



WATERREUSE

SYMPOSIUM

Marriott Marquis
San Diego Marina
September 8 - 11, 2019

In cooperation with the
Water Research Foundation

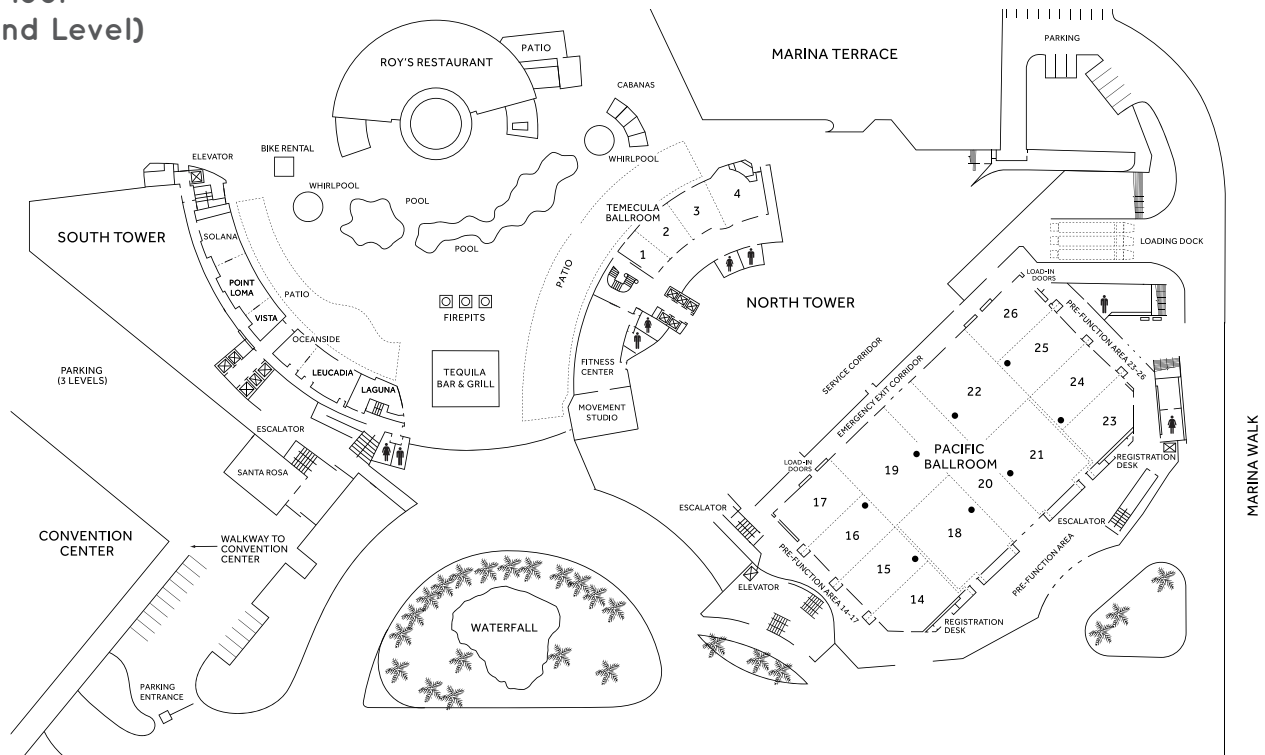
COLLABORATE TO INNOVATE



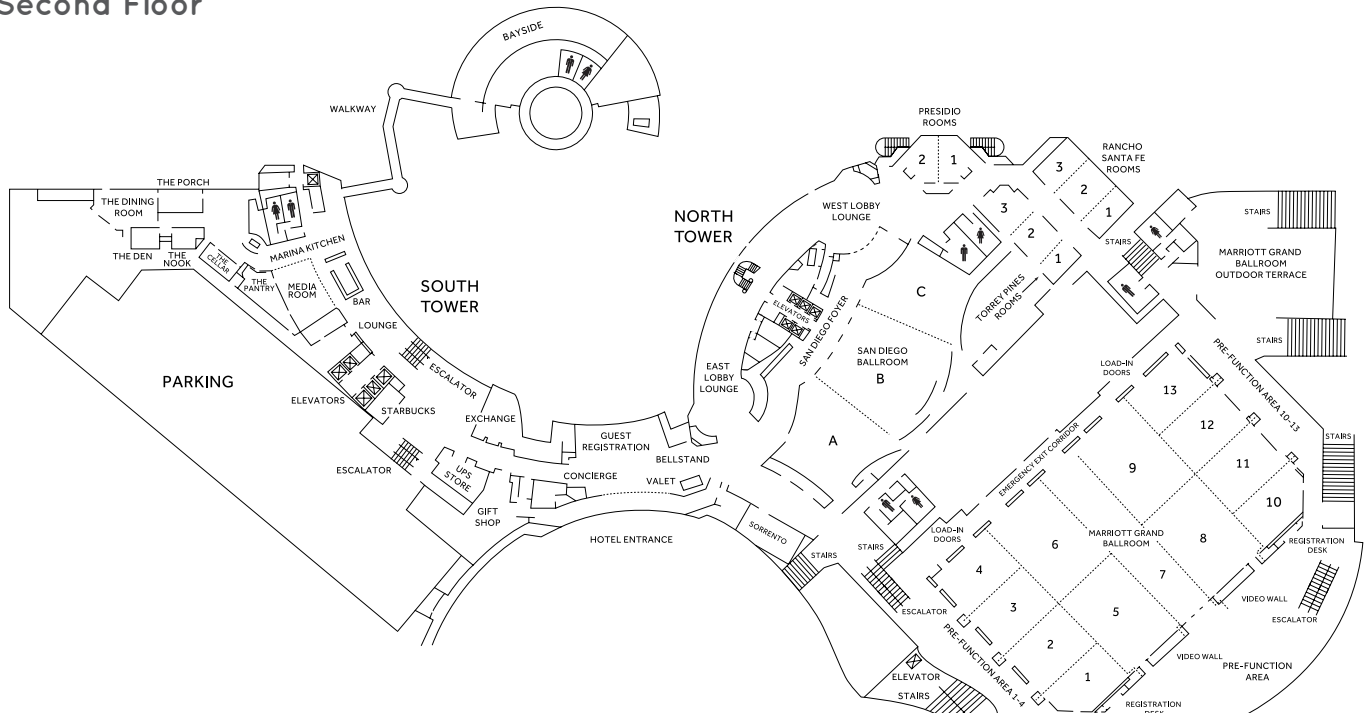
#WaterReuse19

Marriott Marquis San Diego Marina

First Floor (Ground Level)



Second Floor



A Note From the Organizers

Thank you for joining us at the 34th Annual WaterReuse Symposium. This year, we are delighted to have combined the WaterReuse Symposium and the Water Reuse Research Conference into a single conference for all practitioners seeking information about the latest trends in water recycling.

The WaterReuse Association and The Water Research Foundation have enjoyed working together on this year's WaterReuse Symposium and on many other reuse-related initiatives. The two organizations have partnered on several member-services such as our monthly webinar series, comments to inform the EPA's Water Reuse Action Plan, and the National Blue Ribbon Commission for Onsite Non-Potable Water Systems. The partnership formed for the Symposium is an extension of these activities.

We thank our hosts in San Diego and welcome those who are attending the Symposium for the first time. The Symposium brings much that is new this year and much that is familiar. You will find that the Symposium program has one full track dedicated to research, in addition to tracks focused on best management practices for reuse in a variety of use applications including municipal water supply, industrial processes, and on-site decentralized systems. The program also includes several sessions devoted to financing, communications and policy. In short, there are plenty of great technical presentations and networking events over four days to entice engaging conversation on all things water recycling.

We hope you enjoy this year's WaterReuse Symposium and that you will plan to join us next year in Denver, CO and in Tampa in March 2021!

Patricia Sinicropi

Executive Director
WaterReuse Association



Peter Grevatt

Chief Executive Officer
The Water Research Foundation



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WaterReuse Symposium Mobile App



The WaterReuse Symposium Mobile App provides easy-to-use interactivity that will enhance your conference experience:

- Browse the technical program by time, speaker or track
- Create your own personalized schedule
- View presentation descriptions and learning objectives
- View speaker bios and communicate directly with them
- View and download technical presentations
- Connect with our Sponsors and Exhibitors and view or download their materials

To Download the Symposium's Mobile App:

- Search the App Store for "WaterReuse" by DoubleDutch
- Once you download the WaterReuse App, choose the "34th Annual WaterReuse Symposium"

Share your thoughts, experiences, and photos on social media using the hashtag: **#WaterReuse19**

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34th Annual WaterReuse Symposium Exhibit Hall

Our Exhibit Hall, located in the Pacific Ballroom on the first floor, is the hub for the 34th Annual WaterReuse Symposium. Learn about water recycling technologies, products and services to support your projects, and enjoy refreshments during our networking breaks while you connect with colleagues.

The Exhibit Hall is open during the following times:

Sunday, September 8	3:00 p.m. - 7:00 p.m.
Monday, September 9	7:00 a.m. - 4:00 p.m.
Tuesday, September 10	7:30 a.m. - 4:00 p.m.

34th Annual WaterReuse Symposium Technical Tours, Networking Events, and Invitation-Only Sessions

Carlsbad Desalination Plant Tour

(Ticket required, Departs outside main entrance)

SPONSORED BY:



Sunday, September 8	9:00 a.m. - 1:00 p.m.
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For more than 50 years, large-scale seawater desalination was just a dream in San Diego County. Today, the region is the hub of the nation's growing desalination industry and home to the nation's largest seawater desalination project. The Claude "Bud" Lewis Carlsbad Desalination Plant, which began operating in 2015, is the result of a public/private partnership between Poseidon Water and San Diego County Water Authority.

The Carlsbad plant uses reverse osmosis membrane technology to produce enough water to meet approximately 10 percent of the region's water needs as a core supply of water regardless of weather conditions. You will have the opportunity to observe the state of the art process of turning water from the Pacific Ocean into high quality drinking water that is now serving nearly a half a million San Diegans.

