

WATER REUSE[®] 2023 SYMPOSIUM

MARCH 5-8, 2023 • MARRIOTT MARQUIS ATLANTA

REIMAGINING
WATER
TOGETHER



IN COLLABORATION WITH THE WATER RESEARCH FOUNDATION

WELCOME TO THE 2023 WATEREUSE SYMPOSIUM

Dear Symposium Attendee:

The WaterReuse Association and The Water Research Foundation (WRF) welcome you to the 38th Annual WaterReuse Symposium! This year's theme is *Reimagining Water Together*, examining ways in which communities and businesses are crafting the future of water management through water recycling—and the many ways it can benefit all of us.

Our Symposium opens with a keynote presentation from A-P Hurd, the author of *The Carbon Efficient City*. In her address, *The Water Cycle and the City of the Future*, Hurd will explore how to build better, more livable cities that integrate sustainable water and energy practices. She will lead us in a conversation about how regulatory structures can either incentivize or disincentivize innovative and collaborative water management practices, especially ones that have water recycling as a centerpiece.

We are also excited to host stand-out plenary sessions on a range of topics including how water reuse can be a tool for addressing community growth challenges related to diversity, equity and inclusion; how companies are incorporating water reuse to meet environmental and sustainability goals; and how fifty years of the Clean Water Act have transformed our thinking on water management. We'll also have the opportunity to share our thoughts and insights with

representatives of the Federal Water Reuse Interagency Working Group about how Federal agencies can support further adoption of water recycling practices.

With over 70 hours of technical content, our program features something for everyone. You'll see a WRF icon beneath session titles throughout this program denoting topics related to Water Research Foundation projects, and a WRAP icon highlighting projects that relate to the National Water Reuse Action Plan.

We are pleased to bring the Symposium to Georgia and the Southeast, a region that is quickly emerging as a water recycling hotspot. Communities and businesses are adopting water reuse to achieve regulatory compliance, meet environmental targets, manage heavy storm water flows, and ease pressure on aging infrastructure. Attendees of our three regional tours will see the diversity of water reuse projects in Georgia including large-scale projects to recharge reservoirs, restore wetlands, and integrate decentralized water reuse systems in urban settings.

The Annual WaterReuse Symposium is an opportunity to celebrate our progress toward integrating water reuse as an essential ingredient in America's water resources management systems, and we are thrilled you can join us for it. Thank you for attending this year's Symposium, and remember to mark your calendars for next year in Denver, Colorado!



PATRICIA L. SINICROPI
Executive Director
WaterReuse Association



PETER GREVATT
Chief Executive Officer
The Water Research
Foundation

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STAY CONNECTED

SYMPOSIUM WI-FI

Stay connected at the WateReuse Symposium with Wi-Fi throughout the meeting space, thanks to our generous sponsor Tetra Tech.



Symposium Network: WRA_Symposium

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SOCIAL MEDIA

Follow WateReuse on social media, and share your Symposium content:

#WateReuse23



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EXHIBIT HALL HOURS AND INFO

The 2023 WaterReuse Symposium's exhibit hall is located in the Marquis Ballroom Foyer, one level below the Hotel Lobby. The plenary hall and breakout rooms are just steps away. The exhibit hall will feature a wide variety of organizations and companies from all corners of the water reuse industry. Events such as the Welcome Reception and networking breaks will take place amidst this impressive display. So, grab a cup of coffee or a snack to catch up with an old colleague or meet a new project partner.

EXHIBIT HALL HOURS

SUNDAY, MARCH 5:

Welcome Reception
5:30 pm – 7:30 pm

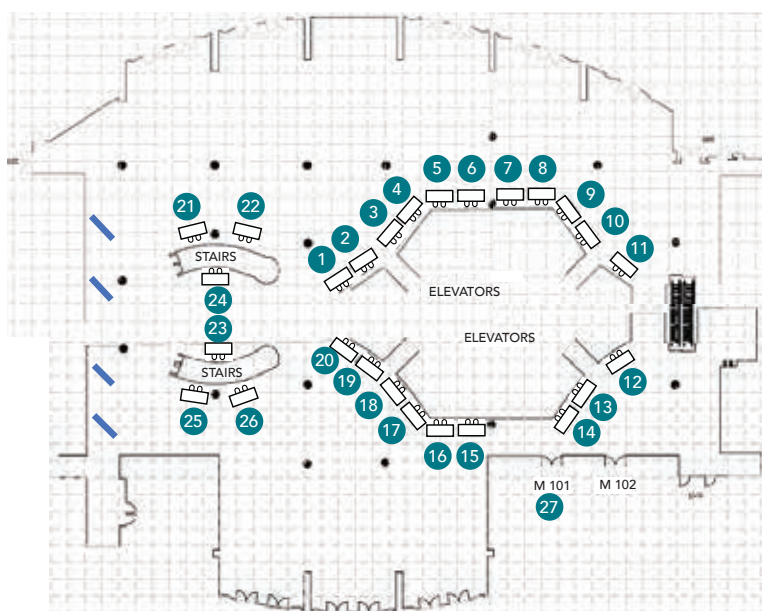
MONDAY, MARCH 6:

10:00 am – 4:00 pm

TUESDAY, MARCH 7:

10:00 am – 4:00 pm

MARQUIS BALLROOM FOYER



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- 3 H2O Innovation
- 12 Harmsco Filtration Products
- 26 International Association of Plumbing and Mechanical Officials
- 8 Innovative Treatment Products, Inc./Innovatreat

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- 19 NSF
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- 10 YSI, a Xylem Brand

EXHIBIT HALL HOURS AND INFO

HEADSHOT STUDIO

Monday, March 6 & Tuesday, March 7 | Room M101

Refresh your profile and resume with a headshot taken by a professional photographer!

Hours:

10:00 am - 12:00 pm | 2:00 pm - 4:00 pm

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POSTER PRESENTATIONS

Monday, March 6 & Tuesday, March 7 | Marquis Ballroom Foyer

Visit the exhibit hall during networking breaks to learn about these exciting new water reuse research findings:

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Taking a Global Approach to Recycled Water Pricing	John Wuerth, Eastern Municipal Water Dist
City of San Diego Pathogen Monitoring & Tracer Study for WWTP Log Reduction	Mitchel Bartolo, Trussell Technologies
Integration of Potable Reuse Water into Drinking Water Distribution Systems	Nicole Blute, Hazen and Sawyer
Capturing the Capability of Dissolved Air Flotation for Potable Reuse	Blaga Delic, AECOM
Water Quality Assessment of AC Condensate for Onsite Collection & Use	Michael Jahne, U.S. EPA
Advanced LC/MS/MS Methods for CECs in Potable Reuse	Yongtao Li, Eurofins Eaton Analytical, LLC
Factors Impacting Water Reuse at U.S. Army Wastewater Treatment Plants	Dr. Dawn Morrison, U.S. Army Construction Engineering Research Laboratory
Multi-barrier Approach 1,4-Dioxane in O3-BAC Based Reuse Systems without UVAOP	Mack Pearce, Virginia Tech
RO and NF LRV Validation through Long-Term Pilot Operation & Challenge Testing	Hannah Ray, Southern Nevada Water Authority
Exploring the Drivers and Pathways to Water Reuse Adoption in Communities	Prakriti Sardana, University of Colorado, Boulder

TECHNICAL TOURS

Buses depart from the Marriott Marquis Atlanta's main entrance, under the overhang.

