



# NewsWaves



A joint publication of MSAWWA & MWEA  
WINTER/SPRING 2018



***“Working Together To Protect Montana’s Water Resources”***  
***93rd Meeting of the Montana Section of the American Water Works Association***  
***74th Meeting of the Montana Water Environment Association***  
**May 15-17, 2018 in Missoula, Montana**

**MSAWWA Preconference: “Invasive Mussels—What To Expect & How To Prepare”**

## **An Invitation to the Conference from your MSAWWA Chair and MWEA President**

Greetings fellow water professionals! We hope that you all survived the cold, snowy winter and are enjoying the spring weather we are finally having. On behalf of the MSAWWA and MWEA Boards, we would like to extend this invitation to join us at the upcoming Annual Joint Conference taking place May 15-17, 2018 in Missoula. The Joint Conference returns to the Garden City for what is shaping up to be a great professional and social gathering. Robin Matthews-Barnes and the Host City Committee have booked a wonderful facility to host our annual event and organized some great social activities. The Program Committee continues to put together a quality technical agenda covering current and exciting topics in the water and wastewater industries. The MSAWWA sponsored Preconference titled **“Invasive Mussels: What To Expect & How To Prepare”** will take place on Tuesday, May 15th. The Joint Conference, with the recurring theme of **“Working Together To Protect Montana’s Water Resources”** will begin on Wednesday, May 16th and run through lunch on Thursday, May 17th. This event is a premier educational and networking opportunity for Montana water and wastewater operators, engineers, scientists, regulators, funding agencies and government staff. Continuing Education Credits (CECs) and Professional Development Hours (PDHs) are offered as always. We feel this is going to be one of the best Conferences we have had and look forward to seeing you there

• **Jeff Ashley, MSAWWA Chair & Jeremy Perlinski, MWEA President**

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## **Welcome To Missoula “The Garden City”**

The 2018 Host City Committee welcomes you to Missoula! The Committee has been working diligently to make the conference memorable and enjoyable for all. We hope you’ll be able to spend some time in our beautiful city before and after the conference as well. Here are a few ideas of what to do in Missoula: Start off with a hike up the M-trail taking in views of the Garden City beneath you or simply stroll along the extensive river trail system, watching kayakers and surfers play on Brennan’s Wave. Play a round of golf at one of our great golf courses, stop in for a drink at one of the many flourishing breweries or distilleries, and end the night by watching some live music at one of the many venues downtown. If you’d like to stay out of the weather, you can visit the Rocky Mountain Elk Foundation Visitor Center or the Missoula Art Museum. And, of course, no trip would be complete without a visit to one of the many stores and restaurants located in the vibrant downtown area. Missoula has something to offer for everyone and more information and an events calendar can be found at [www.destinationmissoula.org](http://www.destinationmissoula.org). We’re looking forward to a great conference and hope you enjoy your stay here in the Garden City!

• **Your MSAWWA/MWEA 2018 Host City Committee**

### ***Inside:***

- ***2018 Joint Conference Preliminary Schedule***
- ***Joint Conference Registration links***
- ***2017-2018 MSAWWA-MWEA Boards***
- ***2017-2018 MSAWWA-MWEA Committee Chairs***
- ***Direct links to advertisers—just click 'n go!***

NewsWaves is a joint publication of the Montana Section of the American Water Works Association and the Montana Water Environment Association. It is published twice yearly. It is available for viewing or printing on our website at: [www.montanawater.org](http://www.montanawater.org).

We welcome contributions to NewsWaves. For more information, contact:

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### **Mission of Montana Section AWWA**

The Montana Section of American Water Works Association is dedicated to the promotion of public health and welfare in the provision of drinking water of unquestionable quality and sufficient quantity. Montana Section of AWWA will provide the forum and opportunity through which its membership can exchange information, learn of new issues and technologies, educate the public, and enhance the professionalism of workers in all areas of the water industry.



American Water Works Association

### **Mission of the Montana Water Environment Association**

The Montana Water Environment Association (MWEA) is a non-profit organization dedicated to the preservation and enhancement of Montana's water environment. The Association is committed to advancing science and education, disseminating technical information, increasing public understanding and promoting sound public policy in the water quality and water resources field.



Environment Association

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## EPA Announces New Notice of Funding Availability (NOFA) for WIFIA

Recently, [EPA announced](#) the availability of approximately \$5.5 billion in credit assistance for water infrastructure projects under the [Water Infrastructure Finance and Innovation Act \(WIFIA\) program](#). This financing will help support approximately \$11 billion in total infrastructure investment.

In the [Notice of Funding Availability \(NOFA\)](#), the WIFIA program solicits letters of interest from prospective borrowers seeking credit assistance from EPA. The NOFA outlines the process that prospective borrowers must follow to be considered for WIFIA credit assistance and establishes relative weights for the selection criteria. Priorities for Fiscal Year 2018 are (1) provide for clean and safe drinking water, including reducing exposure to lead in the nation's drinking water systems and (2) repair, rehabilitate, and replace aging infrastructure and conveyance systems. Letters of interest from prospective borrowers seeking WIFIA loans will be accepted until 12:00 PM (noon) EDT on July 6, 2018.

The [WIFIA program website](#) has been updated to include resources to assist prospective borrowers seeking credit assistance, including:

[Application Materials](#), including a new Letter of Interest form, example, and checklist; and Updated [WIFIA Program Handbook](#).

Recently, the WIFIA program received \$63 million total in funding in the FY18 Omnibus Appropriations bill. WEF and other water sector leaders were pleased with this and hope to reauthorize the program and boost funding in FY19.

For more information on WIFIA, can [register](#) for one of the webinars that EPA will host during the Letter of Interest submittal period. The webinars will provide a short overview of the WIFIA program and explain the process for submitting and evaluating WIFIA letters of interest. Following the webinars, EPA will post a copy of the presentation and a recording of the webinar on the [WIFIA website](#). To receive announcements about the WIFIA program and notifications about additional resources, you can sign up on the [EPA website](#).

For more information, please contact Steve Dye, Director of Legislative Affairs at [sdye@wef.org](mailto:sdye@wef.org).

## Help Build The Next Generation of Water Scientists.

The U.S. Stockholm Junior Water Prize brings together some of the brightest and most imaginative young scientists from across the U.S., Puerto Rico, and the U.S. Virgin Islands, encouraging their continued interest in water research.

US donations are tax deductible.

<http://wef.org/SJWPdonate>

## U.S. Stockholm Junior Water Prize



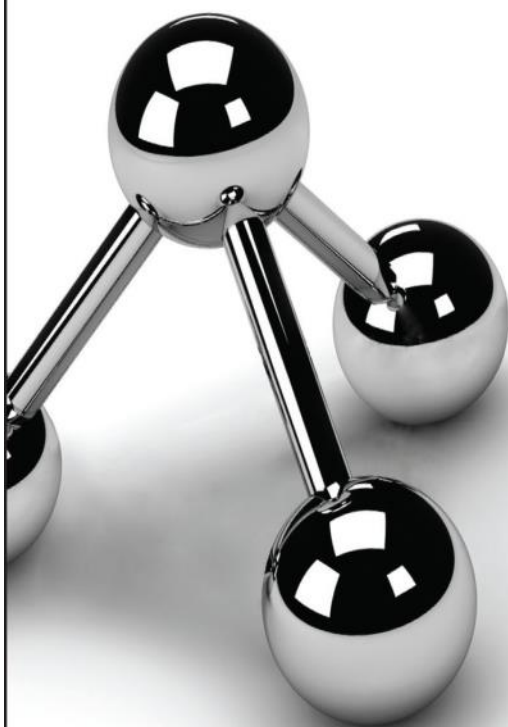
American Water Works Association



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### **~Joint Scholarship Fund Raffle~**