Pure Water San Diego and Padre Dam Municipal Water District

(Ticket required, Departs outside main entrance)

SPONSORED BY:



Sunday, September 8	9:00 a.m. - 5:15 p.m.
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Pure Water San Diego is the City of San Diego's phased, multi-year program that will provide one-third of San Diego's water supply locally by 2035. Phase 1 will produce 30 million gallons per day of high-quality purified water starting in 2023, reducing the City of San Diego's dependence on imported water. By 2035, San Diego will produce 83 million gallons of purified water every day.

Padre Dam Municipal Water District has been a leader in water recycling for more than 50 years. The Ray Stoyer Water Recycling Facility was expanded to 2 million gallons per day to provide water for Santee Lakes and for non-potable reuse in portions of the community. The recycled water meets California's Title 22 standards and is approved for full body contact recreation and accidental ingestion.

The Advance Water Purification demonstration facility is right next door. The program will create a new, local, sustainable and drought proof drinking water supply using state-of-the-art technology to purify recycled water. The purified water produced at the demonstration facility is tested daily to ensure it meets the public health objectives.

State Regulators Workshop (Invitation Only)

Sunday, September 9	9:00 a.m. - 5:00 p.m.
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The Association of Clean Water Administrators and the Association of State Drinking Water Administrators will host a workshop with representatives from member states to exchange information and discuss regulatory developments related to water reuse in their respective states. A summary and highlights of this workshop will be presented to Symposium attendees on Wednesday morning.

Welcome Reception (Open to All Attendees)

Sunday, September 8	5:30 p.m. - 7:00 p.m.
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Pacific Ballroom 14-22

Join your colleagues in the Exhibit Hall for hors d'oeuvres, cocktails, and conversation. This meet-and-greet event is a great opportunity to make connections, begin the exchange of ideas, and gear-up to begin your 34th Annual WaterReuse Symposium experience.

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THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA



WaterReuse Awards for Excellence Luncheon and Ceremony

Monday, September 9	12:00 p.m. - 1:30 p.m.
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Pacific Ballroom 20-22

The WaterReuse Association's Awards for Excellence recognize utilities, businesses, and individuals that are leading the way in advancing water recycling across the nation. This event includes lunch, videos highlighting the award winners, and an opportunity to visit with colleagues.

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National Blue Ribbon Commission for Onsite Non-Potable Water Systems (Invitation Only)

Monday, September 9	1:30 p.m. - 5:30 p.m.
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Tuesday, September 10	1:30 p.m. - 5:30 p.m.
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The National Blue Ribbon Commission for Onsite Non-Potable Water Systems will hold its biannual meeting the afternoons of September 9 and 10. Several technical sessions throughout the Symposium present the latest trends and best management practices of decentralized onsite water recycling systems, including policy developments and financing options.

Baseball Game at Petco Park

(Ticket Required, EVENT SOLD OUT)

Monday, September 9	6:30 p.m.
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Join your colleagues for a great night of baseball! Watch the San Diego Padres take on the Chicago Cubs from the Western Metal Supply Suites at Petco Park.

WaterReuse International Advisory Group (IAG) Meeting

Tuesday, September 10	7:00 a.m. - 8:00 a.m.
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San Diego Ballroom B

The WaterReuse International Advisory Group is an informal committee of WaterReuse members seeking to share WaterReuse experiences with interested communities around the world. The IAG meeting will cover topics related to their objectives.

Maritime Museum of San Diego: Discovery, Dinner, Music and Fun!

Tuesday, September 10	6:30 p.m. - 9:30 p.m.
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1492 North Harbor Drive, San Diego CA

The Maritime Museum of San Diego has one of the world's finest collections of historic ships, including the world's oldest active ship Star of India. Unwind with delicious food, great music, and tour the historic vessels. Attendees also will have the opportunity to sample Pure Brew San Diego, local home-brewed beer made with purified water from Pure Water San Diego, and vote for their favorite brews.



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Resources to Support Your Experience

Professional Development

The 34th Annual WaterReuse Symposium is pleased to offer Professional Development Hours (PDHs) for all states. We will also issue certificates of attendance to obtain training credits for certification programs offered by the California Water Environment Association (CWEA) and the California State Water Resources Control Board (SWRCB). It is the attendee's responsibility to follow up with CWEA, SWRCB, and other state accreditation agencies to see whether you qualify.

How do I learn educational credits at the Symposium?

The 34th Annual WaterReuse Symposium PDH/CEU Request form is available at the registration desk. Please complete the form, indicate the type of educational credits that you are seeking, and return the form to the registration desk before the end of the Symposium. For CWEA and SWRCB credits, please ask the room monitor to initial your form for proof of attendance.

When will I receive credits for the Symposium?

Certificates will be emailed to participants within 3-4 weeks after the Symposium. It is the attendee's responsibility to submit the certificates to state accreditation agencies to request credit.

General Information

Terminology and education credit requirements and restrictions vary widely. All participants are responsible for checking with their license/certification authority to ensure that the WaterReuse technical sessions meet specific requirements.

PowerPoint Presentations

PowerPoint Presentations can be accessed on the WaterReuse Symposium Mobile App under each session and presentation.

Session and Presentation Surveys

Your feedback is important to us! Please remember to rate each of the sessions and/or presentations you attend. Surveys for each session and/or presentation can be found on the WaterReuse Symposium Mobile App.

Get S.E.T. for water reuse

With increased population growth and a depletion of traditional supplies, water reuse is becoming increasingly important.

AECOM delivers the largest water reuse initiatives in the world, such as Singapore's NEWater and HRSD's SWIFT programs. With AECOM as a reuse partner, our clients:

Sustain their communities by making them more resilient in the face of depleted primary water supplies;

Elevate their ability to integrate new technologies and take advantage of alternative project delivery strategies;

Transition from a "treat and dispose" to a "resource-recovery" mindset.

Thank You to Our Sponsors!



The Annual Symposium would not be possible without the generous support of our sponsors. Please be sure to view the Sponsor listings on the Symposium Mobile App to view their full contact information, company description, and valuable information about how they are advancing water recycling.

Champions

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Welcome Committee

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Elizabeth Dawson, Engineering Manager
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Moulton Niguel Water District

outreach@mnwd.com



Thank You to Our Exhibitors *Pacific Ballroom 14-19*



The WateReuse Symposium Exhibit Hall provides an opportunity for attendees to see how water recycling technologies and products work in practice. Please be sure to view the Exhibitor listings on the Symposium Mobile App for contact information, company description, additional information about an Exhibitor’s products and services.

- | | |
|---|---|
| Aqua-Aerobic Systems | Matec America |
| Avista Technologies | Omya, Inc |
| Biwater | Pontictech |
| Bureau of Reclamation | Protec Arisawa |
| Calgon Carbon Corp | Pure Water Brewing Alliance |
| Carollo | Pureflow Filtration |
| DN Tanks | San Diego County Water Authority |
| Eastern Municipal Water District | Suez |
| Eurofins Eaton Analytical | Tetra Tech |
| Evoqua | Toray Membrane |
| Fibracast | United Industries Group, Inc. |
| H2O Innovation | University of Arizona |
| IDE Technologies | Water Research Foundation |
| J.R. Filanc Construction Company, Inc. | Wigen |

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Monday, September 9	7:00 a.m. - 4:00 p.m.
Tuesday, September 10	7:30 a.m. - 4:00 p.m.

Poster Presentation

Pacific Ballroom Foyer

Plant uptake of pharmaceuticals and soil communities: Beneficial impact of injected air into SDI by Matteo D'Alessio, University of Nebraska



DEMYSTIFYING INTELLIGENT WATER for a sustainable water future

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Program Highlights of the 34th Annual WaterReuse Symposium

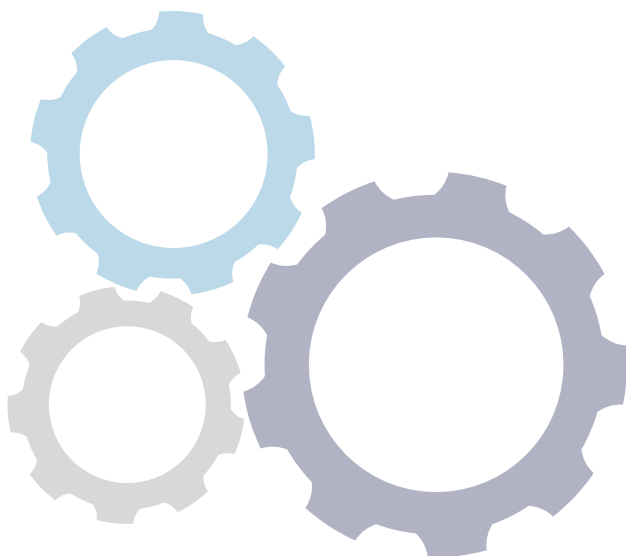
Water Reuse Boot Camp – An Introduction from the Experts

Sunday, September 8	1:30 p.m. - 5:00 p.m.
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Pacific Ballroom 23

If you're unsure of how to start a water reuse program or just need a good refresher, the Water Reuse Boot Camp is the perfect way to begin the Symposium.