TOUR: THE WATER TOWER & F. WAYNE HILL WATER RESOURCES CENTER

Sunday, March 5 | 12:00 pm - 4:30 pm



The Water Tower's water innovation campus convenes the public and private sector water industry, expediting the implementation of innovative water and wastewater solutions. The tour includes a demonstration area and field training center for hands-on technician training. Next door is Gwinnett County's F. Wayne Hill Water Resources Center, an award-winning advanced wastewater treatment facility. **Includes lunch. Wear closed-toe shoes.**

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TOUR: ONSITE REUSE AT GEORGIA TECH & THE WATERHUB AT PIEDMONT HOSPITAL

Sunday, March 5 | 1:00 pm - 4:30 pm

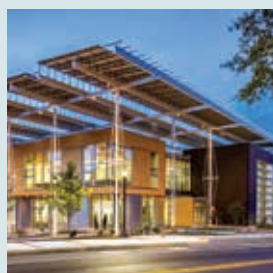


Photo by Jonathan Hillyer
courtesy of Georgia Tech

Visit two cutting-edge examples of onsite water reuse in Atlanta. The Kendeda Building at Georgia Tech is the first building in Georgia—and the 28th worldwide—to receive the Living Building Certification. The building features a 50,000-gallon rainwater cistern, 12 foam flush toilets, 4 waterless urinals, a composting toilet system that converts solids and liquids into fertilizer onsite, and a greywater system that pumps to a constructed wetland at the main entrance of the building. The WaterHub at Piedmont Hospital recycles up to 250,000 gallons per day of wastewater from the hospital using a MBR-RO system for cooling tower and boiler use.

TOUR: CLAYTON COUNTY NATURAL TREATMENT SYSTEM

Wednesday, March 8 | 11:30 am - 4:30 pm



This in-depth tour of Clayton County Water Authority's indirect potable reuse system includes the Casey Water Reclamation Facility, which recycles up to 24 million gallons of water per day. Visitors will also explore the E.L. Huie Jr. Constructed Treatment Wetlands, a 263-acre natural treatment system that polishes recycled water before sending it to drinking water reservoirs. **Wear closed-toe shoes and dress for an outdoor tour.**

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Diversified portfolio

With increasing pressure on water security, the need for diversified water sources has never been greater. Water reuse is integral to a resilient water management portfolio.

As the world's trusted infrastructure consulting firm, we understand both the urgency of accelerating water reuse implementation, and our responsibility to respond in an impactful and enduring way.

NETWORKING EVENTS

WELCOME RECEPTION

Sunday, March 5 | 5:30 pm - 7:30 pm | Marquis Foyer

Kick off your Symposium experience at the Welcome Reception, where you'll catch up with industry colleagues, make new friends, meet our exhibitors, and create connections.

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Let's Solve Water

EARLY CAREER PROFESSIONALS REIMAGINING WATER TOGETHER

Monday, March 6 | 5:30 pm - 6:30 pm | International 1-3

Meet other emerging professionals in the water reuse industry and share experiences! Get to know your peers over speed networking, the inaugural reuse facility puzzle contest, and light refreshments.

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INDUSTRY PARTY | WATER IS LIFE: AN EVENING AT THE GEORGIA AQUARIUM

Tuesday, March 7 | 6:00 pm - 9:00 pm | Georgia Aquarium Oceans Ballroom



Eat, drink, and dance in the Oceans Ballroom surrounded by views of the aquarium's beluga whales and Ocean Voyager, the largest aquatic habitat in the Western Hemisphere. Join small-group tours to view the aquarium's pump room and water quality systems center; as well as the upper Ocean Voyager exhibit, upper Tropical River, and Vet Services.

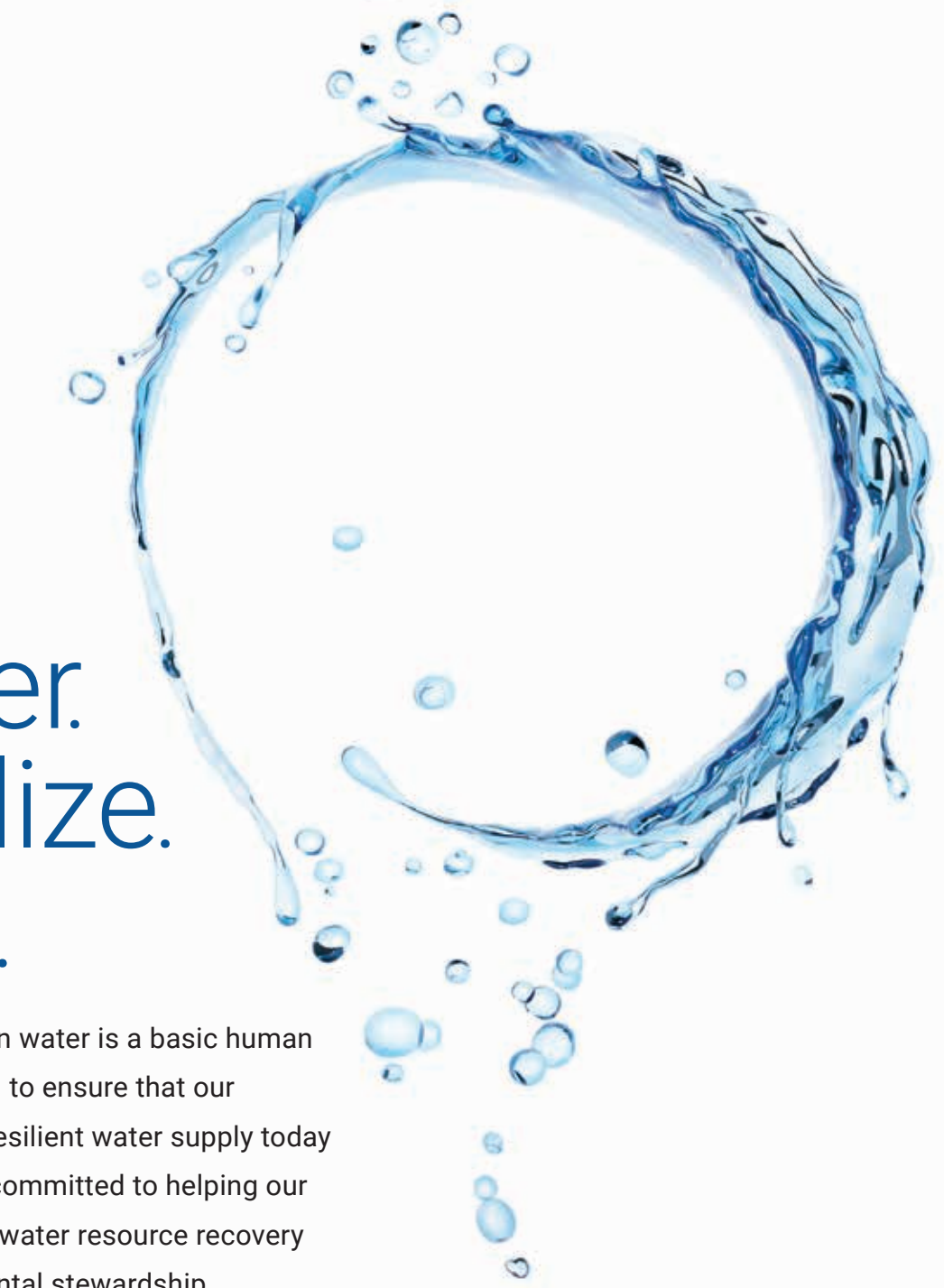
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How to get there:

The Georgia Aquarium is about a 15-minute walk from the Marriott. The private entrance for the Oceans Ballroom is on the side of the building at 242 Ivan Allen Jr Blvd NW, Atlanta, GA 30313.





Recover. Revitalize. Reuse.

We believe access to clean water is a basic human right. We are working hard to ensure that our communities have more resilient water supply today and in the future. We are committed to helping our clients on their journey of water resource recovery and reuse, and environmental stewardship.

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Our singular focus on water inspires us
to look beyond the surface of what's doable,
into the depth of what's possible.
The results are industry-changing innovations and
solutions that impact our communities and our
ecosystems. It all comes at a critical time in
our industry because while many see uncertainty,
we see opportunity. It's all in how you look at it.

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SYMPOSIUM PROGRAM HIGHLIGHTS

WORKSHOPS

Jumpstart your Symposium experience with one of three interactive workshops.

