and seek solutions for the diverse problems associated with nutrient pollution. In 2018, workshops are planned for summer and autumn. Visit www.acwa-us.org for more details on these events.

Mark Patrick McGuire is an environmental program manager and **Katie Foreman** is an environmental program associate at the Association of Clean Water Administrators (Washington, D.C.). 



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Brianne Nakamura and Steve Spicer

As Flushable Manufacturer Sues, We Push Back

WEF and NACWA File Amicus Brief in Support of District of Columbia's Wipes Law



On November 14, 2017 the Water Environment Federation and the National Association of Clean Water Agencies filed an amicus brief in support of a District of Columbia law to regulate disposable wipes.


This law, the Nonwoven Disposable Products Act of 2016, aims to protect the sewer systems from backups by defining the term *flushable* for any disposable wipes

sold within Washington, D.C., and requires manufacturers of non-compliant products to 'clearly and conspicuously label' them as products that 'should not be flushed.'

The Law

This law is the first successful attempt by any jurisdiction to enact legislation to define *flushable* officially for labeling, the brief

states. The law provides that a 'nonwoven disposable product' that is offered 'for sale in the District' can be labeled as 'flushable' only if it: "(A) Disperses in a short period of time after flushing in the low-force conditions of a sewer system; (B) Is not buoyant; and (C) Does not contain plastic or any other material that does not readily degrade in a range of natural environments."



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The D.C. Council passed the law unanimously in December 2016. As introduced, the bill prohibited the advertisement, packaging, or labeling of any nonwoven disposable product as flushable, sewer safe, or septic safe unless the claim is substantiated by competent and reliable scientific evidence. The bill authorizes the District Department of Energy and Environment to impose civil fines and penalties to sanction non-compliance with its provisions. The law requires the labeling rule to take effect January 1, 2018, a deadline that the district is unlikely to meet.

The Call to Action

Since Washington, D.C. is a federal city, Congress has granted the city home rule authority to make and implement its own laws. U.S. Congress, however, also has retained jurisdiction over policies and budget matters, and on occasion, Congress has revoked district laws. In July 2017, some members of Congress suggested that they would take full advantage of this policy by introducing a rider to the DC Appropriations Bill that would prevent the district from moving forward with the wipes legislation.

In response, WEF sent a letter of support to D.C.'s non-voting member of Congress Rep. Eleanor Holmes Norton and members of both the House and Senate Appropriations Committees to protect the district's new law. Additionally, WEF issued a 'Call to Action' to the WEF membership, urging them to contact their senators and representatives to oppose the rider.

The WEF Water Advocates program had a resounding response with 232 letters sent in just one week.

The Lawsuit

The Kimberly-Clark Corp. has sued the district to stop enforcement of the law. The plaintiff's case states that requiring manufacturers to adhere to the definition set forth in the new law "restrains commercial speech and compels speech by private actors," which would violate the First Amendment. The manufacturer's claim further says that the law violates the Commerce Clause because it invalidly seeks to regulate the conduct of manufacturers in other states by imposing civil sanctions on conduct that is entirely lawful in other states.

The Amicus Brief

In the brief supporting the district's right to enforce the law, WEF and NACWA state that they "have a strong interest in the Court rejecting the current challenges to the authority of state and local governments to decide which products may safely enter their own sewer and wastewater systems and to create mechanisms to enforce those standards."

The 32-page brief describes the burden that wipes place on sewer systems in Washington, D.C., and nationwide. "The increased popularity of wipes marketed as 'flushable' has been accompanied by a rise in costly burdens associated with handling flushed wipes – burdens borne directly by municipalities, utilities, and ratepayers," the amicus brief states.

The brief explains the effects of wipes that do not readily degrade. They can combine with fats, oils, greases, and other debris to cause major clogs in sewer and wastewater systems. They can accumulate in pump impellers; this leads to reduced efficiency, increased electrical power used by pumps, and, potentially, complete malfunction. To restore service, workers must perform the costly, time consuming, and hazardous task of physically unclogging the pumps.

The full brief can be read on the WEF website at <http://bit.ly/DC-wipes-amicus>.

WEF continues to support the District of Columbia law, as well as convey the burden that flushable wipes and other products can cause our infrastructure. We encourage our members to continue to share their stories and hardships with their communities and representatives, along with the messages to 'Only Flush the 3Ps' and 'Toilets are not Trashcans.'

Brianne Nakamura, PE, ENVSP is the manager of Collection Systems and Sustainability in the Water Science & Engineering Center at WEF. She is the staff liaison for both the Collection System Committee and the Flushables Task Force. She can be contacted at bnakamura@wef.org.

Steve Spicer is the director of Content Creation and managing editor of Water Environment & Technology magazine at the Water Environment Federation (Alexandria, VA.). He can be reached at sspicer@wef.org. 



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All That Jazz

By Marianka Sochanska, Project Engineer, Brown and Caldwell | Salt Lake City, UT

WEAU members got out of the office on snowy Friday, January 19 to watch the Utah Jazz play the New York Knicks. The tickets sold out not even two weeks after we made them available and we had a great turnout with 52 WEAU members and guests. The Jazz provided a private skybox complete with yummy food, snacks, and drinks for the duration of the evening. A big thank you to the Young Professionals Committee for organizing and running the show!