Time	Topic	Presenter
1:30 - 1:45 p.m.	Welcome, Introductions, Housekeeping Comments	<i>Moderator, Don Vandertulip, PE, BCEE</i>
1:45 - 2:30 p.m.	Evolution of Water Reuse Regulations from Ag to Potable	<i>Jim Crook, PhD, PE</i>
2:30 - 3:00 p.m.	Agriculture Water Reuse Expanded to Non-Potable Reuse	<i>Bahman Sheikh, PhD, PE</i>
3:00 - 3:30 p.m.	Networking Break - Pacific Ballroom 14-19	
3:30 - 4:00 p.m.	Indirect and Direct Potable Reuse	<i>Don Vandertulip, PE, BCEE</i>
4:00 - 4:30 p.m.	Water Reuse Planning Consideration	<i>Alan Rimer, PhD, PE</i>
4:30 - 5:00 p.m.	Communicating with the Public	<i>Patricia Tennyson, Katz & Associates</i>



Opening General Session

Monday, September 9	8:00 a.m. - 10:00 a.m.
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Pacific Ballroom 20-22

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Welcome Remarks: *Paul Jones, President, WaterReuse Association and General Manager, Eastern Municipal Water District, California*

Keynote Address: Peter Annin, From Water Diversion to Water Reuse: Tackling Scarcity in the 21st Century

Peter is the director of the Mary Griggs Burke Center for Freshwater Innovation and the author of *The Great Lakes Water Wars*, the definitive work on the Great Lakes water diversion controversy. Before coming to Northland College in 2015, Peter served as a reporter at *Newsweek*, associate director of the Institute for Journalism and Natural Resources, and managing director of the University of Notre Dame's Environmental Change Initiative.



Peter Annin

Panel Discussion: Making the Pitch: How to Speak With Elected Officials and Customers about the Value of Water Recycling

Moderator: *Paul Jones, General Manager, Eastern Municipal Water District*

Hubertus (Huub) Cox, Recycled Water Implementation Division, City of Los Angeles, California

Scott Houston, President, West Basin Municipal Water District Board of Directors, California

Ted Henifin, General Manager, Hampton Roads Sanitation District, Virginia

Dr. Kristina Mena, Associate Professor, The University of Texas Health Science Center, Texas

Roy Rogers, Board of Directors, Clean Water Services Commissioner District 3 & Vice Chair, Washington County, Oregon

Welcome from the *Honorable Kevin Faulconer, San Diego Mayor*

WaterReuse Association Annual Business Meeting & WaterReuse Awards for Excellence Luncheon

Monday, September 9	12:00 p.m. - 1:30 p.m.
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Pacific Ballroom 20-22

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Tuesday Breakfast Plenary: Water Association Leadership Panel and Breakfast

Tuesday, September 10	7:45 a.m. - 8:45 a.m.
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Pacific Ballroom 20-22

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Join the leadership of some of the nation's most influential water associations as they discuss how the water sector can collaborate on water reuse policy and research activities.

Tuesday Plenary Luncheon: National Water Reuse Action Plan Announcement & Roundtable Discussion

Tuesday, September 10	12:15 p.m. - 1:30 p.m.
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Pacific Ballroom 20-22

SPONSORED BY:



EPA's Assistant Administrator for Water, Dave Ross, and top water officials from other key federal agencies will roll out the the Draft National Water Reuse Action Plan. Learn how the water sector, stakeholders, and federal agencies are collaborating to advance water recycling as an essential component of integrated water management across the country.



Dave Ross

Keynote: Dave Ross, Assistant Administrator, Office of Water, U.S. Environmental Protection Agency

Roundtable Moderator: Aubrey Bettencourt, Senior Advisor to the Assistant Secretary for Water and Science, Department of the Interior

Mary Neumayr, Chairman, White House Council on Environmental Quality

Ryan Fisher, Principal Deputy Assistant Secretary of the Army for Civil Works, Army Corps of Engineers

Timothy Petty, Assistant Secretary for Water and Science, U.S. Department of the Interior

Brenda Burman, Commissioner, Bureau of Reclamation, U.S. Department of the Interior

Daniel Simmons, Assistant Secretary Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy

Dave Ross, Assistant Administrator, Office of Water, U.S. Environmental Protection Agency

Gender Diversity in Water Reuse Panel Discussion

Tuesday, September 10	5:15 p.m. - 6:15 p.m.
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San Diego Ballroom A

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This panel discussion will discuss how we can attract more women into the water reuse field, what obstacles exist for women to advance their careers in this industry, and what strategies we can employ to remove those obstacles to encourage more gender diversity.

Wednesday Breakfast Plenary: Current Status and Vision for the Future of Water Reuse Research: A Conversation with Peter Grevatt, CEO, The Water Research Foundation

Wednesday, September 11	8:00 a.m. - 9:00 a.m.
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Pacific Ballroom 20-22



Peter Grevatt will discuss the vital role that water reuse research plays as a key component of The Water Research Foundation's one water research portfolio. He will share the impact of a \$4.5 million research grant from the California State Water Board, including how this research will help California develop direct potable reuse regulations and advance reuse around the world. Grevatt also will discuss the significant opportunities for WRF's research and innovation program to help address the needs of utilities exploring and implementing both potable and non-potable reuse in the future.

Water Reuse: Sustaining the New Economy in Nevada's High Desert

Wednesday, September 11	9:00 a.m. - 10:30 a.m.
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Pacific Ballroom 20-22

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The Tahoe-Reno Industrial Center (TRIC) is home to Tesla's Gigafactory which, when completed, is expected to be the planet's largest building. The industrial center will also be home to nearly 100 other companies, including Panasonic, and Switch and Google data centers – and over 20,000 new jobs for the region. Learn how public agencies and businesses collaborated to navigate water rights and downstream issues to develop a deal to bring recycled water to the high desert.

Moderator: Rick Warner, *President, Warner and Associates*

Pat Mulroy, *Senior Fellow for Climate Adaptation and Environmental Policy, University of Nevada and Former General Manager at Southern Nevada Water Authority*

John Enloe, P.E., *Director, Natural Resources, Truckee Meadows Water Authority*

Alise Porto, *Director of Strategy Products, Switch*

Michael Drinkwater, *Treatment Plant Manager, Truckee Meadows Water Reclamation Facility*

State of the States: Highlights and Insights from the State Regulatory Summit

Wednesday, September 11	10:45 a.m. - 11:45 a.m.
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Pacific Ballroom 20-22

A summary and highlights of the State Regulator Forum convened by the Association of Clean Water Administrators and the Association of State Drinking Water Administrators.

Moderator: Alan Roberson, *Executive Director, Association of State Drinking Water Administrators*

Erica Gaddis, *Water Quality Division Director, Utah Department of Environmental Quality*

Shellie Chard, *Water Quality Division Director, Oklahoma Department of Environmental Quality*

Rebecca Roose, *Water Protection Division Director, New Mexico Environment Department*

Anita Anderson, *Principal Engineer, Minnesota Department of Health*

George Garden, *Chief Engineer, Division of Water Resources, Tennessee Department of Environment and Conservation*



The WaterReuse Association recognizes our Recycled Water User Network Utility Partners. These utilities and their customers are eligible to become Water Stars.

For more information visit RecycledWaterUserNetwork.org

Alexandria Renew Enterprises, VA	Utility Division, NC
Athens-Clarke County Public Utilities, GA	El Paso Water Utilities, TX
Aurora Water, CO	El Toro Water District, CA
Beaufort Jasper Water & Sewer Authority, SC	Howard County, MD
California Water Service Company, CA	Inland Empire Utilities Agency, CA
Central Basin Municipal Water District, CA	Irvine Ranch Water District, CA
Central Contra Costa Sanitary District, CA	Los Angeles Department of Water and Power, CA
City of American Canyon, CA	LOTT Clean Water Alliance, WA
City of Boise, ID	Loudoun Water, VA
City of Escondido, Utilities Department, CA	Marana Water, AZ
City of Los Angeles, LA Sanitation, CA	Mesa Water District, CA
City of Modesto Utilities Department, CA	Olivenhain Municipal Water District, CA
City of Oceanside, CA	Orange County Water District, CA
City of Peoria, AZ	Padre Dam Municipal Water District, CA
City of Pleasanton, CA	San Antonio Water System, TX
City of Pompano Beach Utilities, FL	San Diego County Water Authority, CA
City of San Diego Public Utilities Department, CA	Santa Clarita Valley Water Agency, CA
City of San Luis Obispo, CA	Scotts Valley Water District, CA
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OUR BUSINESS
OUR PASSION

At Carollo, we spend every day focused on one thing – water. Today, that focus has put us at the forefront of new directions in water reuse, with potable water reuse often being the best way to secure important new water supplies. Our leadership in applied research, coupled with engineering rigor, has shown that potable reuse can be implemented safely and be more cost-effective than traditional non-potable reuse options. The future of water demands that we think differently, think smarter. And that future has never been more important than right now.