WATER REUSE 101: INTRODUCTION TO WATER RECYCLING FROM THE EXPERTS

Sunday, March 5 | 1:00 pm - 5:00 pm | M103 - M105

If you are new to water reuse or just need a good refresher, the Water Reuse Boot Camp is the perfect way to begin the Symposium. Join us for an A-to-Z discussion of the drivers, challenges, and opportunities for reuse and walk away with a basic understanding of the key steps to planning and implementing a successful project.



COMMUNICATION INTENSIVE – ACHIEVING RATEPAYER & STAKEHOLDER SUPPORT

Sunday, March 5 | 1:00 pm - 4:30 pm | M301 - M303

How do you build trust and passion for water reuse in your community? Join an interactive workshop to explore best practices, lessons learned, and key outreach strategies that connect with ratepayers, elected leaders, and policy makers. Meet seasoned communications practitioners in discussion groups and develop messaging that will resonate with your community.



WATER REUSE IN THE EASTERN US: Drivers, Research Needs, Successes & Opportunities

Sunday, March 5 | 1:00 pm - 3:00 pm | Imperial A

Join The Water Research Foundation to discuss research drivers and priorities for water reuse in the Eastern United States. Hear from a panel of east coast water reuse utility representatives, then join breakout discussions to delve into research needs and hurdles, and more.



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SYMPOSIUM PROGRAM HIGHLIGHTS

OPENING GENERAL SESSION

Monday, March 6 | 8:00 am - 10:30 am | Marquis B-D

BREAKFAST & WELCOMING REMARKS

- Craig W. Lichty P.E., Vice President, Client Director and Vice President, Black & Veatch; WaterReuse Association President
- Honorable Mayor Andre Dickens, City of Atlanta

KEYNOTE ADDRESS: A-P HURD: THE WATER CYCLE & THE CITY OF THE FUTURE

A-P Hurd is a developer and consultant who works on projects that match capital with building better cities. In this session, A-P will discuss the impact of the regulatory environment on developing the cities we want—and in particular its impact on water management. A-P is the author of *The Carbon Efficient City*, a book on how to build better, more delightful cities that minimize water and energy use.



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THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA



ROUNDTABLE DISCUSSION: REIMAGINING WATER TOGETHER – Creating a Modern, Resilient, & Equitable Future with Water Recycling

A panel discussing how water recycling can be a critical tool in promoting equitable solutions that ensure underserved communities see the benefits, not just the burdens, of infrastructure planning and delivery. The discussion will explore how more cities can use water recycling programs to mitigate the water supply consequences of climate change, ensure broader water accessibility and affordability, particularly in disadvantaged communities, and support economic stability and growth.

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MODERATOR

Victoria Johnson, Global Equity Director, HDR

PANELISTS

- Haley Falconer, Environmental Division Senior Manager, City of Boise
- Beverley Stinson, Executive Vice President, Global Water Business Line, AECOM
- Keisha Thorpe, Assistant General Manager – Operations, Clayton County Water Authority

One Water Solutions Start Here



Through holistic planning, we help communities map out a sustainable water future. Our One Water approaches focus on affordable, equitable and implementable design.

Proud Winner Circle sponsor of the WaterReuse Symposium

hdrinc.com/one-water-solutions



SYMPOSIUM PROGRAM HIGHLIGHTS

WATEREUSE ASSOCIATION ANNUAL BUSINESS MEETING & AWARDS CEREMONY

Monday, March 6 | 12:00 pm - 1:30 pm | Marquis B-D

WELCOME

Craig W. Lichty P.E., Client Director and Vice President, Black & Veatch;
WateReuse Association President

STATE OF THE ASSOCIATION

Patricia L. Sinicropi, Executive Director, WateReuse Association

WATEREUSE AWARDS FOR EXCELLENCE

B. Narayanan, President and CEO, Carollo Engineers; WateReuse Board of Directors

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BREAKFAST PLENARY SESSION

Tuesday, March 7 | 7:00 am - 9:00 am | Marquis B-D

OPENING REMARKS

Michael Regan, Administrator of the U.S. Environmental Protection Agency (invited)

WATER REUSE INTERAGENCY WORKING GROUP:

FEDERAL COLLABORATION TO BUILD COMMUNITY CAPACITY

The Federal Water Reuse Interagency Working Group, established under the Bipartisan Infrastructure Law, facilitates collaborative actions and develops tools to advance water reuse across the United States. This interactive conversation offers the chance to provide your input on current challenges to implementing reuse at the local level and tangible opportunities to address identified barriers.

MODERATOR

Jon Freedman, Senior Vice President - Global Government Affairs & Policy, Veolia

PANELISTS

- Josh Human, BRIC Partnership Lead, Federal Emergency Management Agency, U.S. Department of Homeland Security
- Maribeth Menendez, Program Analyst, Bureau of Reclamation, U.S. Department of Interior
- Martin Page, Operational Water Research Team Lead, U.S. Army Corps of Engineers, U.S. Department of Defense
- Mark Philbrick, Science and Technology Fellow, U.S. Department of Energy
- Sharon Nappier, National Program Leader for Water Reuse, U.S. Environmental Protection Agency
- Clinton Williams, Soil Scientist, U.S. Department of Agriculture
- Jasen Kunz, Environmental Health Officer, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, and Commander, United States Public Health Service

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Gwinnett County, GA



Hamby Water Reclamation Facility, Abilene, TX

Your water reuse journey starts with decisions made today. Veolia Water Technologies & Solutions is able to support programs from early stage development through to full scale implementation. Our team can take you through planning, regulatory requirements, design, and deployment of all sizes of equipment, including pilots and demonstration units, and offers ongoing services for operating facilities.

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SYMPOSIUM PROGRAM HIGHLIGHTS

LUNCHEON PLENARY SESSION

Tuesday, March 7 | 12:00 pm - 1:30 pm | Marquis B-D

INDUSTRIAL WATER REUSE CHAMPION AWARD PRESENTATION

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U.S. Chamber of Commerce



HELPING INDUSTRY MEET ESG GOALS: THE BUSINESS OF WATER RECYCLING

Businesses are facing increasing pressure from regulators, politicians, and investors to participate in environmental, social, and governance (ESG) reporting. This panel brings together top executives representing a variety of industries, including technology, energy, and food & beverage to explore how water recycling can help industry achieve resiliency goals. The panel will discuss the impacts of ESG goals, the potential for ESG practices to improve a company's reputation with investors, and public-private partnerships that can help industry embrace water recycling.

MODERATOR

Chuck Chaitovitz, Vice President, Environmental Affairs and Sustainability, U.S. Chamber of Commerce

PANELISTS

- Huiet Joseph, Director, Sustainability and Engineering, Cox Enterprises
- Joan Kowal, Director – Distributed Generation, NextEra Energy Resources
- Theresa Mazure, Food Safety Principal Scientist: Sustainability, PepsiCo
- Beau Schilz, Senior Manager, Americas Water Team, Amazon Web Services

BREAKFAST PLENARY SESSION

Wednesday, March 8 | 8:00 am - 9:30 am | Marquis B-D

WATER REUSE REGULATOR SUMMIT BRIEFING

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State regulatory agencies from across the U.S. come together to discuss and share information and experiences on programs and approaches for the management of water reuse. This briefing will share highlights from the 2023 Water Reuse Regulator Summit, hosted by the Association of Clean Water Administrators and Association of State Drinking Water Administrators. The regulator summit supports National Water Reuse Action Plan, Action 2.2: Enhance State Collaboration on Water Reuse.