**Thank you to *DOWL, Great West Engineering, HDR Engineering and Morrison-Maierle* for their generous donations for this years' raffle to help fund the Donald G. Willems Joint Scholarship. 1st prize is a \$400 gift certificate to Quinn's Hot Springs; 2nd prize is a \$300 Bob Ward's gift certificate; and 3rd prize is a \$200 Amazon gift certificate. Tickets are available for purchase at the Joint Conference or by contacting Greg Lukasik, Committee Chair, by email at [glukasik@greatwesteng.com](mailto:glukasik@greatwesteng.com) The drawings will take place at the banquet on Wednesday evening of the Joint Conference. You need not be present to win. Ticket prices are \$5/each or 5 tickets for \$20. Buy your tickets to help fund a scholarship for a deserving student!**



### Visiting Dignitaries from AWWA & WEF

Attendees of the 2018 Joint Conference will be introduced to AWWA Vice President Kevin Bergschneider and current WEF Board of Trustees Member Ifetayo Venner. Mr. Bergschneider and Ms. Venner will offer their insight at the opening session of the conference on Wednesday morning, May 16th. The MSAWWA and MWEA Boards of Directors are honored to have these guests to contribute to this year's conference. Please help them welcome these visitors to Missoula and the great State of Montana!

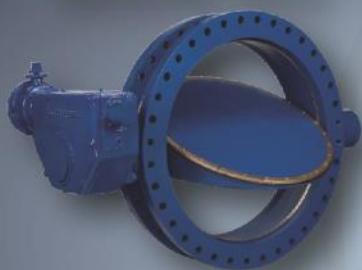
### Water For People Silent Auction & Raffle

Thank You **Great West Engineering and R.L. Winston Rod Co.** for again donating the fly rod and reel for the Water For People raffle that will take place at the conference. The rod/reel combo is a Winston Boron III X, 9'6", 6wt., 4 piece fly rod with Bauer SST 5— fly reel. Retail value is \$1,345.00. Tickets are \$10.00 each and can be purchased at the Joint Conference or by contacting Carrie Gardner at [cgardner@greatwesteng.com](mailto:cgardner@greatwesteng.com) The drawing for the rod/reel will take place at the banquet on Wednesday evening of the Joint Conference. You need not be present to win. **ALSO—Please consider donating an item to the WFP silent raffle—any item, big or small, is appreciated!** Contact Robin Matthews-Barnes for more information: [info@montanawater.org](mailto:info@montanawater.org)

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## Notes of MSAWWA National Director Greg Lukasik...

As always, AWWA staff, leadership and members are very busy working to serve the membership and the drinking water community. A few things to note are:

- Drinking Water Week: May 6-12 is recognized as Drinking Water Week. Sponsored by AWWA, this week will be a time when all of us (and other) water professionals come together with communities to recognize the role of clean water in our daily lives. See the article in the latest Journal AWWA from AWWA CEO David Lafrance for more details.
- Our Section Conference is fast approaching. This year we have a great lineup of presenters and as always the vendors will have a great exhibit hall. Come to Missoula May 15-17 and get up to speed on the latest trends involved within the industry and network with professionals from the state and surrounding regions. Also, the annual ACE Conference this year will be in Las Vegas from June 11-14. I have attended the last three ACE conferences and all have been well worth the time and cost.

Many members and leaders are very excited and are getting involved in the Veteran's Workforce Initiative. Many Veterans are very skilled workers and not afraid to take on difficult tasks, making them a perfect candidate for the water industry. Here is a very brief summary of how the program works: Each Section (in our case, the state of Montana) will have at least one volunteer (hopefully more) who will assist a Veteran in finding a job in the State within the water industry. The Veteran would contact the volunteer, determine where they want to be, and the volunteer will get them connected to water/wastewater professionals in the area they want to go to. So far, Montana has had one volunteer come forward, and it would be great to get several more. Although prior or current military service is not a requirement to be a volunteer, it is recommended. If you are interested in being a volunteer, please contact me at [glukasik@greatwesteng.com](mailto:glukasik@greatwesteng.com), and I will get you connected to the group who are running this program.







## NEW AWWA CAREER CENTER

The best water industry job website has relaunched with a user-friendly interface and new functionality!

Visit [awwa.org/careers](http://awwa.org/careers) to check out some of the exciting new features.





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### **"ONE AWWA" WATER OPERATOR SCHOLARSHIPS**

MSAWWA has teamed with AWWA's "The Water Equation" Campaign to offer (1) \$1000 or (2) \$500 Water Operator Scholarships. The creation of the "One AWWA" Operator Scholarship addresses the present and future workforce need for operators by providing training and educational funding. It also creates an opportunity for collaboration between the Association and Sections within The Water Equation Campaign. The scholarship award can be used for certification/licensure, two-year water related associate degree, technical school program, professional training program, books and manuals and operator related conferences. Each scholarship recipient will also receive a one-year AWWA Operator membership. An application can be downloaded from the website at:

[www.montanawater.org/awards-scholarships/scholarships-available/](http://www.montanawater.org/awards-scholarships/scholarships-available/).

### **MONTANA WATER ENVIRONMENT ASSOCIATION OPERATOR SCHOLARSHIPS**

The Montana Water Environment Association (MWEA) has allocated funds for certified operators looking for assistance in paying for continuing education and/or training event costs. Applicants must complete a scholarship application one month ahead of the training session they plan to attend, and awards of up to \$500 can be realized by each applicant. When approved in advance, the award money can be used to pay for the actual training as well as other miscellaneous costs associated with attending. Applicants must be a Montana certified operator or operator in training. Applications are available on the website at [www.montanawater.org/awards-scholarships/scholarships-available/](http://www.montanawater.org/awards-scholarships/scholarships-available/) or can be obtained by emailing MWEA Secretary/Treasurer, Rodney Lance at [rodney.lance@veolia.com](mailto:rodney.lance@veolia.com)



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## ***Hello from MWEA National Delegate Amy Detichler***

I would first like to thank the Montana Water Environment Association for your continued support. We have been successful the last few years with some very active committees, such as, the Pretreatment Committee, Stormwater Committee, and Stockholm Junior Water Prize Committee. Our newest committee and one that is helping our young people is the Grant for Teachers Committee. This committee is providing grants to help teachers educated our young people on the importance of water quality. To date, we have provided teachers with over \$4,500 to purchase equipment and provide education on water quality. We have provided grants for teachers in Miles City, Glendive, Helena, and Whitefish. If you know a teacher who could benefit from additional funds (we know they all can ☐), please have them visit [www.montanawater.org](http://www.montanawater.org) for the application.

Speaking of the website ([www.montanawater.org](http://www.montanawater.org)), if you haven't visited yet you should. Our Joint Information Management Committee worked very hard to get it working well. You can find information on MWEA and MSAWWA. We have information about membership, the joint conference, committees, awards, scholarships, grants for teacher's applications, operator training scholarship applications, and contact information for each board member. We have committee descriptions if you're wondering which committee you want to sign up for at the Joint Conference in Missoula.

If you haven't already please take a second and register for our Joint Conference in Missoula May 15-17 at the Hilton Garden Inn. WEF Trustee Ifetayo Venner from the Florida Water Environment Association will be our official representative. Ifetayo is active in organizations related to sustainable infrastructure design and sustainable cities. She currently serves on the Institute for Sustainable Infrastructure's Envision Review Board and has previously served on the Industry Advisory Board for the Zofnass Program for Sustainable Infrastructure at Harvard University.