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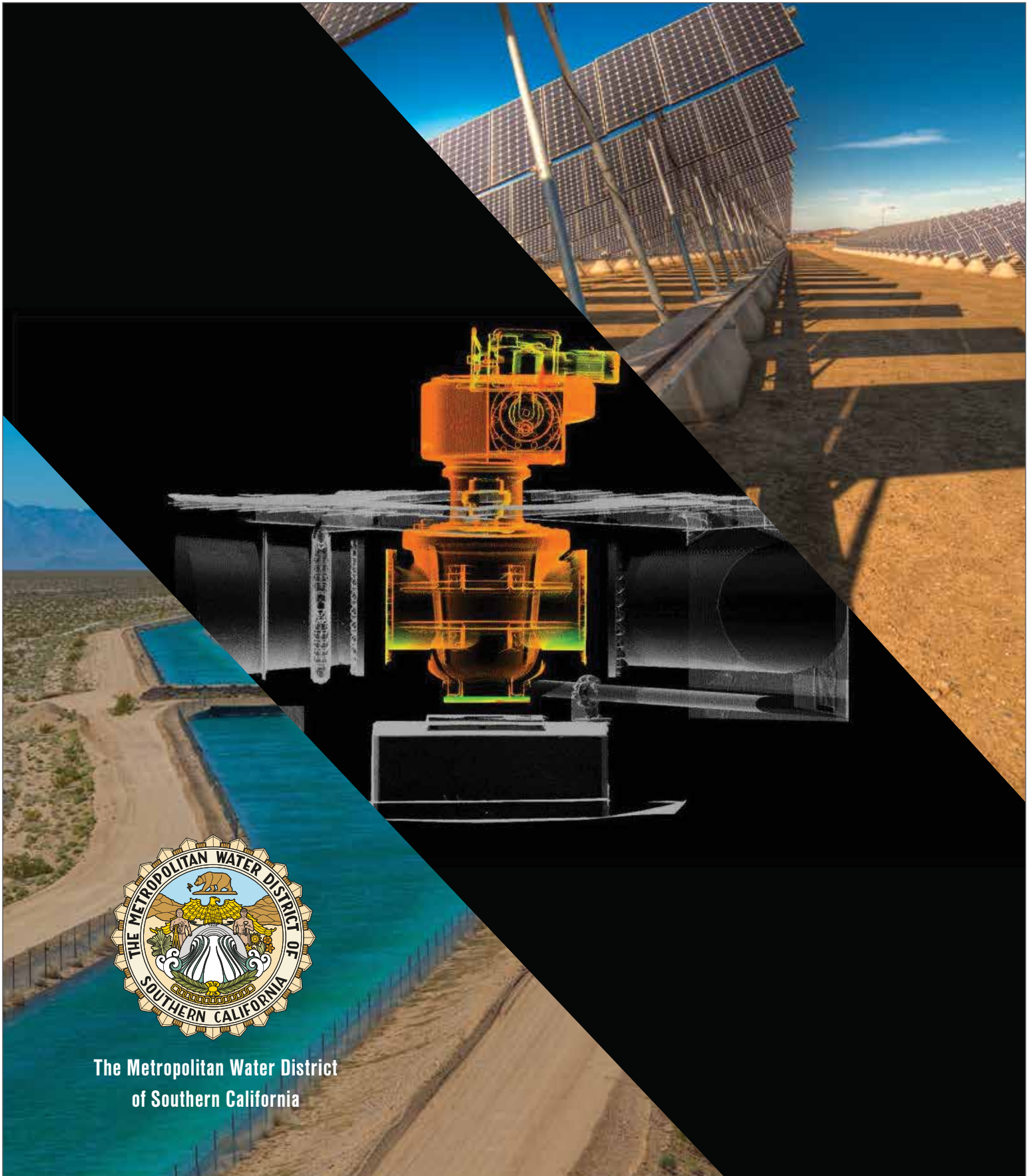
Resilient in **Sustainability**— **Progressive** in One Water

Proudly supporting the City of San Diego with program management of their innovative Pure Water Program, which will provide 1/3 of the City's drinking water locally in 2035.

Design with community in mind
stantec.com/water

Sunday, September 8, 2019

9:00 a.m. - 1:00 p.m.	Carlsbad Desalination Plant Tour (Ticket Required)			
9:00 a.m. - 5:15 p.m.	San Diego Pure Water and Padre Dam Municipal Water District Tours (Ticket Required)			
	Water Reuse Bootcamp	Track 1: Operator Tips	Track 2: Compounds of Emerging Concern	Track 3: Techniques and Technologies for Meeting Potable Reuse Challenges
Location	Pacific Ballroom 23	Pacific Ballroom 24	Pacific Ballroom 25	Pacific Ballroom 26
SESSION 1 1:30 - 3:00 p.m.	Water Reuse Bootcamp Moderator: <i>Don Vandertulip,</i> <i>Texas Commission on Environmental Quality</i>	Certifications, Small Systems and Planning Moderator: <i>Christina Alito,</i> <i>HDR</i>	Creative Management Moderator: <i>Larry Schimmoller,</i> <i>Jacobs</i>	UV AOP Moderator: <i>Adam Festger,</i> <i>TrojanUV</i>
	Evolution of Water Reuse Regulations from Ag to Potable <i>Jim Crook,</i> <i>Environmental Consultant</i>	Addressing Potable Reuse Operator Certification Needs – The CA/NV AWTO Certification Program <i>Erin Mackey,</i> <i>Brown and Caldwell</i>	Mitigating Widespread, Bio-active Pesticides in an Indirect Potable Reuse Model <i>Michael Watts,</i> <i>Garver</i>	UV Dose Monitoring for Potable Reuse <i>Harold Wright,</i> <i>Carollo Engineers</i>
	Agricultural Water Reuse Expanded to Non-Potable Reuse <i>Bahman Sheikh,</i> <i>Bahman Sheikh Water Reuse Consulting</i>	Water Quality Challenges During Start-up of a Greenfield Desalination Plant <i>Chandra Mysore,</i> <i>Jacobs</i>	An In-Depth Evaluation of the Role of Contaminants of Emerging Concern in Aquifer Recharge Projects Using Reclaimed Water in A Wet Temperate Climate <i>Jeff Hansen,</i> <i>HDR</i> <i>Wendy Steffensen,</i> <i>LOTT Clean Water Alliance</i>	WRD GRIP UV/CI2 AOP for Indirect Potable Reuse <i>Tom Knoell,</i> <i>Water Replenishment District of Southern California</i> <i>Jamal Awad,</i> <i>GHD</i>
		Operations Plan for a Surface Water Augmentation Reservoir <i>Seval Sen,</i> <i>Padre Dam Municipal Water</i> <i>Brian Olney,</i> <i>Helix Water District</i>	Sorption of Short-chain poly- and Perfluoroalkyl Substances in Wastewater Effluent <i>Kyle Thompson,</i> <i>Southern Nevada Water</i>	Modular Advanced Oxidation Processes Enabled by Cathodic Hydrogen Peroxide Production <i>James Barazesh,</i> <i>Carollo Engineers</i>
3:00 - 3:30 p.m.	Networking Break – Pacific Ballroom 14-19 SPONSORED BY JACOBS			



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Sunday, September 8, 2019 *(continued)*

	Water Reuse Bootcamp	Track 1: Operator Tips	Track 2: Compounds of Emerging Concern	Track 3: Techniques and Technologies for Meeting Potable Reuse Challenges
Location	Pacific Ballroom 23	Pacific Ballroom 24	Pacific Ballroom 25	Pacific Ballroom 26
SESSION 2 3:30 - 5:00 p.m.	Water Reuse Bootcamp Moderator: <i>Don Vandertulip, Texas Commission on Environmental Quality</i>	Reverse Osmosis and Concentrate Management Moderator: <i>Paul Chu, Kennedy Jenks</i>	Resolving Challenges Moderator: <i>Ufuk Erdal, Arcadis</i>	3 Challenges Understood Moderator: <i>Michael Watts, Garver</i>
	Indirect and Direct Potable Reuse <i>Don Vandertulip, Texas Commission on Environmental Quality</i>	A Novel Approach to RO Concentrate Reduction <i>Nishiki Yoshinori, De Nora Corporation</i> <i>Jason Assouline, Carollo Engineers</i>	Evaluating the Quality of Recycled Wastewater in a Desert Community <i>Daniel Quintanar, Tucson Water</i>	Understanding Your Options for Brine Management: Treatment Technologies and Cost-Benefit Analysis <i>Alan Bracewell, Kennedy Jenks</i>
	Water Reuse Planning Consideration <i>Alan Rimer, EnviroTechNovations</i>	Adventures in Automated Conductivity Profiling <i>James Vickers, Separation Processes, Inc.</i>	CEC Removal by Ozone-BAC Treatment: Full-Scale Results from Five Potable Reuse Plants <i>Larry Schimmoller, Jacobs</i>	Defying Day Zero - Using the HACCP to Guide Early Design Phase for Potable Reuse in Cape Town <i>Troy Walker, Hazen and Sawyer</i> <i>Brendon Theunissen, Aurecon</i>
	Communicating with the Public <i>Patricia Tennyson, Katz & Associates</i>	The New Norm? Using Pilot Data to Verify Ocean Outfall Permit Compliance for 100% RO Concentrate <i>Kristel Baumgardner-Kranz, Carollo Engineers</i>	Monitoring <i>Cryptosporidium</i> & <i>Giardia</i> in Municipal Sewage--Approach & Procedure <i>Jerry Ongerth, University of Wollongong, Australia</i>	A Performance Review of HRSD's 1 MGD SWIFT Research Center <i>Tyler Nading, Jacobs</i>
5:30 - 7:00 p.m.	Welcome Reception - Pacific Ballroom 14-19 SPONSORED BY: Eastern Municipal Water District, San Diego County Water Authority, Metropolitan Water District of Southern California, West Basin Municipal Water District, Irvine Ranch Water District, Sanitation Districts of Los Angeles County, Valley Water, San Francisco Public Utilities Commission, Monterey One Water, Rowland Water District, Moulton Niguel Water District, El Dorado Irrigation District			