PRESENTERS

- Shellie Chard, Director, Water Quality Division, Oklahoma Department of Environmental Quality
- Erika Crespo, Assistant Deputy Director, Water Quality Division, Texas Commission on Environmental Quality



OPPORTUNITY OF A LIFETIME

Water challenges are escalating around the globe, placing people and communities, our environment, and our very future at risk. By 2025, 1.8 billion people will be living in countries or regions with absolute water scarcity. We are a Fortune 1000 global water technology provider with one mission: to help our customers solve water through the power of technology and expertise. Together, we can make water more accessible and affordable, and communities more resilient. Let's create a world that is more water-secure and sustainable for all. We have the opportunity of a lifetime to solve water. Let's work together and lead the way. Come meet with Xylem personnel at the WaterReuse Symposium to learn more about Xylem's solutions to water scarcity or visit our website to learn more. #LetsSolveWater



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Let's Solve Water

SYMPOSIUM PROGRAM HIGHLIGHTS

BREAKFAST PLENARY SESSION (CONTINUED)

Wednesday, March 8 | 8:00 am - 9:30 am | Marquis B-D

WATER REUSE IN THE ONE WATER RESEARCH PORTFOLIO

Peter Grevatt, CEO, Water Research Foundation

The Water Research Foundation (WRF) is the world's leading One Water research and innovation organization and a collaborator in planning and presenting the Annual WaterReuse Symposium. Water reuse research supports regulatory and policy decisions and drives innovation that can improve the cost and efficiency of planning and operating a water recycling program. Join CEO Peter Grevatt for an insider look at how water reuse is weaved into WRF's One Water research portfolio, an overview of research priorities, and a discussion of the potential for recent state and federal investments in water reuse research to accelerate the adoption of water recycling as a water management tool.

PRESENTED BY



INNOVATION PLENARY PANEL

Wednesday, March 8 | 9:45 am - 11:00 am | Marquis B-D

SETTING THE STAGE FOR POTABLE REUSE: 50 YEARS OF THE CLEAN WATER ACT

Water recycling couldn't exist as it does today without the Clean Water Act. Fifty years ago, the law famously improved the quality of many of our nation's rivers, beaches, and waterways, setting the stage for advanced water purification processes that allow us to make any water drinkable. Growing public acceptance and the appeal of more cost-effective single distribution systems are leading an increasing number of communities to build potable water reuse into their water management plans, if not for today, as an inevitable part of the future. Our panel of state regulators, utility leaders, and environmentalists will consider a future where potable reuse is the norm everywhere, including in non-arid regions, and discuss how we get there.

MODERATOR

Adam Krantz, Chief Executive Officer, National Association of Clean Water Agencies

PANELISTS

- Brian Armstrong, Executive Director, Southwest Florida Water Management District (Florida)
- Thomas Sigmund, Executive Director, NEW Water (Wisconsin)
- Nancy Sutley, Deputy Mayor of Energy and Sustainability, City of Los Angeles (California)
- Gilbert Trejo, Vice President of Operations and Technical Services, El Paso Water (Texas)

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The WaterReuse Symposium would not be possible without the generous support of our sponsors.

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Communities around the world face big challenges brought on by climate change, shifting populations, and industrial development. These challenges are providing opportunity for innovative solutions which ensure our communities remain resilient and thriving.

Whether we're designing a drinking water plant or incorporating water reuse into water management strategies, our end-to-end sustainable solutions help ensure safe, resilient water supplies for clients from Georgia to Hong Kong and Australia to Saudi Arabia.

We're engineering a better future for our planet and its people by connecting people, data and technology.

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NEXTERA DISTRIBUTED WATER

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Hazen





Eastern Municipal Water District (EMWD) is proud to be a leader in using recycled water to support its vibrant agricultural community.

Through specialized rates and a reliable infrastructure system, EMWD's recycled water program helps irrigate nearly 10,000 acres of farmland throughout our service area.

Together, we are committed to using the right water for the right use, as efficiently as possible.



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Advanced Water Purification Facility

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Construction to begin in 2024.



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The WaterReuse Association thanks our partnering organizations for marketing and communications support of the 2023 WaterReuse Symposium.

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The 2023 WaterReuse Symposium is presented in collaboration with The Water Research Foundation.

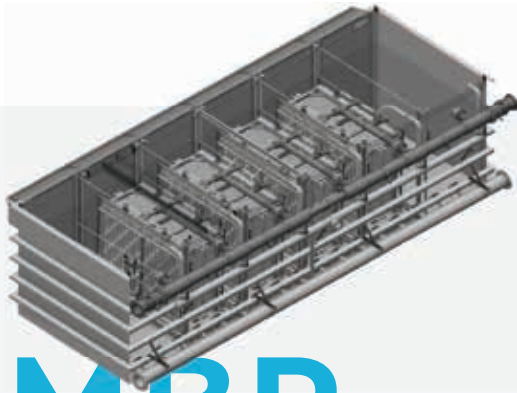


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TECHNICAL PROGRAM



MORE INFO

Visit watereuse.org/program for the most updated program. Scan the QR code to view brief descriptions of each technical session:



SESSION RECORDINGS

Don't want to miss any sessions? You can still add Session Recordings to your 2023 WateReuse Symposium registration by visiting watereuse.org/symposium. Session recordings will be available to stream on demand beginning April 10!

WRAP

Session aligns with National Water Reuse Action Plan efforts.

WRF

Session aligns with The Water Research Foundation efforts.

SUNDAY, MARCH 5

	Water Resources Planning, Governance, & Management INTERNATIONAL 8-10 Moderator: Maria Alvarez, Atkins			
1:00 pm - 3:00 pm	Advances in Interagency Collaboration Eric Rosenblum, Water Resource Consultant; Shannon Spurlock, Pacific Institute WRAP 2.16	WORKSHOP WATER REUSE IN THE EASTERN US: DRIVERS, RESEARCH NEEDS, SUCCESSES & OPPORTUNITIES IMPERIAL A Presented by The Water Research Foundation Moderator Julie Minton, The Water Research Foundation Pinar Balci, NYC DEP; Germano Salazar-Benites, HRSD; Lynn Spivey, Plant City; Bart Weiss, Hillsborough County; Chris Impellitteri, Gwinnett County; Tricia Kilgore, BJWSA WRF	WORKSHOP WATER REUSE 101 – INTRO TO WATER RECYCLING FROM THE EXPERTS M103 - 105 Sponsored by: McKim & Creed Overview of Water Reuse: History, Drivers, Benefits & Challenges Kati Bell, Brown & Caldwell Water Reuse Treatment Technology Basics Dr. Fraser Kent, H2O Innovation Building Public & Stakeholder Support Robyn Felix, Southwest Florida Water Management District Securing Water Reuse Project Funding Greg Fogel, WateReuse Association CONTINUES AFTER BREAK	WORKSHOP COMMUNICATIONS INTENSIVE: ACHIEVING RATEPAYER & STAKEHOLDER SUPPORT M301 - 303 Sponsored by: Jacobs Presenters Patricia Tennyson, Katz & Associates Robyn Felix, Southwest Florida Water Management District CONTINUES AFTER BREAK
	Quantification of Carbon Emissions in Potable Reuse Treatment Configuration Brett Wagner and Vijay Sundaram, AECOM			
	How Reuse Went from Aspirational to Imperative in the Tualatin Basin (OR) Jared Kinnear, Clean Water Services			