WEFTEC will be in New Orleans this year October 1<sup>st</sup> through October 3<sup>rd</sup>. If you have never gone before we encourage you to consider attending this conference. With close to 22,000 in attendance and over 1,000 vendors this is the biggest show in the water quality industry. There is always something going on between going to presentations, visiting with the vendors, watching the Operations Challenge and networking. Registration for WEFTEC will open on April 17<sup>th</sup> and this year's best rate deadline is July 12<sup>th</sup>.

I look forward to seeing everyone in Missoula and hopefully New Orleans. If you see me at the conference, please stop me and say hi. I will continue to proudly represent Montana as the National Delegate in the upcoming year!



### ***Welcome New MWEA Members!***

Jordan	Williams	SJWP
Lucas	Ritzdorf	SJWP
Jourdain	Klein	SJWP
McKoy	Feland	SJWP
Christian	Bloch	SJWP
Rickey	Schultz	HDR Engineering
Joseph	Schmitigal	Ipex
Brian	Carey	City of Bozeman WRF
Jordan	Lind	Clearas Water Recovery



### **Environment Association**

#### **Welcome new members!**

The names at left are members who have joined MWEA since the last conference. Thank you for being a part of MWEA!

## **EXCITING ACTIVITIES AT THE CONFERENCE THIS YEAR!**

**Pub-style Trivia Challenge**—Bring your team of 4-5 to the main Exhibitor Area during the Thursday morning break to challenge friends, competitors, and coworkers in a pub style trivia wager of wits. There will be a great prize for members of the winning team!

Rules:

- Teams will be made of 4-5 members.
- Answer sheet will be provided to each team.
- No electronic devices or any type of outside sources are allowed. Teams that are reported using any outside devices will be disqualified.

**Taste Test Challenge**—Bozeman Water was the big winner in last year's taste test so here is your chance to steal the show and take home the honors! Once again we will be leaving it to the judges to crown an official winner of the 5th Annual *Best Tap Water Taste Test* Competition. Bring your community pride and come support your city in the competition!! The Taste Test Challenge will take place in the Exhibitor Area during the Thursday morning break. The winning system will compete at the national level at ACE18 in June.

Rules:

- Participant must not have incurred any state or federal drinking water violations (MCL, monitoring, recordkeeping, etc.) during the previous 12 months.
- Samples should be brought in glass containers with the name of the water system clearly identified and delivered to Robin Matthews-Barnes at the front desk by 5 pm on Wednesday of the conference. Please deliver at least 1 gallon of water total (can be in multiple containers).
- Samples will be served at room temperature to help the judges better assess each sample.
- Judging for the People's Choice award will be open to all attendees.
- The official judging panel will be a mix of local public figures and flavor-profile analyzers.
- Samples will be judged on a 10-point scale from Good (1) to Best (10).
- Scores will be tabulated and the winner will be announced immediately following the contest.

**SYP Poster Competition**—The Joint Student & Young Professionals Committee is sponsoring the 3rd annual poster competition at this year's conference. Posters will be displayed throughout the Exhibitor Area during the conference and the winner will be announced at the banquet on Wednesday evening. The winner will receive free registration and travel to ACE18!

**Casino Night**—Join the fun at Casino Night and play some Texas Hold 'Em! You do not need to know how to play, and everyone has a great time! Great prizes to bid on at the end of the night with your winnings!

## **2018 JOINT CONFERENCE REGISTRATION INFORMATION**

Please go to [www.2018JointConference.com](http://www.2018JointConference.com) for more information and to fill out the registration form, or simply click on the link below. You will have a choice to register and pay by check or register and pay by credit or debit card. See the website for more detail. Please contact Robin Matthews-Barnes at [Info@montanawater.org](mailto:Info@montanawater.org) with any questions, or if you would like a hard copy of the registration form mailed to you, or emailed directly to you.

**[Click here for attendee registration to pay with check](#)**

**[Click here for attendee registration to pay with debit or credit card](#)**

**For lodging reservations**—please call the Hilton Garden Inn at 406-532-5300 and mention the conference to obtain the conference rate of \$119/night (not including applicable taxes). To register online go to [www.missoula.stayhqi.com](http://www.missoula.stayhqi.com). Please enter special rate "AWWA".





## **MSAWWA PRECONFERENCE**

### **“Invasive Mussels—What To Expect & How To Prepare”**

**Tuesday—May 15, 2018**

**7:00 am—5:00 pm**      **Registration desk open**  
**8:00 am—5:00 pm**      **All day session including lunch**  
**5:00 pm—6:30 pm**      **Ice-Breaker Sponsored by Exhibitors**

<b>Preconference Session—Room location: tbd</b>	
<b>Moderators:</b> Doug Whitney, KLJ Engineering	
8:00—8:15	<b>Preconference Welcome &amp; Overview—</b> Doug Whitney, KLJ/Chair MSAWWA Education Committee
8:15—9:00	<b>History of Invasive Mussels in the United States—</b> Stephen Phillips, Pacific States Marine Fisheries Commission
9:00—9:15	<b>BREAK</b>
9:15—9:45	<b>Current Status of Invasive Mussels in Montana—</b> Sarah Biggs, Montana FWP AIS Supervisor
9:45—10:15	<b>Control Efforts &amp; Natural Spread in Montana—</b> Sarah Biggs, Montana FWP AIS Supervisor
10:15—10:30	<b>BREAK</b>
10:30—11:15	<b>What’s Plugging My Intake?—</b> Brian LeMon, BARR
11:15—12:00	<b>Innovative Ideas/New Technology/Research &amp; Development for Mussel Control—</b> Leonard Willett, RNT Consulting
12:00—1:00	<b>LUNCH (provided)—Room location: tbd</b>
1:00—1:45	<b>Biological Control of Invasive Mussels—</b> Keith Pitts, Marrone Bio Inovations
1:45—2:30	<b>Control of Zebra Mussels with a More Rational Use of Copper—</b> David Hammond, Earth Science Laboratories
2:30—2:45	<b>BREAK</b>
2:45—3:30	<b>Smart Intake Design for Invasive Mussels—</b> David Carlson, AE2S
3:30—4:15	<b>Intake Coating System Case Study—</b> Brian LeMon, BARR
4:15—4:30	<b>BREAK</b>
4:30—5:00	<b>Q&amp;A and Panel Discussion—All Speakers</b>

# MSAWWA-MWEA 2018 JOINT CONFERENCE

***“Working Together To Protect Montana’s Water Resources”***

**Wednesday—May 16, 2018**

7:00 am—8:00 am Early Morning Break (Exhibitor Areas)  
 7:00 am—5:00 pm Registration desk open (Rotunda)  
 8:00 am—11:30 am Morning General Session & Awards (Room E-F-G)  
 11:30 am—1:00 pm Buffet lunch (Exhibitor Area—Room D)  
 1:00 pm—5:30 pm Afternoon Concurrent Sessions (see breakout schedule for locations)  
 5:30 pm—6:30 pm Beer and Wine Reception (Exhibitor Areas)  
 6:30 pm—8:30 pm Banquet and Awards (Room A-B-C)

Water For People Raffle Drawing—donated by Great West Engineering & R.L. Winston Rod Company—Fly Rod & Reel

Water For People Silent Auction items dispersed

Scholarship Fund Raffle Drawing—donated by DOWL, Great West Engineering, HDR Engineering & Morrison-Maierle, Inc.

1st prize: \$400 gift certificate to Quinn’s Hot Springs

2nd prize: \$300 Bob Wards gift certificate

3rd prize: \$200 Amazon gift certificate

8:30 pm—10 pm **Come and join in the fun—Casino Night!**

Texas Hole ‘Em is back and there are great prizes to bid on with your earnings as a card shark!