Hope to see everyone out next year and at future events. Make sure to sign up for the WEAU mailing list by sending an email to membership@weau.org and staying in the loop. WEAU Young Professionals and Students Group (YPs) also have an email newsletter, so you can sign up by emailing ypweau@gmail.com. [Dn](#)



Science Unwrapped



The Utah State University WEAU club had the opportunity to teach children about absorption and hydrophobic interactions at the February Science Unwrapped event. The club taught children about hydrophobic interactions using

crayons and watercolors. Salt crystals applied to the wet paint was used to teach the children the concept of absorption. Both the children and the club members had a great time. We are looking forward to future public outreach events. [Dn](#)

“ Salt crystals applied to the wet paint was used to teach the children the concept of absorption.



WEAU 2018 Annual Conference Young Professional Activities

**Are you a recent graduate? Are you currently a student?
Have you recently joined WEAU? Are you 35 years old or younger?**

**If you have answered yes to ANY of the above questions,
then you are a Young Professional!**

YP ACTIVITIES



Young Professionals/Students Breakfast

6:30 am–8:00 am: FREE breakfast at Black Bear Diner (1245 S. Main Street, St. George, UT 84770).
RSVP on the sign-up sheet at registration.

WEAU Annual Conference Blood Drive

10:00 am–3:30 pm: in the Vendor Exhibit Hall. Sign up at the registration desk or online at www.redcrossblood.org, and enter keyword: WEAUDIXIE. Bring photo ID to donation center.

Please make sure to check www.weau.org/conferences/2018-annual-conference for information on all conference events.

If you are interested in being part of the WEAU Young Professionals Committee, or if you have any questions on the activities above, please email ypweau@gmail.com or Marianka Sochanska (msochanska@brwncald.com). The Committee plans networking activities, service projects, and valuable training sessions to help you throughout your career.

A Bear of a Quiz! Test your Knowledge on... Phosphorus Removal

By Paul Krauth, P.E.

- 1 **At a pH of 7, phosphorus in the wastewater is found as?**
 A. P C. HPO_4^{-2}
 B. PO_4^{-3} D. H_3PO_4
- 2 **If phosphorus is placed under high pressure, what is formed?**
 A. Black Phosphorus
 B. Red Phosphorus
 C. Violet Phosphorus
 D. White Phosphorus
- 3 **Which of the following is hardest to treat?**
 A. Organic phosphorus
 B. Orthophosphate
 C. Pyrophosphates
 D. Tripolyphosphates
- 4 **The volatile fatty acid that yields the highest uptake of phosphorus is?**
 A. Acetic
 B. Butyric
 C. Propanoic
 D. Valeric
- 5 **The volatile fatty acid most likely to produce Glycogen Accumulating Organisms GAOs at high temperature is?**
 A. Acetic
 B. Butyric
 C. Propanoic
 D. Valeric
- 6 **Phosphorus Accumulating Organisms (PAOs) store volatile fatty acids as?**
 A. PHAs C. PHVs
 B. PHBs D. PH_2MVs
- 7 **Phosphorus Accumulating Organisms are?**
 A. Aerobic organisms
 B. Anaerobic organisms
 C. Facultative organisms
- 8 **Which of the following forms of phosphorus reacts chemically with either iron or aluminum?**
 A. Organic phosphorus
 B. Orthophosphate
 C. Pyrophosphates
 D. Tripolyphosphates
- 9 **Which of the following chemical used for phosphorus removal affects alkalinity the least?**
 A. Aluminum Sulfate
 B. Ferric Chloride
 C. Ferrous Sulfate
 D. Poly Aluminum Chloride
- 10 **At a pH of 7, which of the following would yield the lowest theoretical dissolved phosphorus concentration?**
 A. Aluminum
 B. Calcium
 C. Iron

ANSWERS:

1. C 2. A 3. B 4. A 5. A
 6. A 7. A 8. B 9. D 10. A

Do you know your 'I' from 'I'?

By The Collection Committee

1. **Inflow is . . .**
 A. Cross connection with a storm drain
 B. Water filling your truck
 C. Ground water entering into the system
 D. Surface water entering the system
2. **Sources of inflow include...**
 A. Lids with holes
 B. Leaking manhole section
 C. Basement drains
 D. Cracked or broken pipe
3. **Exfiltration is...**
 A. A flavor enhancer for ground water
 B. Ground water recharge
 C. Sewage that escapes the system
 D. Form of a Perk Test
4. **Which of the following is the most economical way to stop a leaking joint?**
 A. Dig and replace the defective area
 B. Slip line the section to seal the pipe
 C. Install a mechanical repair coupler
 D. Pack the defect with hydrophilic polymer
5. **Roof drains that tie into a clean out are a form of _____.**
6. **Water leaking into a manhole from between the grade rings would be classified as? _____**
7. **The easiest way to find I&I is?**
 A. Smoke testing
 B. Night isolation studies
 C. Televising
 D. Flow studies using multiple meters
8. **Infiltration is . . .**
 A. Surface water infiltrating the sewer
 B. Water entering missing clean out caps
 C. Instant peaked flows from rain
 D. Subsurface water entering the system
9. **The term used when flows go up as rain starts to fall.**
 A. Inflow
 B. Infiltration
 C. Surcharge
 D. inundation
10. **When flows stay high after the rain stops it is?**
 A. Exfiltration
 B. Inflow
 C. Infiltration
 D. Surcharge

ANSWERS:

1. D, 2. A, 3. C, 4. D, 5. INFLOW, 6. INFILTRATION, 7. C, 8. D, 9. A, 10. C

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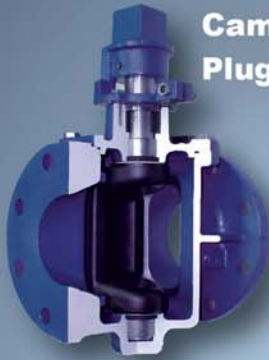
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