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SUNDAY, MARCH 5

3:00 pm - 3:30 pm	NETWORKING BREAK			
	<div>Industrial Reuse Approaches</div> <div>INTERNATIONAL 8-10</div> <div>Moderator: Julie Minton, The Water Research Foundation</div>	<div>Evaluating Carbon Based Advanced Treatment</div> <div>INTERNATIONAL 5-7</div> <div>Moderator: Dylan Christenson, Black & Veatch</div>		
3:30 pm - 4:00 pm	<div>Innovative Membrane-Based Approach for High-Strength Industrial Water Reuse (IA)</div> <div>Dr. Samik Bagchi, Digested Organics</div>	<div>Ozone Disinfection Credit Without a Residual! (UT, VA, FL, Israel)</div> <div>Samantha Hogard, Hampton Roads Sanitation District; Andrew Salvesson, Carollo</div> <div>WRF 5129</div>	<div>WORKSHOP</div> <div>CONTINUED</div> <div>WATER REUSE 101 – INTRODUCTION TO WATER RECYCLING FROM THE EXPERTS</div> <div>M103 - 105</div>	<div>WORKSHOP</div> <div>CONTINUED</div> <div>COMMUNICATIONS INTENSIVE: ACHIEVING RATEPAYER & STAKEHOLDER SUPPORT</div> <div>M301 - 303</div>
4:00 pm - 4:30 pm	<div>Advanced Treatment with ZLD to Meet Internal Reuse at an Industrial Facility (IA)</div> <div>Chandra Mysore, Jacobs</div>	<div>Optimizing CBAT: A Pilot Study Comparing Direct vs Conventional Filtration (VA)</div> <div>Samantha Hogard, Hampton Roads Sanitation District; Savannah Moretz, Old Dominion University</div>	<div>Water Reuse in Practice: Lessons Learned and Keys to Success</div> <div>Moderator Gary Revoir, Tetra Tech</div> <div>Brian Good, Denver Water; Pete Nardi, Hilton Head Public Service District; Kendra Staniel, Clayton County Water Authority; Chad Wilbanks, The Water Tower</div>	
4:30 pm - 5:00 pm	<div>Breaking Even & Beyond: Water Reuse at EV Battery Facilities</div> <div>Randy Booker and Diana Chumak, Gresham Smith</div>	<div>What Carbon-Based Advanced Treatment Offers to Potable Reuse (OR)</div> <div>Aarthi Mohan, Southern Nevada Water Authority; Aleksey Pisarenko, Trussell Technologies, Inc.</div> <div>WRF 4832</div> <div>WRF 5035</div>		
5:30 pm - 7:00 pm	WELCOME RECEPTION MARQUIS FOYER SPONSOR: XYLEM			



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Monday, March 6 | 2:15 PM | TO DYE OR NOT TO DIE (MASSACHUSETTS PLUMBING WATER RECYCLING POLICY)

Tuesday, March 7 | 4:15 PM | GOOGLE BAYVIEW: BLACKWATER REUSE FACILITY LESSONS LEARNED

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MONDAY, MARCH 6

8:00 am -
10:30 am

OPENING GENERAL SESSION – MARQUIS B-D

BREAKFAST AND OPENING REMARKS

Craig W. Lichty P.E., Client Director and Vice President, Black & Veatch; WateReuse Association President

WELCOME

Honorable Mayor Andre Dickens, City of Atlanta

KEYNOTE ADDRESS: THE WATER CYCLE AND THE CITY OF THE FUTURE

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Keynote Speaker

A-P Hurd, President, Skipstone

ROUNDTABLE DISCUSSION: REIMAGINING WATER TOGETHER –

Creating a Modern, Resilient, and Equitable Future with Water Recycling

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Moderator

Victoria Johnson, Global Equity Director, HDR

Panelists

- Haley Falconer, Environmental Division Senior Manager, City of Boise
- Beverley Stinson, Executive Vice President, Global Water Business Line, AECOM
- Keisha Thorpe, Assistant General Manager – Operations, Clayton County Water Authority

10:30 am -
11:00 am

NETWORKING BREAK & POSTER PRESENTATION

SPONSOR: NACWA

	Advancing Reuse in Small or Under-Represented Communities INTERNATIONAL 8-10	Water Reuse Communications, Outreach, & Education MARQUIS A	Environmental Mitigation, Climate Resiliency, & Adaptation INTERNATIONAL 5-7	Industrial Reuse Opportunities M103- M105	Innovation & Emerging Research M301-M303	Policies & Programs Advancing Water Recycling IMPERIAL A	Potable Reuse Innovations IMPERIAL B
11:00 am - 12:00 pm	Expanding Water Reuse to Small and Underserved Communities: Lessons Learned (CA, ID, KS) Mike McCullough, Monterey One Water; Tressa Nicholas, Idaho Dept of Environmental Quality; Rogelio Rodriguez, Water Finance Exchange; Shannon Spurlock, Pacific Institute WRAP 8.5	Water & Health: A Physician Looks at Water Reuse (CA) Ashley Harper, U.S. EPA; Jasen Kunz, CDC; Santosh Pandipati, MD, Santa Clara County Medical Association; Eric Rosenblum, Water Resource Consultant; Patricia Tennyson, Katz and Associates; Ken Yew MD, Santa Clara County Medical Association	World-Wide Water Reuse Implementation Critical to Meet SDGs (Germany, Singapore, United States) Melissa Meeker, The Water Tower; Emma Sawade, South Australian Water Corporation; Dr. Shane Snyder, Nanyang Technological University Singapore	Risk-Based Guidance for Treated Oil & Gas Produced Water Reuse: Progress & Opportunities Josh Butler, ExxonMobil; Cloelle Danforth, Environmental Defense Fund; Michael Jahne, U.S. EPA; Sean Thimons, U.S. EPA; Pei Xu, New Mexico State University WRAP 4.2 WRAP 3.8	Standardizing Quantitative Assessment of Antimicrobial Resistance to Inform Risk (VA) Dr. Jay Garland, U.S. EPA; Raul Gonzalez, Hampton Roads Sanitation District; Dr. Kerry Hamilton, Arizona State University; Dr. Amy Pruden, Virginia Tech WRF 4813 WRF 5052	Water Reuse Policy Panel Greg Fogel, WateReuse Association; Jon Freedman, Veolia; Noelle George, WateReuse Texas; John Rehiring, Carollo; Lynn Spivey, Plant City, FL; Jennifer West, WateReuse California	The Next Phase of Reuse in San Diego: Planning for the Central Area Project (CA) Mitchel Bartolo, Trussell Technologies; Lauren Bray, Brown and Caldwell; Doug Owen, Stantec; Jeffery Pasek, City of San Diego Public Utilities Department

MONDAY, MARCH 6

12:00 pm -
1:30 pm

WATEREUSE ASSOCIATION ANNUAL MEETING & AWARDS CEREMONY – MARQUIS B-D SPONSORED BY BLACK AND VEATCH

WELCOME

Craig W. Lichty P.E., Client Director and Vice President, Black & Veatch; WaterReuse Association President

STATE OF THE ASSOCIATION

Patricia L. Sinicropi, Executive Director, WaterReuse Association

WATEREUSE AWARDS FOR EXCELLENCE

B. Narayanan, President and CEO, Carollo Engineers; WaterReuse Board of Directors

WATEREUSE PRESIDENT'S AWARDS AND SERVICE AWARDS

Craig W. Lichty P.E., Client Director and Vice President, Black & Veatch; WaterReuse Association President

	Advancing Reuse in Your Community INTERNATIONAL 8-10 Moderator: Jo Ann Jackson, Black & Veatch	Engaging Your Audience MARQUIS A Moderator: Shea Dunifon, Pinellas County Utilities	Environmental Mitigation, Climate Resiliency, & Adaptation INTERNATIONAL 5-7 Moderator: Ryan Messer, HDR	Industrial Reuse & Salinity Management M103- M105 Moderator: Denis Guibert, H2O Innovation	Evaluating & Assessing Pathogen Removal M301-M303 Moderator: Greg Wetterau, CDM Smith	State of Water Reuse Regulations IMPERIAL A Moderator: Austa Parker, Brown and Caldwell	Potable Reuse Case Studies IMPERIAL B Moderator: Bohdan (Bo) Bodniewicz, AECOM
1:45 pm - 2:15 pm	Small Budget, Big Infrastructure: How We Are Building a Sustainable & Resilient Water System Marcus Hoffman, Silverdale Water District	Talk to the People: Communicating about Boise's Recycled Water Program (ID) Natalie Monro, City of Boise; Emily O'Morrow, Brown and Caldwell	Groundwater Recharge Utilizing Direct Injection of Stormwater & Urban Runoff (CA) Corey Bracken and Alex Waite, City of Santa Monica	Setting & Realizing a Corporate Water Reuse Goal Mike Fokas and Walt Kozlowski, Evoqua	Virus Log Removal During Secondary Wastewater Treatment Ahead of Potable Reuse (CA) Claire Johnson, and Julio Polanco, Orange County Water District WRF 5041	REUSExplorer: A Compilation of U.S. State Water Reuse Regulations Ashley Harper, U.S. EPA WRAP 3.1	Validating Advanced Water Treatment for Managed Aquifer Recharge in Anne Arundel (MD) Christina Alito, HDR; George Heiner, Anne Arundel County, MD, Dept of Public Works
2:15 pm - 2:45 pm	Holistic Water Management in a Small Community: Plant City's Potable Reuse Quest (FL) Carlyn Higgins, and Stephanie Ishii, Hazen and Sawyer	The Art of Storytelling: Partnerships, Creativity & Messaging with BBC Story-Works (CA) Ron Duncan and Melanie Mow Schumacher, Soquel Creek Water District	Climate Resiliency Planning & Adaptive Design for Future Water Projects (CA) Denise Chow and Henry Durand, City of Los Angeles, LA Sanitation & Environment	To Dye or Not to Dye (Massachusetts Plumbing Water Recycling Policy) Rick Petrosino and Adam Stern, Natural Systems Utilities	Implications of Advanced Microbial Methods on Treatment Goals for Potable Reuse Zia Bukhari and Sunayna Dasgupta, American Water Works Service Company Inc. WRF 4760	Weaving a U.S. Water Reuse Policy Picture: Evaluating Patchwork State Water Reuse Policy Changes from 2012-2022 with Systemic Categorization & GIS Maps Elizabeth Thilmany, University of Maryland - Dept of Agriculture and Resource Economics	Pathway to DPR: Transforming the City of Phoenix's Cave Creek WRF to an AWPf (AZ) Andy Mally, Black & Veatch