## Morning General Session

<b>General Session—Room location: Room (E-F-G)</b>	
<b>Moderators:</b> Jeff Ashley, MSAWWA Chair & Jeremy Perlinski, MWEA President	
8:00—8:15	<b>Welcome and Opening Session</b> Jeff Ashley, MSAWWA Chair & Jeremy Perlinski, MWEA President John Engen, Mayor of Missoula
8:15—9:30	<b>AWWA &amp; WEF Guest Speakers—General remarks followed by Q&amp;A</b> Kevin Bergschneider, AWWA Vice-President Ifetayo Venner, WEF Trustee
9:15—9:30	<b>BREAK—Exhibitor Area (Rotunda)</b>
9:30—9:45	<b>MSUN/METC Water Quality Certificate Program—</b> Barb Coffman, Director Montana Environmental Training Center
9:45—10:45	<b>Making the Most Out of the Infrastructure Dollar: How Small Communities Benefit From Co-Funding: The Montana Story</b> —Karen Bucklin-Sanchez, USDA Rural Development
10:45—11:30	<b>Awards</b>

**CEC Information**—Approximately 7 hours of training will be available for attendance at the preconference & 10 hours of training will be available for attendance at the conference, with a possible additional 2 hours for attendance at the Thursday afternoon facility tours. Actual number of credit hours are awaiting MT DEQ approval. Additional information & CEC forms will be included in your registration packet at the conference.



## Wednesday Afternoon Concurrent Sessions

<b>Drinking Water Sessions—Room location: tbd</b> Moderator: Jeff Ashley, Morrison-Maierle	
1:00 —1:45	<b>Multi-Barrier Approach For Optimal 4-Log Virus Credit Supplements Chemical Disinfection Methods—</b> Phyllis Posey, Atlantium Technologies
1:45—2:30	<b>The Calcium Hypochlorite Alternative—</b> Elio Limonchi, Lonza
2:30—3:15	<b>BREAK – Exhibitor Area (Rotunda)</b>
3:15—4:00	<b>Activated Carbon 101—</b> Ben Goecke, Calgon Carbon Corporation
4:00—4:45	<b>Chloramine Residual Optimization and Management—</b> Tom Caulfield, UGSI Solutions, Inc.
4:45—5:30	<b>Role of Smart Tanks in Distribution Water Quality Management—</b> Tom Caulfield, UGSI Solutions, Inc.

<b>Wastewater Sessions—Room location: tbd</b> Moderator: Jeremy Perlinski, Montana DEQ	
1:00 —1:45	<b>Size Matters; How Fine Bubble Aeration can Improve Lagoon BOD and Nutrient Effluent—</b> Tom Daugherty, Triplepoint Environmental
1:45—2:30	<b>West Glendive Large Diameter Horizontal Directional Drilling Beneath the Yellowstone River—</b> Todd Kuxhaus, Great West Engineering
2:30—3:15	<b>BREAK – Exhibitor Area (Rotunda)</b>
3:15—4:00	<b>True Batch SBR: A Cold Weather Nutrient Removal Solution—</b> Manuel de los Santos, Aqua-Aerobic Systems Inc.
4:00—4:45	<b>Meeting Strict Ammonia Limits with Lagoons—</b> Craig Pozega, Great West Engineering
4:45—5:30	<b>Winds of Change: Livingston WRF Upgrade: The Prequel—</b> Scott Buecker, AE2S; Shannon Holmes, City of Livingston

<b>Miscellaneous &amp; More Wastewater Sessions—Room location: tbd</b> Moderator: Amy Deitchler, Great West Engineering	
1:00 —1:45	<b>Tips to Get Good Data from your Analytical Instruments—</b> Myra Michaels, YSI a Xylem brand
1:45—2:30	<b>Sewer Rehabilitation in Paradise—</b> Craig Caprara, HDR
2:30—3:15	<b>BREAK – Exhibitor Area (Rotunda)</b>
3:15—4:00	<b>Real World Considerations for Pump Design, Operation and Troubleshooting—</b> Steve Truitt, PE, Penn Valley Pump Company
4:00—4:45	<b>Grit Happens – You Don’t Know What You Are Missing—</b> Pat Herrick, Hydro International
4:45—5:30	<b>Sequencing Batch Reactor to Facilitate Expansion, Growth and Development—</b> Kolten Knatterud, Territorial Landworks, Inc.

# **MSAWWA-MWEA 2018 JOINT CONFERENCE**

## ***“Working Together To Protect Montana’s Water Resources”***

**Thursday—May 17, 2018**

- 7:00 am—8:30 am** Early Morning Break (Exhibitor Areas)
- 7:30 am—8:30 am** Joint MSAWWA-MWEA Membership Meeting and Election of Officers
- 7:30 am—10:00 am** Registration desk open (Rotunda)
- 8:30 am—12:30pm** Morning Concurrent Sessions (see breakout schedule for locations)
- 10:00 am—11:00am** Operator Trivia Challenge & Best Tap Water Taste Test (Exhibitor Area)
- 12:30pm—1:30 pm** Lunch & Prize Drawings—Must be present to win from a great selection of Exhibitor sponsored prizes! (Room !-B-C)
- 1:30 pm—3:30 pm** Missoula Water & Wastewater Facility Tours

### **Thursday Morning Concurrent Sessions**

<b>Drinking Water Sessions—Room location: tbd</b> Moderator: Jackie Kuhl, Great West Engineering	
8:30 – 9:15	<b>The Big Payback – The Importance of Large Meter Analytics—</b> Michele Harvey, Badger Meter
9:15 – 10:00	<b>Billings Water Plant UV and Chemical Project—</b> Craig Habben, Jake Ostrander & Francis Rodriguez, HDR; Louis Engels, Will Robbins & Berry Helmbrecht, City of Billings
10:00 – 11:00	<b>BREAK – Best Tap Water Taste Test and Pub-style Operator Trivia in Exhibitor Area (Room D)</b>
11:00 – 11:45	<b>Optimizing Lagoon Based Treatment Systems for Improved BOD, TSS and Nutrient Removal—</b> Tom Birkeland, Lemna Environmental Technologies
11:45 – 12:30	<b>Can a Variable Clarifier Inlet Reduce Tertiary Treatment Requirements at a BNR Treatment Facility?—</b> Coralynn Revis, Mario Benisch & Dan Harmon, HDR Engineering

<b>Wastewater Treatment Sessions—Room location: tbd</b> Moderator: Doug Whitney, KLJ Engineering	
8:30 - 9:15	<b>AOP &amp; Biofiltration—</b> Brian Viall AE2S
9:15 – 10:00	<b>Reclaimed Wastewater for Irrigation with Difficult Soils—</b> Carrie Gardner & Ryan Pearson, Great West Engineering
10:00 – 11:00	<b>BREAK – Best Tap Water Taste Test and Pub-style Operator Trivia in Exhibitor Area (Room D)</b>
11:00 – 11:45	<b>A Discussion on Advanced Lagoon Treatment Processes—</b> Tim Canter, Environmental Dynamics International
11:45 – 12:30	<b>Designing Lagoon-Based WWTPs: The Case of Big Timber, MT—</b> Todd Latchaw, Nexom; Collette Anderson, Great West Engineering