Monday, September 9, 2019

7:00 - 8:00 a.m.	Networking Breakfast - Pacific Ballroom 20-22 SPONSORED BY HDR			
8:00 - 10:00 a.m.	Opening General Session - Pacific Ballroom 20-22 SPONSORED BY CLEAN WATER SERVICES, EL PASO WATER, ALEXANDRIA RENEW AND JEA Welcome Remarks: <i>Paul Jones, WaterReuse President</i> Keynote Presentation: From Water Diversion to Water Reuse: Tackling Scarcity in the 21st Century <i>Peter Annin, Director of the Mary Griggs Burke Center for Freshwater Innovation</i> Panel Discussion: Making the Pitch: How to Speak With Elected Officials and Customers about the Value of Water Recycling <i>Moderator, Paul Jones, General Manager, Eastern Municipal Water District</i> <i>Hubertus (Huub) Cox, Recycled Water Implementation Division, City of Los Angeles</i> <i>Scott Houston, President, West Basin Municipal Water District Board of Directors</i> <i>Ted Henifin, General Manager, Hampton Roads Sanitation District</i> <i>Dr. Kristina Mena, Associate Professor, The University of Texas Health Science Center</i> <i>Roy Rogers, Board of Directors, Clean Water Services Commissioner District 3 & Vice Chair, Washington County, Oregon</i> Welcome from the <i>Honorable Kevin Faulconer, San Diego Mayor</i>			
10:00 - 10:30 a.m.	Networking Break - Pacific Ballroom 14-19 SPONSORED BY HAZEN AND SAWYER			
	Track 1: Sustainability, Resiliency and Water Reuse	Track 2: Reuse for Industrial, Commercial and Agricultural Processes	Track 3: Potable Reuse: Innovative Strategies	Track 4: Hot Topics in Water Reuse Research
Location	Pacific Ballroom 23	Pacific Ballroom 24	Pacific Ballroom 25	Pacific Ballroom 26
SESSION 3 10:30 a.m. - 12:00 p.m.	In 2050: Technology, Regulations, and Utility Planning for the Future Moderator: <i>Chance Lauderdale, HDR</i> <i>Lauren Zuravnsky, HRSD SWIFT</i> <i>Chris Phipps, Anne Arundel County, MD</i> <i>Stephen Katz, Suez</i> <i>Jason Dadakis, OCWD</i>	Growing Reuse in Agriculture Moderator: <i>Marilyn Hall, Athens-Clarke County Public Utilities</i>	Path to Pure Water San Diego: California's First Surface Water Augmentation Project Moderator: <i>Jeff Pasek, City of San Diego</i> <i>Juan Guerreiro, City of San Diego Public Utilities Department</i> <i>Doug Owen, Stantec</i> <i>Shane Trussell, Trussell Technologies</i>	Research to Ensure Sound Regulations: CA Water Board Partners with The Water Research Foundation Moderator: <i>Julie Minton, The Water Research Foundation</i> <i>Adam Olivieri, EOA, Inc</i> <i>Brian Pecson, Trussell Technologies</i> <i>Shane Trussell, Trussell Technologies</i> <i>Jean Debroux, Kennedy Jenks</i> <i>Jim Crook, Environmental Consultant</i> <i>Jim Neemann, Black & Veatch</i> <i>Randy Barnard, California State Water Resources Control Board</i>
		Evaluating Economic and Environmental Benefits of Water Reuse for Agriculture <i>Anne Thebo, Pacific Institute</i>		
		Empirical Method for Determining Reuse Irrigation Overflow Contributions to Nutrient Impaired Waters <i>Ayu Sari, Stantec</i>		
		Low Hanging Fruit: An Agricultural Water Reuse Case Study in Dear City, UT <i>Cory Dow, Carollo Engineers</i>		



Track 5: Effective Governance, Policy & Financing for Water Reuse	Track 6: Making the Case for Water Reuse	Track 7: Essential Considerations
Marriott Ballroom 10	Marriott Ballroom 11	Marriott Ballroom 12
EPA Federal Funding and Program Management Moderator: Jim Gebhardt, <i>U.S. Environmental Protection Agency</i> Amit Srivastava, <i>WIFIA Program Office of Water US EPA</i> Dave Smith, <i>Tribal and State Assistance Branch, US EPA Region 9</i> Bob Pontureri, <i>Division of Financial Assistance, CA Water Resources Control Board</i> Stan Williams <i>Poseidon Water</i> Mike McCullough, <i>Monterey One Water</i>	Reuse Considerations in Asia, Australia, and Africa Moderator: Hossein Ashktorab, <i>Valley Water</i> One Water: Singapore and California – A Practitioner’s Perspective Melanie Tan, <i>Kennedy Jenks</i> Decentralized Water Reuse: The Answer to South Africa’s Water Challenges Herman Smit, <i>QFS</i> International Reuse Panel Discussion Melanie, Herman and Jerry Ongerth, <i>University of Wollongong, Australia</i>	Federal Government Engagement Can Lead to Success Moderator: Sharon Green, <i>Sanitation Districts of Los Angeles County</i> Pete Evich, <i>Van Scoyoc Associates</i> Jon Freedman, <i>SUEZ Water Technologies & Solutions</i> Mia O’Connell, <i>O’Connell & Dempsey</i> Eric Sapirstein, <i>ENS Resources, Inc</i>

Monday, September 9, 2019 (continued)

<p>12:00 - 1:30 p.m.</p>	<p>WaterReuse Association Annual Business Meeting & WaterReuse Awards for Excellence Luncheon (open to all attendees) – Pacific Ballroom 20-22 SPONSORED BY BLACK & VEATCH</p> <p>WaterReuse Association Annual Business Meeting <i>Paul Jones, President</i> <i>Patricia Sinicropi, Executive Director</i></p> <p>Annual Awards for Excellence Presentations <i>Pam Kenel, Awards Committee Chair</i></p>			
	<p>Track 1: Sustainability, Resiliency and Water Reuse</p>	<p>Track 2: Reuse for Industrial, Commercial and Agricultural Processes</p>	<p>Track 3: Potable Reuse: Innovative Strategies</p>	<p>Track 4: Hot Topics in Water Reuse Research</p>
<p>Location</p>	<p>Pacific Ballroom 23</p>	<p>Pacific Ballroom 24</p>	<p>Pacific Ballroom 25</p>	<p>Pacific Ballroom 26</p>
<p>SESSION 4 1:45 - 3:15 p.m.</p>	<p>Innovative Campus-Scale Solutions for Watershed Health</p> <p>Moderator: <i>Molly Freed,</i> <i>Living Building Challenge</i></p> <p><i>Josiah Cain,</i> <i>Sherwood Design Engineers</i></p>	<p>Management of Produced Water from Oil and Gas Exploration: Regulatory and Technology Overview Informed by Successes in the Field</p> <p>Moderator: <i>Leonard Levine,</i> <i>Gulf Coast Authority</i></p> <p><i>Shellie Chard,</i> <i>Oklahoma Department of Environmental Quality</i></p> <p><i>Lnspr (Naggs)</i> <i>Nagghappan,</i> <i>Veolia</i></p> <p><i>Dan Mueller,</i> <i>Environmental Defense Fund</i></p> <p><i>Rick McCurdy</i></p>	<p>Effective Technologies for Potable Reuse</p> <p>Moderator: <i>Jason Dadakis,</i> <i>Orange County Water District</i></p> <p>Central Coast Blue Demonstration Facility: Innovative Potable Reuse Technologies for Pismo Beach</p> <p><i>Andrew Salveson,</i> <i>Carollo Engineers</i></p> <p>Pathogen Removal Validation for a Potable Reuse System with Closed Circuit Reverse Osmosis</p> <p><i>Eileen Idica,</i> <i>Trussell Technologies</i></p> <p>From Emerging to Emerged: What These “Here Now” Contaminants Mean for the Water Sector</p> <p><i>Allegra da Silva,</i> <i>Brown and Caldwell</i></p>	<p>Prions, Antibiotic Resistance, and Viruses – New Age Challenges</p> <p>Moderator: <i>Kati Bell,</i> <i>Brown and Caldwell</i></p> <p>The Status of Virus Detection Methods for Water Reuse Applications</p> <p><i>Krista Wigginton,</i> <i>University of Michigan</i></p> <p>An Introduction to Prions, Status of Prion Research and Relevance to Potable Reuse</p> <p><i>Greta Zornes,</i> <i>Jacobs</i></p> <p>Characterizing the Removal of Antibiotic Resistance Dissemination of Two Municipal Water Reuse Systems</p> <p><i>Ishi Keenum,</i> <i>Virginia Tech</i></p>
<p>3:15 - 3:45 p.m.</p>	<p>Networking Break – Pacific Ballroom 14-19 SPONSORED BY BROWN AND CALDWELL</p>			



Track 5: Effective Governance, Policy & Financing for Water Reuse	Track 6: Making the Case for Water Reuse	Track 7: Essential Considerations	Track 8: Examples from the Pacific Coast
Marriott Ballroom 10	Marriott Ballroom 11	Marriott Ballroom 12	Marriott Ballroom 13
Water Reuse in the Pacific Northwest: Collaborating to Solve Complex Water Resource Challenges Moderator: Eric Rosenblum, Water Resources Consultant Jacque Klug, King County (WA) Department of Natural Resources Wendy Steffensen, LOTT Clean Water Alliance (WA) Jared Kinnear, Clean Water Services (OR) Steve Starner, City of Silverton (OR) Tressa Nicholas, Idaho Department of Environmental Quality Michael Cook, Idaho Department of Environmental Quality	A Medley of Communications Case Studies Moderator: Alan Rimer, EnviroTechNovations GWIC @ Gwinnett - It Takes a Village Melissa Meeker, Gwinnett County DWR Making the Unknown Known: Strategies for Water Reuse Education, Engagement and Action Dennis Nelson, Project WET Foundation Moving from Data to Stories to Persuade Your Audience Stephen Groner, S. Groner Associates, Inc.	Diversifying Supply Moderator: Zeynep Erdal, Black & Veatch Leveraging Industry Experience to Anticipate Trade-offs of Alternative Water Supplies Wendy Broley, Brown and Caldwell The Florida Potable Reuse Commission: Making Water in the Sunshine Christine Owen, Hazen and Sawyer Navigating the Road to Recycled Water Bottling in California's Silicon Valley Hossein Ashktorab, Valley Water	Federal Funding Programs Moderator: Greg Fogel, WateReuse Association Title XVI Water Reclamation and Reuse Program Amanda Erath, Bureau of Reclamation U.S. Department of Energy Grand Water Challenge Diana Bauer, US Department of Energy Army Corps Overview Ed De Mesa, U.S. Army Corps of Engineers