MONDAY, MARCH 6

2:45 pm - 3:15 pm	20 Years in the Making on Mary's Creek – A New WRF for the City of Fort Worth (TX) Chris Harder, City of Fort Worth; Ellen McDonald, Plummer	Australian Community Sentiment on Alternative Drinking Water Sources (Australia) Darren Romain, Aurecon	Building Local Groundwater Resiliency: High-Capacity Injection at Existing AWTF (CA) Everett Ferguson and Jessica Koop, Water Replenishment District	Role of Salinity Management in DPR Implementation in Arizona (AZ) Dr. Karthik Kumarasamy, Arizona Department of Environmental Quality; Vijay Sundaram, AECOM	Evaluation of Virus Removal by Ultrafiltration Using Rapid In-Field Methods (FL) Dr. Ali Zarei-Baygi, CDM Smith	Mining Wastewater in Texas for Reuse and DPR Erika Crespo, Texas Commission on Environmental Quality	Lessons-Learned from the Long Road to Direct Potable Reuse in Cloudcroft (NM) Jillian Vandegrift, and Tim Ryners, CDM Smith
3:15 pm - 3:45 pm	NETWORKING BREAK & POSTER PRESENTATION SPONSOR: NEXTERA DISTRIBUTED WATER						
	Developing Onsite Reuse Programs INTERNATIONAL 8-10 Moderator: Greta Zornes, CDM Smith	Agricultural Reuse & Irrigation MARQUIS A Moderator: Michael Watts, Garver	Reuse & Resiliency from East to West INTERNATIONAL 5-7 Moderator: Shannon Spurlock, Pacific Institute	Piloting the Right Solution M103- M105 Moderator: Michele Braas, Xylem	Evaluating & Assessing Pathogen Removal M301-M303 Moderator: Lee Portillo, Black & Veatch	State of Water Reuse Regulations IMPERIAL A Moderator: Rob McCandless, Stantec	Water Resources Planning, Governance, & Management IMPERIAL B Moderator: Katie Peach, Veolia
3:45 pm - 4:15 pm	Developing Onsite Water Systems to Support Regional Water Resilience Cora Snyder, Pacific Institute	Water Reuse for Agriculture – Smart Control Concepts (Germany) Steffen Rüting, Xylem Services GmbH	Sustaining Water Supplies for Metro Atlanta Through Water Reuse (GA) Danny Johnson, Atlanta Regional Commission	Lessons Learned from a BOR Funded Desalination Research Project for CT Blowdown Eric Dole and Yuliana Porras Mendoza, Garver	Using the Best Science to Develop Pathogen Log Reduction Requirements in DPR Brian Pecson, and Anya Kaufmann, Trussell Technologies WRF 4951 WRF 4989	Advancing Potable Reuse in Arizona Brian Biesemeyer, Scottsdale Water; Troy Hayes, City of Phoenix Water Services Department; Rob McCandless, Stantec; Naveen Savarirayan, Arizona DEQ; Erin Young, City of Flagstaff, AZ 60 MIN. SESSION CONTINUES ON NEXT PAGE	Leading the AWS Wave of Potable Reuse in Central Florida Tania McMillan, Polk County Utilities; Matthew O'Connor, Dewberry; Pranjali Kumar, Carollo Engineers

MONDAY, MARCH 6

	Developing Onsite Reuse Programs INTERNATIONAL 8-10	Agricultural Reuse & Irrigation MARQUIS A	Reuse & Resiliency from East to West INTERNATIONAL 5-7	Piloting the Right Solution M103- M105	Evaluating & Assessing Pathogen Removal M301-M303	State of Water Reuse Regulations IMPERIAL A	Water Resources Planning, Governance, & Management IMPERIAL B
4:15 pm - 4:45 pm	Implementing Onsite Reuse at the Local Scale Pinar Balci, NYC Department of Environmental Protection; Paula Kehoe, San Francisco Public Utilities Commission; Paula Paciorek, Houston Public Works; Bob Salvatelli, NextEra Distributed Water; Greta Zornes, CDM Smith	Agricultural Reuse for Resilient & Socially Equitable Urban Food Production Craig Jariz, Carollo Engineers	Protecting the Chesapeake Through Reuse: A Regional Collaboration Jay Bernas, Hampton Roads Sanitation District; Ryder Bunce, Virginia Dept of Health; Scott Kudlas, Virginia Dept of Environmental Quality; Doug Powell, James City Service Authority; Eric Rosenblum, Water Resource Consultant; Shannon Spurlock, Pacific Institute WRAP 2.16	Closed Circuit Reverse Osmosis: Piloting Towards a Future of High Recovery Dan Farley and Lee Portillo, Black & Veatch	Killing Two Birds with One Stone: Disinfection Strategies (GA) Coty McDaniel, Clayton County Water Authority; Partiban Raja, Jacobs Engineering	<i>CONTINUED</i> Advancing Potable Reuse in Arizona Brian Biesemeyer, Scottsdale Water; Troy Hayes, City of Phoenix Water Services Department; Rob McCandless, Stantec; Naveen Savarirayan, Arizona; Erin Young, City of Flagstaff	Challenges & Opportunities in One Water Strategic Planning Yulianna Porras Mendoza, Garver
4:45 pm - 5:15 pm		Minimum Liquid Discharge Brackish Groundwater Desalination for Irrigation Water (CA) Michael Boyd, Gradient		Expanded Development of Beneficial Reuse in Franklin Tennessee Scott Alpert, Hazen and Sawyer; Michelle Hatcher, City of Franklin	Membrane Bioreactor Filtrate, a Bin Zero Raw Water for Potable Reuse? Amos Branch, Carollo Engineers, Inc.; Gary Whatcott, City of South Jordan	State Legislation as a Driver for Increased Water Reuse Jo Ann Jackson, Black & Veatch	Nutrient Removal Resilience: Water Reuse in the Water Rich Great Lakes States Dylan Christenson, Black & Veatch
5:30 pm - 6:30 pm	EARLY CAREER PROFESSIONALS REIMAGINING WATER TOGETHER INTERNATIONAL 1-3 SPONSOR: PLUMMER						