<b>Miscellaneous &amp; More Wastewater Sessions—Room location: tbd</b> Moderator: Michele Marsh, Montana DEQ	
8:30 - 9:15	<b>Deer Lodge WWTP—Construction, Operation, and Performance—</b> Rika Lashley, Morrison-Maierle
9:15 – 10:00	<b>Electronic Applications for Funding: The New Frontier: Streamlining and Simplifying the Process for Small Communities to Gain Improved Access to Funding for Water and Waste Infrastructure—</b> Karen Bucklin Sanchez, PE, USDA Rural Development
10:00 – 11:00	<b>BREAK – Best Tap Water Taste Test and Pub-style Operator Trivia in Exhibitor Area (Room D)</b>
11:00 – 11:45	<b>Using Water Quality Modeling to Develop Site Specific Numeric Nutrient Criteria—</b> Coralynn Revis, HDR; Tom Radcliffe & Brian Heaston, City of Bozeman
11:45 – 12:30	<b>Enhancing Bio-P with Operations and Brewery Waste—</b> Drue Newfield, City of Havre; Scott Buecker, AE2S

### ***An Update from the Joint Student & Young Professionals Committee:***

The Carroll College Student Chapter of AWWA hosted a tour of the Lewis and Clark Brewery in Helena, MT on March 21<sup>st</sup>, 2018. Attendees, which included students and local professionals, toured the facility and learned about the “Science Behind the Brew”. The event received great reviews and will hopefully be the first of many for not only this Student Chapter, but also the Montana State University (MSU) Bozeman Student Chapter.





## WEFTEC Operator Ingenuity Contest opens for 2018

WEFTEC® 2018 will host the seventh annual Operator Ingenuity Contest. Not all innovations come from a research lab. Sometimes, you need to tackle a persistent problem using just what's at hand and a big shot of ingenuity. The competition is open to all clever ideas related to:

- treatment processes,
  - maintenance practices,
  - safety measures,
  - collection systems,
  - laboratory practices,
  - stormwater,
  - administration,
- 
- human resources, or
  - anything else associated with the water sector.

The bottom line: Even if you're not sure that your innovation qualifies, submit it.

### Drawing inspiration from past winners

This contest has discovered about 40 award-winning fixes in its first 6 years. Entries are judged on safety, resourcefulness, and how transferable the ideas are. The criteria are kept simple to encourage all kinds of entries. Past winners have included painting buildings different colors to make deliveries easier, building a replica manhole, lateral, and cleanout cap to show customers how smoke inspections work, and a device to safely and easily lift the clarifier skimmer in the winter to prevent the skimmer from freezing to the grease box.

For some more inspiration check out all of the 2017 winners below.

#### **Vacuum Virtuoso Award**

Andy Loudermilk from the Bigfork (Mont.) Water and Sewer District received this award for his invention of the "scum sucker." Loudermilk repurposed an old rotary-lobed positive displacement blower into to vacuum to remove scum from the top of the facility's membrane bioreactor tanks and deposit it into the facility's solids holding pit.

#### **Alternate Acid Activist Award**

Zenon Kochan and Matt Seib from the Nine Springs Wastewater Treatment Plant in the Madison (Wis.) Metropolitan Sewerage District received their award for assembling a low-cost, safe, and efficient acid pumping system. Instead of carrying 25-kg (55-lb) bags of powdered acid to the top of a 10-m-tall (30-ft-tall) reactor, operators now use a portable pump that Kochan built to deliver a liquid acid directly into the process tankage.

#### **Chemical Capture Chief Award**

Mark Cataldo from Suez (Paramus, N.J.) and the Killingly Water Pollution Control Plant (Danielson, Conn.) earned his award for installing a trough to catch any spills during sodium hypochlorite deliveries. Cataldo attached a simple trough to the wall beneath the inlet pipe to replace a bucket propped up with a board.

#### **Thinkers Who Tinker Award**

Kevin Barry, Jeff Leonard, and Jim Wilson from Woodard & Curran (Portland, Maine) and the Pinehills Wastewater Treatment Facility (Plymouth, Mass.) won for applying the motto "work safer, not stronger" to find safer, more efficient approaches to routine tasks. Their changes include using davits and hoists throughout the facility to lift heavy equipment.

#### **Root Assassin Award**

Tony Hale from the Cottonwood Improvement District (Sandy, Utah) won for devising an in-pipe spot applicator for chemical herbicides. He built a floating rig that holds a camera and a swiveling nozzle to help deliver foaming root removal chemicals precisely where they are needed. This leads to halving the amount of chemical needed for the job.

#### **Tidy Tester Award**

Jason Patty, Ron McClure, Pat Fountain, Glen Holz, and Brad Gillis from the El Dorado (Kan.) Wetlands and Water Reclamation Facility received this award for building a simple and effective return activated sludge (RAS) sampling station. The operators plumbed the RAS line to a bucket, which has a hole in the bottom that is plumbed to the sump pit. Closing the drain valve on the bucket and opening the RAS flow line fills the bucket. Opening the bucket drain valve send the RAS into the sump.

### **Helpful Hitch Hand Award**

Travis A. Fisher from the Ojai (Calif.) Valley Sanitary District won for creating a ball-hitch-mounted arm to hold spools of cable. The “bumper hitch reel” fits over the ball hitch on a truck and helps manage the cables associated with a pipe patch kit and a push camera.

### **The First Responders’ First Responder Award**

Sidney Homer and Tomas Martinez from the 69th Street Wastewater Treatment Facility (Houston, Texas) each received an honorary Operator Ingenuity award for ensuring services that enabled emergency response work following Hurricane Harvey.

### **New entry criteria for 2018**

The submission process is a little different this year. In addition to up to five photos and about one page of text describing the problem you faced and the fix you found, we’re asking you three questions:

- How transferable is it to other facilities or locations?
- How does this fix take safety into account?
- Where did the materials and any money used for the fix come from?

The entire submission process also will move to a more user-friendly platform. Visit [www.weftec.org/ingenuity](http://www.weftec.org/ingenuity) to get started.

### **Win, present, and publish**

Selected inventors will be invited to give 10-minute presentations at WEFTEC 2018 in New Orleans. Submitters do not have to write a full WEFTEC paper. What you provide in your submission is all that is needed in writing for the contest. Even if you can’t come to WEFTEC, submit your ideas. Award winners and select other entries will be converted into articles for the Operator Ingenuity section of *Water Environment & Technology* magazine.

Questions? Email us at [innovation@wef.org](mailto:innovation@wef.org).



Photo Credit: Oscar & Associates/Courtesy of Water Environment Federation

Caption: At WEFTEC 2017, the winners of the sixth annual WEFTEC Ingenuity Contest received their certificates and gave presentations on their “duct-tape fixes.” Left to right are Andy Loudermilk, Matt Seib, Zenon Kochan, Mark Cataldo, Sidney Homer, Water Environment Federation Trustee Joan Hawley, Tomas Martinez, David Dedian (representing the Thinkers Who Tinker), Tony Hale, Jason Patty, and Pat Fountain.

*“The information provided in this article is designed to be educational. It is not intended to provide any type of professional advice including without limitation legal, accounting, or engineering. Your use of the information provided here is voluntary and should be based on your own evaluation and analysis of its accuracy, appropriateness for your use, and any potential risks of using the information. The Water Environment Federation (WEF), author and the publisher of this article assume no liability of any kind with respect to the accuracy or completeness of the contents and specifically disclaim any implied warranties of merchantability or fitness of use for a particular purpose. Any references included are provided for informational purposes only and do not constitute endorsement of any sources.”*



### Free training again in 2018!

The Montana Section AWWA in partnership with the Montana Environmental Training Center will again be offering a free small system training workshop in 2018. The 8 hour workshop will be held in Lewistown, MT with CEUs available. The workshop is titled "Training and Technical Assistance to Improve Water Quality and Enable Small Public Water Systems to Maintain Compliance with the Safe Water Drinking Act". The workshop is made available through EPA Grant funding awarded to RCAP, and a subagreement with AWWA.