Monday, September 9, 2019 *(continued)*

	Track 1: Sustainability, Resiliency and Water Reuse	Track 2: Reuse for Industrial, Commercial and Agricultural Processes	Track 3: Potable Reuse: Innovative Strategies	Track 4: Hot Topics in Water Reuse Research
Location	Pacific Ballroom 23	Pacific Ballroom 24	Pacific Ballroom 25	Pacific Ballroom 26
SESSION 5 3:45 - 5:15 p.m.	Developing Effective Policies to Advance Reuse Moderator: <i>Diane Taniguchi-Dennis, Clean Water Services</i>	Expanding Applications for Reuse in Industry Moderator: <i>Craig Lichty, Black & Veatch</i>	Cost Savings Through Innovation Moderator: <i>Gilbert Trejo, El Paso Water</i>	Microbial Contaminants – Reducing the Risk Moderator: <i>Sandeep Sathyamoorthy, Black & Veatch</i>
	Creating a “Virtual” One-Water Utility: Pricing and Institutional Arrangements <i>Robert Raucher, Corona Environmental Consulting</i>	Industrial Water Reuse: Drivers, Approaches and Treatment <i>Val Frenkel, Greeley and Hansen</i>	What is all the Talk about TOC for Potable Reuse? <i>Amanda Scott, Suez Water Technologies & Solutions</i>	Monitoring for <i>Legionella Pneumophila</i> in Reclaimed Waters <i>Mark LeChevallier, Dr. Water Consulting, LLC</i>
	Regulatory Impacts of Decreasing Wastewater Flows on City of Los Angeles Water Recycling <i>Stephen Opot, City of Los Angeles, LA Sanitation & Environment</i>	Pilot testing of MF/RO for Industrial Reuse of Biopharmaceutical Wastewater <i>Tracy Warriner, Carollo Engineers</i>	Sizing Granular Activated Carbon While Addressing Regulatory Concerns for Direct Potable Reuse <i>Jon Loveland, Black & Veatch</i>	Potable Reuse and Microbial Risks – a Critical Review and Comparison of Risks between Planned and DeFacto Reuse <i>Jeff Soller, Soller Environmental, LLC</i>
	Idaho’s Reuse Guidance for the 21st Century: Sharing Approaches and Ideas with the Reuse Community <i>Michael Cook, Idaho Department of Environmental Quality</i>		Dynamic Simulation Optimizes Critical San Diego Reuse and Recycled Water Projects <i>Troy Matsuura, Jacobs Kyle Hegger, Jacobs</i>	2019: The Year of the Pathogen Inactivation in Advanced Reclamation for Potable Reuse <i>Vijay Sundaram, University of Nevada, Reno</i>
6:30 p.m.	Cubs vs Padres Game at Petco Park (Ticket Required) - 100 Park Blvd, San Diego SPONSORED BY STANTEC AND THE CITY OF SAN DIEGO			

Track 5: Effective Governance, Policy & Financing for Water Reuse	Track 6: Making the Case for Water Reuse	Track 7: Essential Considerations	Track 8: Examples from the Pacific Coast
Marriott Ballroom 10	Marriott Ballroom 11	Marriott Ballroom 12	Marriott Ballroom 13
Meeting Compliance Goals Moderator: <i>Beverley Stinson, AECOM</i>	Informed Messaging for Effectively Reaching the Public Moderator: <i>Guy Carpenter, Carollo Engineers</i>	Diversifying Supplies – 3 Applications Moderator: <i>Michael Carlin, San Francisco Public Utilities Commission</i>	Condensate Reuse Moderator: <i>Mark Stadler, San Diego County Water Authority</i> <i>Jeff Davis, ArchNexus</i> <i>John Wammes, Water Works, Inc.</i>
Defining “Safe” Potable Water with National Drinking Water Data and a Toxicity Index Approach <i>James Rosenblum, Colorado School of Mines</i>	A Tailored Outreach Approach on Water Knowledge, Trust, and Potable Reuse Issues <i>Caroline Scruggs, University of New Mexico</i>	PureWaterSF: Purification and Water Quality Risk Analysis for a Building-Scale DPR in San Francisco <i>Manisha Kothari, San Francisco Public Utilities Commission</i> <i>Andrea Corral, Carollo Engineers</i>	
How to Achieve Hawaii’s Goal to Double Water Reuse by 2030 <i>Bahman Sheikh, Bahman Sheikh Water Reuse Consulting</i>	Engaging Future Ratepayers in Los Angeles <i>Anthony Tew, Los Angeles Department of Water and Power</i>	Applying Oklahoma’s New Potable Water Reuse Regulations for Regional Water Supply Resiliency <i>Kyle Kruger, Garver</i> <i>Michael Watts, Garver</i>	
Ocean Plan Amendment Compliance – Carlsbad Desalination Plant Catches the First Wave <i>Steve Friedman, HDR</i>	Toilet-to-Tap, Get Over It! <i>Patricia Tennyson, Katz & Associates</i> <i>Mark Millan, Data Instincts</i>	Morro Bay OneWater Approach Results in California’s First MBR-Based Potable Reuse System <i>Rob Livick, City of Morro Bay</i> <i>Eric Casares, Carollo Engineers</i>	

Tuesday, September 10, 2019

<p>7:45 - 8:45 a.m.</p>	<p>Breakfast – Pacific Ballroom 20-22 SPONSORED BY SUEZ</p> <p>Water Association Leadership Panel: <i>Moderator: Patricia Sinicropi, Executive Director, WaterReuse Association</i> <i>Radhika Fox, CEO, US Water Alliance</i> <i>Peter Grevatt, CEO, The Water Research Foundation</i> <i>Adam Krantz, CEO, National Association of Clean Water Agencies</i> <i>Tracy Mehan, Executive Director of Government Affairs, American Water Works Association</i> <i>Erica Brown, Chief Strategy and Sustainability Officer, Association of Metropolitan Water Agencies</i> <i>Rick Warner, President, Warner and Associates, representing the Water Environment Federation</i></p>			
	<p>Track 1: Sustainability, Resiliency and Water Reuse</p>	<p>Track 2: Reuse for Industrial, Commercial and Agricultural Processes</p>	<p>Track 3: Potable Reuse: Innovative Strategies</p>	<p>Track 4: Hot Topics in Water Reuse Research</p>
<p>Location</p>	<p>Pacific Ballroom 23</p>	<p>Pacific Ballroom 24</p>	<p>Pacific Ballroom 25</p>	<p>Pacific Ballroom 26</p>
<p>SESSION 6 9:00 - 10:00 a.m.</p>	<p>Imported Water and Wine Moderator: <i>Dawn Taffler, Kennedy Jenks</i></p> <p>Reduce Dependency on Imported Water in Los Angeles: Water Reuse is the Answer <i>Jagjit Kaur</i> <i>Jacobs Azya Jackson, Los Angeles Department of Water and Power</i></p> <p>From Recycled Water to Wine – A Chloride Reduction Story <i>Seppi Henneman, Brown and Caldwell</i> <i>Andrew Damron, Napa Sanitation District</i></p>	<p>Maximizing Commercial Value through Reuse Moderator: <i>Keel Robinson, Trussel Technologies</i></p> <p>Water Reuse at U.S. Airports: Opportunities, Innovations, and Creative Collaborations <i>Erin Bonney Casey, Bluefield Research</i></p> <p>One Water, Many Options <i>Austa Parker, Denver Water</i></p>	<p>Bioanalytical Screening Moderator: <i>Paul Cook, Irvine Ranch Water District</i></p> <p>Bioassays for Screening for Endocrine Disruptors in Potable Reuse Projects in Southern California <i>Luciana Pereyra, Trussell Technologies</i> <i>Yan Qu, Trussell Technologies</i></p> <p>Implementing Bioanalytical Tools in California: A Creative Collaboration <i>Kevin Hardy, National Water Research Institute</i></p>	<p>Treatment Technologies Moderator: <i>Paul Steinbrecher, JEA</i></p> <p>Overcoming Challenges in Ozone/BAF Treatment Systems for Potable Reuse <i>Vijay Sundaram, University of Nevada, Reno</i></p> <p>Testing Results of UF/RO vs. Ozone/BAF – Selecting One for a Path to a Sustainable Water Future <i>Ryan Popko, JEA</i></p>
<p>10:00 - 10:30 a.m.</p>	<p>Networking Break - Pacific Ballroom 14-19 SPONSORED BY TROJAN UV</p>			



Track 5: Effective Governance, Policy & Financing for Water Reuse	Track 6: Making the Case for Water Reuse	Track 7: Essential Considerations	Track 8: Examples from the Pacific Coast
Marriott Ballroom 10	Marriott Ballroom 11	Marriott Ballroom 12	Marriott Ballroom 13
Macro-economic Considerations in Reuse Projects Moderator: <i>Karen Pallansch, Alexandria Renew</i>	Proper Planning Moderator: <i>Pedro Gochicoa, Xylem</i>	Capturing the Rain in Minnesota Moderator: <i>Claudio Ternieden, Water Environment Federation</i>	San Diego's Promise Moderator: <i>Doug Owen, Stantec</i>
Smart Sensor - Potable Reuse Potential <i>Melanie Holmer, Brown and Caldwell</i>	Unlocking Water Reuse Opportunities – Roadblocks & Successes <i>Patrick Regan, Evoqua Water Technologies</i>	Utilizing Stormwater as a Reusable Resource <i>Bob Bean, Bolton & Menk</i> <i>Doug Bode, City of Waconia</i> <i>Kevin Flis, Xylem</i>	Developing and Permitting California's First Potable Reuse Project Using Reservoir Augmentation <i>Shane Trussell, Trussell Technologies</i>
Smart Approaches to Improve Economics of the Potable Reuse Projects <i>Zeynep Erdal, Black & Veatch</i>	One Year After Day Zero - Cape Town, South Africa <i>Lucinda Jooste, Xylem</i>	Yes, We Reuse Water in Minnesota! <i>Anita Anderson, Minnesota Department of Health</i> <i>Michelle Stockness, Barr Engineering Company</i>	Fulfilling the Promise of the Purple Pipe Program—San Diego Recycled Water System Turns 20 years Old <i>Eric Scherch, HDR</i>



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Tuesday, September 10, 2019 (continued)