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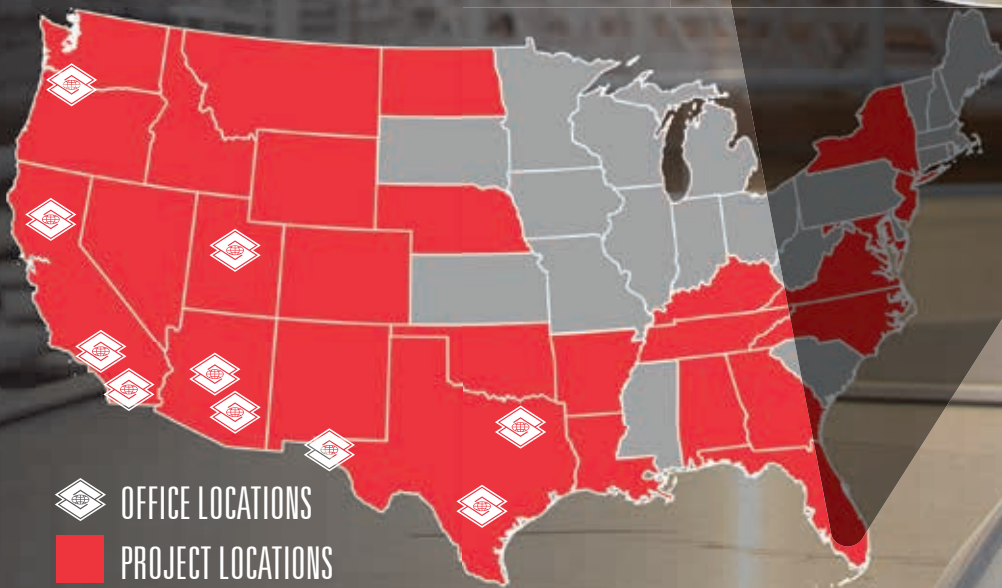
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TUESDAY, MARCH 7

7:00 am -
9:00 am

BREAKFAST PLENARY SESSION – MARQUIS B-D

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OPENING REMARKS

Michael Regan, Administrator of the U.S. Environmental Protection Agency (invited)

WATER REUSE INTERAGENCY WORKING GROUP: FEDERAL COLLABORATION TO BUILD COMMUNITY CAPACITY

Moderator

Jon Freedman, Senior Vice President - Global Government Affairs & Policy, Veolia

Panelists

- Josh Human, BRIC Partnership Lead, Federal Emergency Management Agency, U.S. Department of Homeland Security
- Maribeth Menendez, Program Analyst, Bureau of Reclamation, U.S. Department of Interior
- Martin Page, Operational Water Research Team Lead, U.S. Army Corps of Engineers, U.S. Department of Defense
- Mark Philbrick, Science and Technology Fellow, U.S. Department of Energy
- Sharon Nappier, National Program Leader for Water Reuse, U.S. Environmental Protection Agency
- Clinton Williams, Soil Scientist, U.S. Department of Agriculture
- Jasen Kunz, Environmental Health Officer, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, and Commander, United States Public Health Service

	Advancing Reuse in Small or Under-Represented Communities IMPERIAL B	Onsite Reuse & Decentralized Systems MARQUIS A	System Operations & Workforce Development INTERNATIONAL 5-7	Water Resources Planning, Governance, & Management IMPERIAL A	Communication, Outreach, & Education M301-M303	Innovation & Emerging Research INTERNATIONAL 8-10	Water Resources Planning, Governance, & Management M103- M105
9:00 am - 10:00 am	Private Sector's Role in Partnering with Water Utilities to Advance Environmental Justice (GA, CA, WA, KY) Lindsay Birt, Xylem; Victoria Johnson, HDR; Andy Kricun, Moonshot Missions; Andrew Nishihara, Stantec; Walt Walker, Greeley and Hansen	Small Businesses Innovate Technologies to Advance Onsite Water Reuse Karim Khalil, Infinite Cooling; Bill Musiak, Cambrian; April Richards, U.S. EPA; Tate Rogers, Triangle Environmental	Making Potable Reuse a Reality – Fit for Purpose Engineering and Piloting (CA, FL, VA) Nasir Emami, LA Sanitation and Environment; Zeynep Erdal, Black & Veatch; David Larsen, Moulton Niguel Water District; Joyce Lehman, Metropolitan Water District; Ryan Popko, JEA	Lessons Learned: Israel-U.S. Delegation Patricia Sinicropi, WaterReuse Association; Sharon Nappier, U.S. EPA; Matt Sigler, International Code Council; John Kmiec, Tucson Water; Shellie Chard, OK Department of Environmental Quality; Raj Chavan, Atkins; Eva Steinle-Darling, Carollo; Charles Bott, Hampton Roads Sanitation District; Omer Bab, Embassy of Israel (invited)	See, Touch, & Taste: Offering Consumers Direct Experience with Direct Potable Reuse Marisa Manheim, Arizona State University; Hesse McGraw, Contemporary Arts Museum Houston; Andrew Salveson, Carollo Engineers; David Walby, Scottsdale Water	Unlocking the Nationwide Potential of Water Reuse (EPA Research Grant) Julie Minton, The Water Research Foundation; Eric Dickenson, Southern Nevada Water Authority; Miriam Hacker, The Water Research Foundation; Karl Linden, University of Colorado Boulder WRF	Attributes of Successful Utility Research Programs (FL, GA, CA, NV) Alice Fulmer, The Water Research Foundation; Nancy McTigue, Cornwell Engineering Group; Bina Nayak, Pinellas County Utilities; Megan Plumlee, Orange County Water District Kristan Vanden-Heuvel, The Water Tower; Eric Wert, Southern Nevada Water Authority WRF 5166
10:00 am - 10:30 am	NETWORKING BREAK & POSTER PRESENTATION SPONSOR: ARCADIS						



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TUESDAY, MARCH 7

	Programs Advancing Water Reuse IMPERIAL B Moderator: Kavita Mak, U.S. Environmental Protection Agency	Stormwater Capture & Use MARQUIS A Moderator: Paul Cook, Irvine Ranch Water District	Finding the Right Treatment Train INTERNATIONAL 5-7 Moderator: Vasu Veerapaneni, Black & Veatch	Onsite Reuse & Decentralized Systems IMPERIAL A Moderator: Cara Lucas, Natural Systems Utilities	Industrial Reuse Opportunities M301-M303 Moderator: Mike Hightower, New Mexico Produced Water Research Consortium	Assessing Water Resources INTERNATIONAL 8-10 Moderator: Gary ReVoir, Tetra Tech	Industry Innovations M103- M105
10:30 am - 11:00 am	Stories of Water Reuse Projects Supported by EPA's WIFIA Robert L. (Bob) Atkins, Dekalb County, GA; Bohdan (Bo) Bodniewicz, AECOM; Royce Davis, City of Boise; Kavita Mak, U.S. EPA; Melanie Mow Schumacher, Soquel Creek Water District	Expanding Water Resiliency in Colorado Through Urban Stormwater Capture & Use Shannon Spurlock, Pacific Institute	Mapping the Impact of TOC Transformation on DBP Generation in UV/AOP in Reuse Erin Mackey, Brown & Caldwell	Updated Pathogen Log-Reduction Targets for Onsite Non-Potable Water Reuse Michael Jahne, U.S. EPA Office of Research and Development; Mary Schoen, Soller Environmental WRAP 3.4	Panel on State Produced Water Treatment & Reuse Approaches Mike Hightower, New Mexico Produced Water Research Consortium; Danny Reible, Texas Tech University; James Rosenblum, Colorado Produced Water Research Center; Will Stringfellow, Stringfellow & Associates; Sean Thimons, U.S. EPA	Life Cycle Assessment and Cost Analysis of Potable Reuse: IPR, Ozone-BAC & RO (GA) Jay Garland, U.S. EPA; Ben Morelli, Eastern Research Group	One Water in Action: Innovation Technologies and Solutions to Promote a Water Circular Economy Ofer Avidan, WFI
11:00 am - 11:30 am		Stormwater Capture & Use – A Planning Approach & Future Research Elisa Garvey, Carollo Engineers WRF 4841	VUV- Biofiltration: Innovative Integrated Treatment for Potable Reuse Katherine Bell, Brown & Caldwell	Successful Implementation of Onsite & Distributed Water Reuse Systems Carolyn Hayek, Columbia University WRF 5040		Implementing Reuse in the Water DROP Initiative in Miami-Dade County (FL) Ed Recetenwald, Black & Veatch; Dr. Virginia Walsh, Miami-Dade Water and Sewer Department	Intelligent Human Machine Interface to Support Broader Adoption of Potable Reuse Jason Assouline, Amos Branch, and Andrew Salvesson, Carollo Engineers; Kevin Hardy, NWRI; Yasuhiro Matsui, Yokogawa Electric America
11:30 am - 12:00 pm	Supporting Water Reuse through FEMA Hazard Mitigation Programs Justin Mattingly, U.S. EPA WRAP 2.14	Guidance for Treatment of Stormwater to Meet Pathogen Reduction Targets Jumana Alja'fari, Colorado State University; Sybil Sharvelle, Colorado State University WRF 5034	Controlling Haloacetonitriles Formation in Potable Reuse George William Kajjumba, Southern Nevada Water Authority WRF 5053	Novel Energy Efficient External Tubular MBR for Onsite Water Reuse Jeff Danner and Rob Kershner, Innovatreat	WaterSTAR: Produced Water Quality and Quantity Database Tara Gross, Ground Water Protection Council	Bioassays for Water Quality Monitoring: Ready for Prime Time? Shane Snyder, Nanyang Environment and Water Research Institute	