The content will include updated topics from the 2017 workshop as well as new topics such as Coliform Sample Collection, DBP Treatment Strategies, Disinfection Byproducts, Disinfection Overview, Distribution System Infrastructure, Distribution Water Quality, Flushing, Main Breaks and Cross Connections, Regulatory Review, Arsenic Rule Compliance, Nitrate Rule Compliance, Radionuclides Rule Compliance, and Source Water Assessment and Protection, Controlling Lead and Copper in Drinking Water, Cyanotoxins, Premise Plumbing/Legionella, and a Learning Lab for sampling water quality. The workshop will be held in Lewistown in August 2018. Please feel free to contact Robin Barnes, MSAWWA Exec. Secretary at [info@montanawater.org](mailto:info@montanawater.org) for more information. More information will also be posted on the joint website at [www.montanawater.org](http://www.montanawater.org) as it becomes available.



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**STUDENT & YOUNG PROFESSIONALS (S&YP) COMMITTEE**  
for the Montana Section of AWWA & Montana WEA

# GET INVOLVED!

## WHY JOIN AWWA/WEF?

AWWA and WEF give you the opportunity to connect with a valuable network of operators, professionals, regulatory agencies, and technical staff that can help you forge your career in the water industry.

## ATTEND THE JOINT CONFERENCE

2018 MSAWWA-MWEA Joint Conference

**When:** May 15-17, 2018

**Where:** Hilton Garden Inn-Missoula, MT

### Activities for Students & YP's to Look Out For:

S&YP Poster Competition

Banquet

Best Tap Water Taste Test

Operator Trivia Challenge

Water/Wastewater Facility Tours

## JOIN THE S&YP COMMITTEE!

- Annual Poster Competition
- College Outreach
- Student Chapters
- Networking
- Social Events
- Leadership & Soft Skills
- Educational Opportunities

## FOR MORE INFORMATION

Keeley Barry, AEW  
406-268-0626  
[Keeley.Barry@ae2s.com](mailto:Keeley.Barry@ae2s.com)



Montana Water Association



Montana Section of AWWA



***Thank You To All Of The Exhibitors  
that have committed to participate at the 2018 Joint Conference so far***

- Advanced Pump & Equipment
- Ambiente H2O
- AE2S
- Bartlett & West
- BioLynceus
- Calgon Carbon Corporation
- CIP Construction Technologies, Inc.
- Coombs Hopkins
- Cretex Specialty Products
- Curb Box Specialists
- DHI Water & Environment Inc.
- DN Tanks
- Ductile Iron Pipe Research Association
- Falcon Environmental
- Ferguson Enterprises
- GC Systems
- Goble Sampson Associates
- Great Plains Structures
- HDR Engineering
- Industrial Systems
- isiWest
- Leak Locators of Montana
- LMK Technologies
- McWane Ductile
- Montana Waterworks & Irrigation
- Northwest Pipe Fittings
- Pipestone Equipment
- Rust Automation & Controls, Inc.
- The Ford Meter Box Company
- True North Steel
- Underground Solutions, Inc.
- Water Technology Group
- Western States Automation
- Western States Cat
- WGM Group
- Xylem
- Yellowstone Waterworks

**Calling All Student Writers!!  
Write About Anything Water or  
Wastewater and Win a \$200  
Scholarship**

MSAWWA & MWEA produce **Newswaves** twice yearly for the memberships. Our subscribers include professionals in the water and wastewater industries including Montana cities and towns, engineering firms, and suppliers.

We certainly would like to hear from the education community. For each newsletter we encourage submission of student papers of 1000 words or less. If more than one article is submitted, they will be judged and the top pick will be printed in the newsletter. In addition, the student will receive a \$200 scholarship along with a 1 year membership to AWWA or WEF. The next **Newswaves** will be published this coming summer/fall. Articles must be received by August 15, 2018. to be considered. For more information, please contact Robin Matthews-Barnes at 406-546-5496 or by email at:

[info@montanawater.org](mailto:info@montanawater.org)



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**Contact: John Barry**

[jbarry@aucgroup.net](mailto:jbarry@aucgroup.net) (520) 591-0232

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### **Welcome New MSAWWA Members!**

Peyton	Brookshire	Billings Heights Water District
Christopher	Brouillette	No business listed
Michael	Carothers	Leak Locators of Montana
Ryan	Clampitt	City of Bozeman
Alexia	Delridge	Student—MSU
Neil	Dezort	City of Whitefish
Dakota	Dunlap	Student
V.	Elliott	City of Whitefish
Jerry	Ellis	Missoula Water
Ed	Everaert	USDA
James	Foltz	Student—Montana Tech/U of M
Jordan	Foster	Student
Raymond	Gomez	Student—Carroll College
John	Graves	Student
Joshua	Gust	Bureau of Indian Affairs
Jason	Hanchett	Winter Sports, Inc.
Jeff	Jensen	City of Havre
Gregory	Jones	Student
Meagan	Key	Student
Andrew	Kirsch	Student
Toby	Liechti	Flathead Lake Operators LLC
June	Mohler	Student
Shannon	Muenchow	Student—MSU
William	Najjar	Student
Chip	Nielsen	Morrison-Maierle
Michael	O'Brien	TD&H Engineering
Dylan	Proudfoot	Student
Logan	Rice	Student
Wyatt	Roberts	Student
Kevin	Slovarp	Missoula Water
Ward	Smith	Wolf Point Water Dept.
Madison	Thompson	Student
Mark	Timon	City of Bozeman Water Dept.
		Town of Stevensville
Benjamin	Trudgeon	Student
Tim	Tusken	City of Bozeman Water Dept.
Ashley	Walker	Polson Water Dept.
Joshus	Wells	Gardiner Park County Water District
Travis	West	Engineering West
Michael	Whelehon	DJ & A, P.C.
Scott	Wicklund	Black & Veatch
Jeremy	Williams	Business Profits Consulting, LLC
Shayla	Woodhouse	Student
Andrea	Zuidema	MSU Northern

### **Welcome new members!**

The names at left are members who have joined MSAWWA since the last conference. Thank you for being a part of MSAWWA!

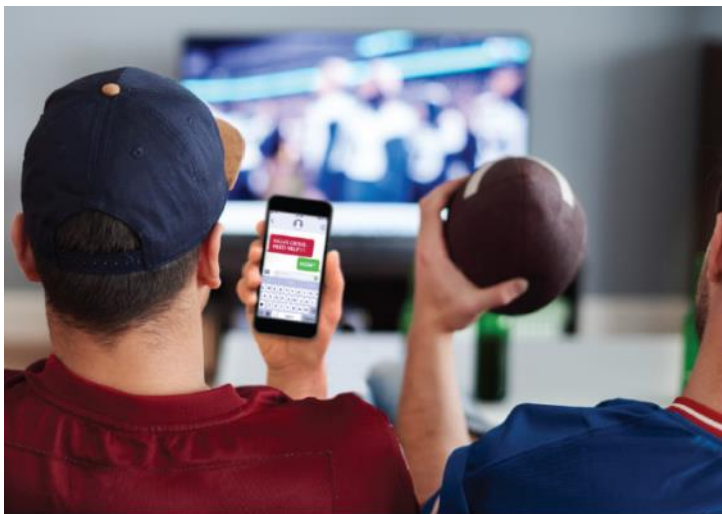


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### **News from your Public Outreach Committee We Need Your Input!**

Another year has passed and for most of it, the committee was sadly inactive. However, recently we became involved in a collaboration with Project WET (<https://www.projectwet.org/>) and their latest project creating a booklet that can be used by teachers of all kinds to teach 3<sup>rd</sup> through 6<sup>th</sup> graders about water and cities. We were approached by Dennis Nelson with Project WET to see if we would be able to provide input for the booklet. And since “Water and Cities” is such a broad subject, involving source water, drinking water, wastewater, stormwater, water for manufacturing, industry, commerce, you and I, and since the booklet is supposed to be applicable to a girl in New York as well as a boy in Browning, I thought it would make sense to give all of you a chance to have input. We will be setting up blank poster boards at the conference, inviting you all to write down your most important thought, most pressing concern, or favorite factoid for consideration. As Dennis put it, imagine yourself paging through the booklet in a couple of years and thinking, “well, I wish they had included this or that” – that’s the item that should make it onto the poster. Please look for the posters somewhere in the exhibitor area and make use of the markers!