	Track 1: Sustainability, Resiliency and Water Reuse	Track 2: Reuse for Industrial, Commercial and Agricultural Processes	Track 3: Potable Reuse: Innovative Strategies	Track 4: Hot Topics in Water Reuse Research
Location	Pacific Ballroom 23	Pacific Ballroom 24	Pacific Ballroom 25	Pacific Ballroom 26
SESSION 7 10:30 a.m. - 12:00 p.m.	Establishing Consistent Management Approaches for Water Reuse Across the U.S Moderator: <i>Melanie Holmer, Brown and Caldwell</i>	Data Centers Rely on Water Reuse Moderator: <i>Jon Loveland, Black & Veatch</i> <i>David Sukinik, Digital Realty</i> <i>Karl Fenstermaker, TCM Corp</i>	Monitoring Water Quality Moderator: <i>TBD</i>	Alternative Treatments for CECs Moderator: <i>Troy Walker, Hazen and Sawyer</i>
	Public Health and Utility Leaders Collaborate to Advance Onsite Reuse <i>Paula Kehoe, San Francisco Public Utilities Commission</i> <i>Taylor Chang, San Francisco Public Utilities Commission</i>		Examining Pathogens and Microbials for a Reservoir Augmentation Type Potable Reuse Scenario <i>Bob Angelotti, Upper Occoquan Service Authority</i>	The Kitchen Sink: UV at a Non-Membrane Advanced Treatment Plant for Multiple Water Quality Objectives <i>Erik Rosenfeldt, Hazen and Sawyer</i>
	Decentralized Reuse: The Future of Distributed Infrastructure <i>Erin Bonney Casey, Bluefield Research</i>		Maximizing UV Potential in Potable Reuse through Advanced Validation Methods <i>Greg Warkentin, TrojanUV</i>	Treatment of Trace Organic Contaminants by Pilot-Scale Ozone, BAF, and GAC Potable Reuse Systems <i>Stephanie Riley, Southern Nevada Water Authority</i>
	Decentralized Greywater Treatment Using a Novel Electrochemical Approach <i>Nicole A. Poirier, Terragon Environmental Technologies Inc.</i>		Pipe Loop Studies of the Effects of Raw Water Augmentation on Distribution System Metal Mobilization <i>Michael Adelman, Stantec</i>	
	Tuesday Plenary Luncheon: National Water Reuse Action Plan Announcement & Roundtable Discussion - Pacific Ballroom 14-19 SPONSORED BY CAROLLO ENGINEERS <i>Keynote: Dave Ross, Assistant Administrator, Office of Water, U.S. Environmental Protection Agency</i> <i>Roundtable Moderator: Aubrey Bettencourt, Senior Advisor to the Assistant Secretary for Water and Science, Department of the Interior</i> <i>Mary Neumayr, Chairman, White House Council on Environmental Quality</i> <i>Ryan Fisher, Principal Deputy Assistant Secretary of the Army for Civil Works, Army Corps of Engineers</i> <i>Timothy Petty, Assistant Secretary for Water and Science, U.S. Department of the Interior</i> <i>Brenda Burman, Commissioner, Bureau of Reclamation, U.S. Department of the Interior</i> <i>Daniel Simmons, Assistant Secretary Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy</i> <i>Dave Ross, Assistant Administrator, Office of Water, U.S. Environmental Protection Agency</i>			
12:15 - 1:30 p.m.				

Track 5: Effective Governance, Policy & Financing for Water Reuse	Track 6: Making the Case for Water Reuse	Track 7: Essential Considerations	Track 8: Examples from the Pacific Coast
Marriott Ballroom 10	Marriott Ballroom 11	Marriott Ballroom 12	Marriott Ballroom 13
The Secrets of Developing State DPR Regulatory Frameworks Moderator: <i>Julie Minton, The Water Research Foundation</i> <i>Brian Bernados, California State Water Resources Control Board / Division of Drinking Water</i> <i>Jeff Mosher, Carollo Engineers</i> <i>Tim Thomure, Tucson Water</i> <i>Austa Parker, Denver Water</i>	Marketing Knowledge to Inform Reuse Decision Making Moderator: <i>Janice Whitney, U.S. Environmental Protection Agency</i>	Innovation in Potable Reuse Moderator: <i>Val Frenkel, Greeley and Hansen</i>	Orange County Findings Moderator: <i>Don Vandertulip, Texas Commission on Environmental Quality</i>
	Project Planning: Executing on Scenario Mapping and Risk Management using a Sustainability Platform <i>Nitesh Dullabh, Water Diplomat</i>	Enhancing the Efficiency of Ion Exchange Resins to Remove DBP Precursors in Water Reuse <i>Mahmut S. Ersan, Southern Nevada Water Authority</i>	Evaluating PVDF Membranes for Orange County Water District's GWRS Final Expansion Project Design <i>Sandy Scott-Roberts, Orange County Water District</i>
	Hydroeconomic Modeling of Direct Potable Reuse as a Regional Supply Source for Los Angeles <i>Erik Porse, Sacramento State</i>	Soil Aquifer Treatment and Subsurface-Water Interactions During Groundwater Recharge <i>Lydia Peri, Truckee Meadows Water Authority</i>	Universal Filtration Design at the World's Largest IPR Facility <i>Lee Portillo, Black & Veatch</i>
	Implementation of a Large-Scale IPR Program with DPR Options on the Horizon <i>John Bednarski, Metropolitan Water District of Southern California</i>	Electrocoagulation Treatment of Reverse Osmosis Concentrate from a Municipal Wastewater Reuse Facility <i>Hossein Ashktorab, Valley Water</i> <i>Galen O'Toole, Valley Water</i>	Naturally Occurring Ions to Monitor Reverse Osmosis Performance and Integrity in Reuse Applications <i>Jana Safarik, Orange County Water District</i>





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An underwater photograph of a young boy and a young girl swimming towards the camera. The boy in the foreground is wearing blue and red swim goggles and has a slight smile. The girl behind him is also wearing goggles and looking towards the camera. The water is clear and blue, with light rays filtering through from above.

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Tuesday, September 10, 2019 (continued)

	Track 1: Sustainability, Resiliency and Water Reuse	Track 2: Reuse for Industrial, Commercial and Agricultural Processes	Track 3: Potable Reuse: Innovative Strategies	Track 4: Hot Topics in Water Reuse Research
Location	Pacific Ballroom 23	Pacific Ballroom 24	Pacific Ballroom 25	Pacific Ballroom 26
SESSION 8 1:45. - 3:15 p.m.	LAGWRP: Addressing LA's Water Needs Through Technology and Partnerships Moderator: <i>Joline Munoz, LASAN</i>	Water Reuse in Industry Moderator: <i>Greg Wetterau, CDM Smith</i>	Creative Strategies to Meet Today's Challenges Moderator: <i>Chance Lauderdale, HDR</i>	Microplastics Moderator: <i>Steve Tedesco, Tetra Tech</i>
	<i>Roshanak Aflaki, LASAN</i> <i>Yoshiko Tsunehara, LADWP</i> <i>Hannah Ford, Brown and Caldwell</i> <i>Teresa Venezia, Trussell Technologies</i>	Process Water Treatment and Reuse at the J.R. Simplot Caldwell Water Treatment Plant <i>Richard Molongoski, CDM Smith</i>	Virus Treatment Crediting Alternatives to Allow Operation at Shorter Underground Retention Times <i>John Kenny, Trussell Technologies</i>	A Survey of Microplastics Occurrence in Drinking Water Systems Globally <i>Andrew Eaton, Eurofins Eaton Analytical, LLC</i>
		Realities of Industrial Reuse – A Panel Discussion <i>Kerry Harpole, Marathon Oil Company</i> <i>Arun Sathyagal, Ph.D., PepsiCo</i> <i>Leonard Levine, Gulf Coast Authority</i>	Sweet Success with Open Platform Membrane Systems Treating Challenging Effluents for Water Reuse <i>Jason Assouline, Carollo Engineers</i>	Methodology to Detect and Quantitate Microplastics in Water Sources <i>David Riggs, Eurofins SF Analytical, LLC</i> <i>Amber Skaretka, Eurofins SF Analytical, LLC</i>
		Industrial Water Reuse and Treatment Technologies <i>Kevin Molloy, CDM Smith</i> <i>Dustin Klempel, CDM Smith</i>	Innovative Framework Assessing Industrial Source Control for Potable Reuse in the Occoquan Watershed <i>Bob Angelotti, Upper Occoquan Service Authority</i>	
3:15 - 3:45 p.m.	Networking Break - Pacific Ballroom 14-19 SPONSORED BY KENNEDY JENKS			

Track 5: Effective Governance, Policy & Financing for Water Reuse	Track 6: Making the Case for Water Reuse	Track 7: Essential Considerations	Track 8: Examples from the Pacific Coast
Marriott Ballroom 10	Marriott Ballroom 11	Marriott Ballroom 12	Marriott Ballroom 13
Project Financing Options for Onsite Systems Moderator: Debra Coy, XPV	Parks and Recreation Moderator: Dexter May, Plummer	Groundwater Moderator: Brian Biesemeyer, Scottsdale Water	Nutrients, Salinity, and Other Considerations Moderator: Fred Gerringer, Hazen and Sawyer
Natural Systems Scott Brown, New Energy Capital Zach Gallagher, Natural Systems Utilities Scott Gosselink, Generate Capital Cynthia Koehler, WaterNow Alliance Barbara Bay City of San Diego	Salinity Management for Landscapes Austa Parker, Denver Water	Groundwater Considerations for Indirect Potable Reuse William Alley, National Ground Water Association	Nitrogen Management Strategies for Large-Scale Potable Reuse Zakir Hirani, Stantec Gloria Lai-Bluml, Metropolitan Water District of Southern California
	Commercial Reuse Applications: Irrigation, Graywater, and Environmental Discharge Ronen Barkan, Fluence	Bromate Prevention of Ozone Based Aquifer Recharge Jim Chiasson, City of Rio Rancho Kevin Flis, Xylem	Case for High Recovery RO in Potable Reuse Trains Ufuk Erdal, Arcadis
	Use of a Losing Stream for Groundwater Recharge Rosalyn Prickett, Woodard & Curran	Beneficial Uses of Produced Water Shellie Chard, Oklahoma Department of Environmental Quality	Regional Approach to Brackish Water Reclamation in the West Coast Groundwater Basin Diane Gatza, Water Replenishment District of Southern California



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Tuesday, September 10, 2019 *(continued)*