The committee did not do well with the public newsletter this year. A short letter went out last spring. And another short one will go out this spring but sadly, we did not manage to prepare a fall edition. But if you ever have an idea or an issue you feel should be communicated to public works directors and towns across Montana, please shoot me an email and let me know. There is no set schedule for the newsletter and if a pressing issue should call, a one-pager can easily be put together and sent out.

If you have any ideas for what the Public Outreach committee could be working on or reach out about, please let us know! ~Rika Lashley, Chair, [rlashley@m-m.net](mailto:rlashley@m-m.net)

### ***Please Support Your Association's Committees***

Please remember that the committees cannot survive without member participation. You can sign up to be on a committee at any time during the year, however, the Joint Conference is the ideal time to do so and there will be sign-up sheets in your registration packet. Please consider participation in at least one committee. If you have questions about the committees, please contact the chair of that committee to find out more about how you can help.

If you are currently serving on a committee and wish to continue serving, please be sure to sign up at each conference. The slate is wiped clean after each conference, and unless we have the new sign-up form, we do not know if you wish to continue serving.

**Thank you to everyone who volunteers!**

**Below are descriptions of the Committees you can join.....**

#### **MSAWWA/MWEA Joint Committees**

Cross Connection Control - Work with DEQ to implement the administrative rules for cross-connection control. Assist other groups in providing pertinent education and training.

Exhibitors - Increase exhibitors' involvement in section activities & technical education. Encourage exhibitors' strong presence at the Joint Conference.

Host City - Organize & plan for annual conference, working closely with Executive Secretary. The 2019 conference will be in Billings.

Information Management - Provide ongoing guidance for functionality of the joint website including incorporation of social media and preservation of historical documents of MSAWWA and MWEA.

Lifetime Achievement - Select the awardee(s) & present award at annual conference.

Program - Prepare & distribute "Call for Program Abstracts" to solicit interest in program presentations for annual conference. Review abstracts & select/schedule speakers & topics.

Public Outreach - Promote Water Week, Stockholm Junior Water Prize, as well as other educational activities for school age children. Assist in publicizing MSAWWA/MWEA activities.

Scholarship - Select one/two students annually whose course work will lead to employment in the water and/or wastewater fields. The Scholarship is to be used toward the cost of tuition & books & includes a one year student membership for MSAWWA or MWEA.

Student & Young Professionals - The committee is intended to include members less than 35 years in age and who have worked less than 10 years in the industry. The purpose is to encourage involvement of college students and young professionals in either organization and at the Joint Conference.

#### **MSAWWA Committees**

Awards - Assist in identifying and awarding water system safety awards. Assist in selecting AWWA Operator Meritorious award recipient.

Education - Promote educational opportunities and provide training and assistance for small systems.

Legislative - Promote continual involvement with AWWA. Be aware of, respond to, and distribute information on changing legislation on both national & state levels. Recommend legislative tracking consultant.

Membership - Increase membership by identifying & contacting potential members. Provide membership benefit materials to recruiting members. Mentor first-time conference attendees.

Water for People - Continue to actively support WFP. Continue fund raising activities at the annual conference.

#### **MWEA Committees**

Beneficial Reuse - Obtain nominations & select a system best demonstrating the management of biosolids.

Education - Enhance the professional competency & qualifications of members. Work with program committee to pick topic and solicit/select speakers for 2019 Preconference.

Government Affairs - Obtain & disseminate relevant legislative information. Participate in the legislative & regulatory development processes.

Honors & Awards - Help select awardees & give recognition to individuals & facilities for exemplary performance.

Long Range Planning - Develop & implement the long-range plan that identifies the direction of the association.

Membership - Maintain current members, attract new members, & diversify professionally.

Pretreatment - The pretreatment committee is a forum for discussion of both existing and new pretreatment programs and will provide direction to new programs being implemented. This committee will also serve as a round-table for existing communities with pretreatment programs to discuss problems or regulations.

Stockholm Junior Water Prize - Encourage student participation in water-related projects within regional & state science fairs in Montana. MWEA members participate as judges in regional & state fairs as judges to select a state winner to attend the WEF-SJWP competition.

Stormwater - MWEA has added a stormwater committee recently. The purpose of the committee is to provide support and information to communities, engineers, and operators as they deal with stormwater issues.

## 2017—2018 Committee Chairs

Below is a list of the members of MSAWWA and MWEA that volunteered to chair each organization's committees following last years' Joint Conference. Volunteers are always welcome, so if you wish to help your association and serve on a committee you may still sign up by contacting the chair of that committee or Robin Matthews-Barnes at [Info@montanawater.org](mailto:Info@montanawater.org) or (406) 546-5496.

### Joint Committee Chairs

#### Cross Connection Control

- Barb Coffman (406) 265-3763  
[barbara.coffman@msun.edu](mailto:barbara.coffman@msun.edu)

#### Exhibitors

- Cavin Noddings (406) 633-2316  
[cavin@ywaterworks.com](mailto:cavin@ywaterworks.com)

#### Host City

- Ross Mollenhauer (406) 552-6764  
[rmollenhauer@ci.missoula.mt.us](mailto:rmollenhauer@ci.missoula.mt.us)

#### Information Management

- David Carlson (406) 268-0626  
[david.carlson@ae2s.com](mailto:david.carlson@ae2s.com)

#### Lifetime Achievement

- Paul LaVigne (406) 444-5321  
[plavigne@mt.gov](mailto:plavigne@mt.gov)

#### Program

- Amy Deitchler (406) 465-6160  
[adeitchler@greatwesteng.com](mailto:adeitchler@greatwesteng.com)

#### Public Outreach

- Rika Lashley (406) 495-3448  
[rlashley@m-m.net](mailto:rlashley@m-m.net)

#### Scholarship

- Greg Lukasik (406) 652-5000  
[glukasik@greatwesteng.com](mailto:glukasik@greatwesteng.com)

#### SYP Committee

- Keeley Barry (406) 268-0626  
[keely.barry@ae2s.com](mailto:keely.barry@ae2s.com)

### MWEA Committee Chairs

#### Beneficial Reuse

- Terry Campbell (406) 444-7374  
[tcampbell@mt.gov](mailto:tcampbell@mt.gov)

#### Education

- Jeremy Perlinski (406)  
[jeremy.perlinski@mt.gov](mailto:jeremy.perlinski@mt.gov)

#### Government Affairs

- Nick Pericich (406) 582-3202  
[npericich@bozeman.net](mailto:npericich@bozeman.net)

#### Honors & Awards

- Jeremy Perlinski (406) 495-3447  
[jperlinski@m-m.net](mailto:jperlinski@m-m.net)

#### Long Range Planning

- Michele Marsh (406) 444-5322  
[mmarsh@mt.gov](mailto:mmarsh@mt.gov)

#### Membership

- Mike Jacobson (406) 750-0746  
[mwjacobson@yahoo.com](mailto:mwjacobson@yahoo.com)

#### Pretreatment

- LeAnn Wiegand (406) 495-3584  
[lwiegand@m-m.net](mailto:lwiegand@m-m.net)

#### Stockholm Jr. Water Prize

- Kristi Kline (406) 945-2043  
[kjfarm@mtintouch.net](mailto:kjfarm@mtintouch.net)

#### Stormwater

- Lance Lehigh (406) 219-2633  
[lance.lehigh@ae2s.com](mailto:lance.lehigh@ae2s.com)

### MSAWWA Committee Chairs

#### Awards

- Patrick Johnson (406) 465-3428  
[pnjohnson@gmail.com](mailto:pnjohnson@gmail.com)

#### Education

- Doug Whitney (406) 861-7853  
[doug.whitney@kljeng.com](mailto:doug.whitney@kljeng.com)

#### Legislative

- Nate Weisenburger (406) 268-0626  
[nate.weisenburger@ae2s.com](mailto:nate.weisenburger@ae2s.com)

#### Membership

- Logan McInnis (406) 370-8285  
[logan@mtwater.com](mailto:logan@mtwater.com)

#### Water For People

- Carrie Gardner (406) 495-6176  
[cgardner@greatwesteng.com](mailto:cgardner@greatwesteng.com)
- John Camden (406) 459-0782  
[jcamden50@bresnan.net](mailto:jcamden50@bresnan.net)



## 2017—2018 MSAWWA Board of Directors

### National Director

Greg Lukasik  
(406) 652-5000  
[glukasik@greatwesteng.com](mailto:glukasik@greatwesteng.com)

### Past Chair

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### ~2018 Joint Directory~

An updated copy of the 2018 Joint Directory will be emailed to all MSAWWA and MWEA members in the near future. Please review it and email Robin Matthews-Barnes at [info@montanawater.org](mailto:info@montanawater.org) and let her know if any changes need to be made.

### Do You Have Something To Say?

If you have ideas, announcements, articles, or stories you would like to submit for consideration for publication in the next issue of NewsWaves, please email Robin Matthews-Barnes at [info@montanawater.org](mailto:info@montanawater.org). The next issue will be published late summer/early fall, so keep it in mind!



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# ***Wastewater Lagoon Sludge Disposal***

## ***The Ins And Outs***

### ***Article provide by Great West Engineering***

#### **Background**

One of the primary mechanisms for treatment of wastewater within a lagoon system is solids settling. Settled solids contain dirt, sand, and other debris as well as biological floc, inorganic compounds, heavy metals, and nutrients. Over time settled solids, referred to at this point as sludge, accumulate within the lagoon. Eventually the depth of sludge will reach a point where it needs to be removed and disposed in order that the lagoon system can continue to operate the way it was designed. Elevated sludge levels reduce hydraulic detention time, reduces treatment performance and can lead to increased odor.

#### **Sludge measurement and sampling**

The rate at which sludge depth increases within a lagoon system is dependent upon influent wastewater characteristics as well as the effectiveness of the lagoon system. Typically, sludge from a lagoon system requires removal every 20-30 years. To monitor the rate that sludge is building up in your lagoon, sludge depth measurements should be taken every 5 years. Once you've determined that the sludge in your lagoon needs to be removed, a composite sample will need to be obtained to determine the nutrient and metals content of the in-place sludge in order to best evaluate how it may be disposed.

#### **Processing & Disposal**

Disposal of sludge is typically through direct burial at a landfill, composting (typically at a landfill), or through land application. Disposal of sludge at a landfill is required if the metal contents within the sludge exceed the ceiling concentration limits set forth by EPA Rule 503. Landfill disposal can be costly, as the quantity of sludge to be disposed can be significant and tipping fees at the landfill can add up. However, this type of disposal may prove cost effective even when metal concentrations are acceptable; if a suitable site for land application isn't available. It's also worth asking your local landfill if they have a composting program where they can utilize the sludge. Sludge is a great source of organic material, necessary for any composting program; and tipping fees can be greatly reduced if the sludge can be composted. Landfill disposal also requires drying or dewatering sludge to pass a paint filter test. In our experience this requires dewatering to a minimum solids content of 15% by weight.

Land application means to take advantage of the nutrient content and soil conditioning properties inherent of the sludge by applying it directly to arable land. If the composite sludge sample meets the requirements of EPA Rule 503 metal contents, this is typically the most cost effective method of sludge disposal. Dewatered sludge is applied at agronomic rates to typically alfalfa or grass hay crop land, based upon the nutrient content of the sludge and nutrient uptake of the crop. This prevents leaching of the nutrients below the crops root zone which may affect ground water quality. Though a permit is not always required, depending on the size of your community, several requirements, including pathogen and vector attraction reduction, of the EPA Rule 503 must be met.

#### **Removal**

Removal of in-place sludge presents several hurdles. Bypassing the treatment lagoon for a significant amount of time is often not feasible, and access for physical removal without significant damage to liner material is unlikely. Often a floating dredge pump is employed to remove sludge without needing to remove the lagoon from service and prevents damage to the lagoon liner material.

#### **Drying**

Typical consolidated sludge within a lagoon has a solids content of 1-4%. This means for every pound of solid material, there are 96 to 99 pounds of liquid. Regardless of the disposal method chosen, it is financially beneficial to remove as much of the water from the sludge as possible.

Several methods are available to reduce the amount of liquid and increase the solids content to reduce the volume of sludge that needs to be disposed. The correct method for your treatment system is dependent on a number of factors including land availability and schedule.

(continued next page)



## Drying Beds



Typical consolidated sludge within a lagoon has a solids content of 1-4%. This means for every pound of solid material, there are 96 to 99 pounds of liquid. Regardless of the disposal method chosen, it is financially beneficial to remove as much of the water from the sludge as possible.

Temporary lined drying beds rely exclusively on evaporation to remove water from sludge and require significant space and time, as well as ideal weather conditions to achieve a dried sludge. The addition of a granular filter material and perforated subdrains to collect filtrate can greatly reduce the time and space required to dewater.

Several geotextile suppliers have begun manufacturing large fabric bags with connections for dredge pump outlet piping. The fabric is permeable, to contain sludge solids while allowing liquid separation through the matrix of the fabric. The bags can be installed within constructed drying beds with pumps for filtrate return flow, or if space allows, they can be installed directly on the lagoon embankment. Once the desired solids content is reached, the bags are cut open and the dried sludge is removed with a skid steer and haul trucks. The addition of a properly designed polymer feed system can speed up the process and help yield an even higher content sludge cake.

If land for construction of drying beds is unavailable at the treatment site, mechanical dewatering equipment such as a belt filter press can be rented. Although this dewatering technique can be costly, a uniform dry solids cake can be produced quickly. Training on the rented equipment is typical, or a trained operator can be provided by the rental company.

If sufficient land for disposal is available close to the lagoon site, direct injection of liquid sludge from the dredge pumps can be used. This technique utilizes a system of hoses connected to a tractor that injects the liquid sludge below the ground surface meeting the requirements of vector reduction for land application specified in EPA Rule 503.

## Geotextile Fabric Bags



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**Direct Injections**



**Mechanical Dewatering**


Great West Engineering has performed alternative analysis for disposal of sewage sludge for several communities in Montana. Regardless of the dewatering technique employed or disposal method used, removal of sludge from your system is critical to maintain the effectiveness of the treatment process. From composite sludge sampling to site specific design of dewatering methodologies, Great West Engineering can help navigate the technical and regulatory framework to determine the most efficient technique for your treatment system.



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## Water Equation

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