	Track 1: Sustainability, Resiliency and Water Reuse	Track 2: Reuse for Industrial, Commercial and Agricultural Processes	Track 3: Potable Reuse: Innovative Strategies	Track 4: Hot Topics in Water Reuse Research
Location	Pacific Ballroom 23	Pacific Ballroom 24	Pacific Ballroom 25	Pacific Ballroom 26
SESSION 9 3:45. - 5:15 p.m.	Water Reuse in Areas with Plenty of Water Moderator: <i>Bart Weiss,</i> <i>Hillsborough County Water Department</i>	Regional Solutions When Resources are Scarce Moderator: <i>Eric Sapirstein,</i> <i>California Association of Sanitation Agencies</i>	Innovative Approaches for Monitoring Pathogen Removal in RO Membranes Moderator: <i>Jason Assouline,</i> <i>Carollo Engineers</i> <i>Eva Steinle-Darling,</i> <i>Carollo Engineers</i> <i>Jim Vickers,</i> <i>Separations Processes Inc.</i> <i>Tomoyuki Taguchi,</i> <i>Yokogawa Electric Corp.</i> <i>Yasuhiro Matsui,</i> <i>Japan Desalination Association</i>	Increasing Innovation in Water Reuse with The Water Research Foundation's LIFT Program Moderator: <i>Justin Mattingly,</i> <i>The Water Research Foundation</i> <i>Mehul Patel,</i> <i>Orange County Water District</i> <i>Kevin Flis,</i> <i>Xylem</i> <i>Greg Ryan,</i> <i>Pasteurization Technology Group</i>
	Water Reuse in an Area With Plenty of Water? How a Research Project is Helping Drive It Ahead. <i>Jennifer Khemai,</i> <i>The Regional Municipality of York, Canada</i>	The Application of Stormwater Treatment for Groundwater Augmentation: Challenges and Solutions <i>Brent Alspach,</i> <i>Arcadis</i>		
	Utility Resilience in the Face of Climate Change <i>Alan Rimer,</i> <i>EnviroTechNovations</i> <i>Gary Hunter,</i> <i>Black & Veatch</i>	Guiding Regional Reuse Options - A Distributed Systems Approach <i>Jocelyn Lu,</i> <i>Brown and Caldwell</i>		
	Making it Rain in Central Arkansas – The Development of AR's First Non-Potable Reuse System <i>Michael Graves,</i> <i>Garver</i> <i>Greg Ramon,</i> <i>Little Rock Water Reclamation Authority</i>	Planning for Stormwater to Supplement San Diego's Pure Water Program <i>Jim Rasmus,</i> <i>Carollo Engineers</i>		
5:15 - 6:15 p.m.	Gender Diversity in Water Reuse Panel – San Diego Ballroom A SPONSORED BY XYLEM Moderator, Joe Vesey, <i>SVP and Chief Marketing Officer, Xylem</i> <i>Cindy Wallis-Lage,</i> <i>President, Black & Veatch's Global Water Business</i> <i>Gilbert Trejo,</i> <i>Chief Technical Officer, El Paso Water</i> <i>Pranjali Kumar,</i> <i>Environmental Engineer, Carollo Engineers</i>			
6:30 - 9:00 p.m.	Maritime Museum of San Diego: Discovery, Dinner, Music and Fun! (Open to all attendees) – San Diego Maritime Museum SPONSORED BY XYLEM			

Track 5: Effective Governance, Policy & Financing for Water Reuse	Track 6: Making the Case for Water Reuse	Track 7: Essential Considerations	Track 8: Examples from the Pacific Coast
Marriott Ballroom 10	Marriott Ballroom 11	Marriott Ballroom 12	Marriott Ballroom 13
National and California Water Reuse Action Initiatives Moderator: <i>Paul Jones, Eastern Municipal Water District</i> <i>Jeff Lape, U.S. Environmental Protection Agency</i> <i>Jennifer West, WateReuse California</i>	Making Business “Cents” Through Unique Collaborations to Improve Existing Onsite Reuse Systems Moderator: <i>Zach Gallagher, Natural Systems Utilities</i> <i>Sheng Chu, Natural Systems Utilities</i> <i>John Tekula, Natural Systems Utilities</i>	Membrane Considerations Moderator: <i>Jeff Neemann, Black & Veatch</i>	Continued Innovation in Reuse Moderator: <i>TBD</i>
		Maximizing MF/UF Membrane Life - How One Utility Has Exceeded Industry Expectations through a Unique Foulant Management Strategy <i>Jim Lozier, Jacobs</i>	Innovative Design Concepts for an Advanced Water Treatment Demonstration Facility <i>Zakir Hirani, Stantec</i> <i>Gloria Lai-Bluml, Metropolitan Water District of Southern California</i>
		Techno-Economic Evaluation of Field-Ready RO Brine Recovery and Minimization Technologies <i>Gil Hurwitz, Black & Veatch</i>	8.7 gpm/sf – NCWRP’s new granular media tertiary filtration rate (>> 5 gpm/sf) <i>John Kenny, Trussell Technologies</i>
		Monitoring Bacteria in RO Permeate Online <i>Takahiro Fujioka, Nagasaki University</i>	Coupled Oxidant and Ceramic Membrane Processes for Decreased Biofouling and Enhanced Flux in Water Reclamation Applications <i>Kaitlyn Jeanis, University of Colorado</i>



Wednesday, September 11, 2019

8:00 - 9:00 a.m.	Breakfast Plenary: Current Status and Visions for the Future of Water Reuse Research SPONSORED BY GREELEY AND HANSEN <i>Peter Grevatt, CEO, The Water Research Foundation</i>
9:00 - 10:30 a.m.	Plenary: Sustaining the New Economy in Nevada's High Desert SPONSORED BY WOODARD AND CURRAN <i>Moderator: Rick Warner, Warner and Associates</i> <i>Pat Mulroy, University of Nevada</i> <i>John Enloe, Truckee Meadows Water Authority</i> <i>Michael Drinkwater, Truckee Meadows Water Reclamation Facility</i> <i>Alise Porto, Switch</i>
10:30 - 10:45 a.m.	Break
10:45 - 11:45 a.m.	Plenary State of the States: Highlights and Insights from the State Regulatory Summit <i>Moderator: Alan Roberson, Executive Director, Association of State Drinking Water Administrators</i> Panelists: <i>Erica Gaddis, Water Quality Division Director, Utah Department of Environmental Quality</i> <i>Shellie Chard, Water Quality Division Director, Oklahoma Department of Environmental Quality</i> <i>Rebecca Roose, Water Protection Division Director, New Mexico Environment Department</i> <i>Anita Anderson, Principal Engineer, Minnesota Department of Health</i> <i>George Garden, Chief Engineer, Division of Water Resources, Tennessee Department of Environment and Conservation</i>
11:45 a.m. - 12:00 p.m.	Closing Remarks



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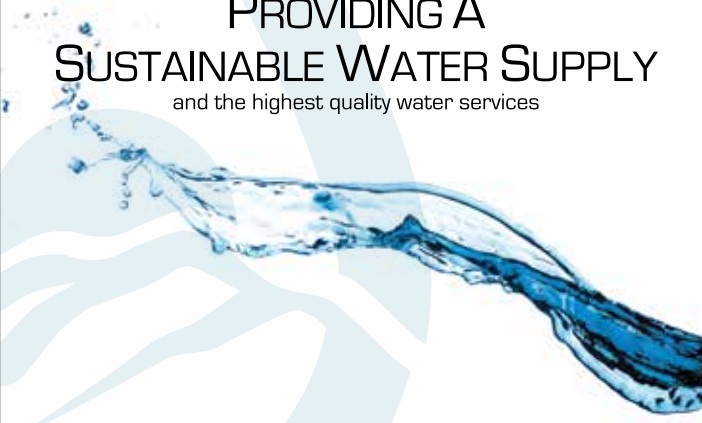






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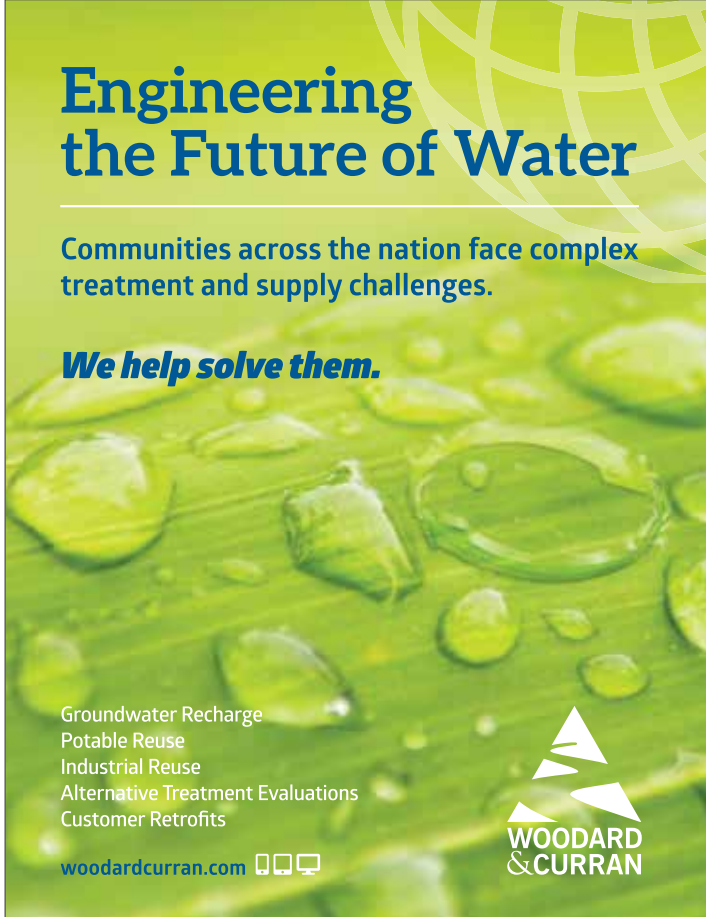


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