TUESDAY, MARCH 7

12:00 pm -
1:30 pm

INDUSTRIAL WATER REUSE CHAMPION AWARD PRESENTATION – MARQUIS B-D

HELPING INDUSTRY MEET ESG GOALS: THE BUSINESS OF WATER RECYCLING

SPONSORED BY CAROLLO ENGINEERS

Moderator

Chuck Chaitovitz, Vice President, U.S. Chamber of Commerce

Panelists

- Huiet Joseph, Director, Sustainability and Engineering, Cox Enterprises
- Joan Kowal, Director – Distributed Generation, NextEra Energy Resources
- Theresa Mazure, Food Safety Principal Scientist: Sustainability, PepsiCo
- Beau Schilz, Senior Manager, Americas Water Team, Amazon Web Services

	Importance of Public Messaging & Demonstration Facilities IMPERIAL B Moderator: David Ebersold, CDM Smith	System Operations & Workforce Development MARQUIS A Moderator: Simon Baker, AECOM	Finding the Right Treatment Train INTERNATIONAL 5-7 Moderator: Steve Katz, Veolia	Implications of PFAS in Reuse IMPERIAL A Moderator: Rosa Yu, Carollo	Rethinking Water Reuse's Role M301-M303 Moderator: David Rieken, Sundt	Water Reuse & Desalination INTERNATIONAL 8-10 Moderator: Shannon McCarthy, International Desalination Association	Industry Innovations M103- M105
1:45 pm - 2:15 pm	Designing PWD's AWT Demonstration Facility to Gain Public Acceptance (CA) Brent Eidson, Katz & Associates; Scott Rogers, Palmdale Water District	Program Management for Utilities – Using Your Program to Drive Innovation (CA) Ben Tanimoto, Los Angeles Department of Water & Power WRF 5049	Impacts of WW Performance on Advanced Treatment: Membrane Edition Eva Steinle-Darling, Carollo Engineers WRF 4833	Tracking Down the Sources & Fate of PFAS in Land-Applied Reused Water (OR) Scott Mansell, Clean Water Services; Joy Ramirez, Clean Water Services	Piedmont Hospital Reuse System – Increasing Operational Resilience & Reducing Cost (GA) Katherine Scott, H2O Innovation; Eric Lohan, NextEra Distributed Water; Randy Booker, Gresham Smith	The Role of Desalination to Offset Growing Water Scarcity (Panel developed in partnership with IDA) Jon Freedman, Veolia; Shannon McCarthy, International Desalination Association; Paul Sciuto, Monterey One Water; Devesh Sharma, Aquatech	Collaborative Delivery for Reuse: Comparing Design-Build, CMAR & Non-Traditional Project Delivery Methods to Maximize Outcomes Elizabeth Hurst, Inland Empire Utilities Agency; Naomi Jones, McCarthy Building Co.; Nazario Prieto, City of Phoenix; Germano Salazar-Benitez, SWIFT; Sunny Wang, City of Santa Monica
2:15 pm - 2:45 pm	Microplastic Prevalence & the Importance of Consumer Messaging for Potable Reuse Brent Alspach, Arcadis WRF 5155	Water Workforce for Resilient Communities: Engaging the Next Generation Kristan VandenHeuvel, The Water Tower	Quantification of Pathogen Removal through Tertiary & Secondary MBRs (MWD) (CA) Joyce Lehman, Metropolitan Water District of Southern California	Reuse, RO, & PFAS? Implications for Treatment & Destruction Charlie Liu, Kennedy Jenks Consultants	Atmospheric Water Capture: An Emerging Way to Reuse Water from the Air Anjali Mulchandani, University of New Mexico; Paul Westerhoff and Chao Zeng, Arizona State University		

TUESDAY, MARCH 7

2:45 pm - 3:15 pm	Thinking Big, Building Small: Demonstration Facilities to Support Water Reuse Jason Assouline, Amos Branch, John Rehling, and Andrew Salveson, Carollo Engineers; Rahul Subramanian, Colorado Springs Utilities	Optimizing Your Reuse Plant Operations (SC) Tricia Kilgore, Beaufort-Jasper Water & Sewer Authority	Ozone-BAC in California DPR Projects – There Are Knowns & Unknowns (CA) Ufuk Erdal, Arcadis	How to Plan for PFAS in Carbon-Based Potable Reuse Implementation Christopher Curran, AECOM; Vijay Sundaram, AECOM	Evaluation of WRRF Alternatives for Water Reuse at Zoo Miami (FL) Lucas Botero, Black & Veatch; Lee Kimbell, Black & Veatch	Multi-Criteria Decision Analysis Comparing Water Reuse and Seawater Desalination Martina del Cerro, Menachem Elimelech, Casey Finnerty, and Boreum Lee, Yale University	A Practical Means to Measure Membrane Integrity in IPR/ DPR Reuse: Pressure Decay Testing in UF and MBRs Chris Morrow Ph.D., DuPont Water Solutions
3:15 pm - 3:45 pm	NETWORKING BREAK & POSTER PRESENTATION SPONSOR: GARNEY						
	Tackling New Frontiers IMPERIAL B Moderator: Ralph Franco, Xylem	Data Processing & Monitoring MARQUIS A Moderator: Zakir Hirani, Stantec	Sustainability Goals & Reuse INTERNATIONAL 5-7 Moderator: John Wuert, Eastern Municipal Water District	Enabling Reuse with MBRs IMPERIAL A Moderator: Steve Friedman, HDR	Moving to DPR M301-M303 Moderator: Tanya McCoy-Caretti, Arcadis	Implications of PFAS in Reuse INTERNATIONAL 8-10 Moderator: Eva Steinle-Darling, Carollo	Making Onsite Reuse Possible M103- M105 Moderator: Bob Salvatelli, NextEra Distributed Water
3:45 pm - 4:15 pm	Microplastics – Tackling the Next Big (& Tiny) Unknown (CA) Melanie Holmer, Brown and Caldwell; Lisa Haney, IRWD; Melody LaBella, Central San	Ensure Safety in Potable Reuse: Monitoring Needs & Opportunities Blair Hanson, University of Colorado Boulder WRF 5079	Private-Public Collaborations for Successful Water Replenishment Carla De Las Casas, Brown & Caldwell; Nyima Dansira, PepsiCo; Eric Owens, Water Replenishment District of Southern California	How Membrane Bioreactors Fit in the Future of Treatment & Enabling Reuse Stephen Katz, Veolia	Treatment to Address Chemical Peaks: Is There Flexibility in DPR Process Train? Jean Debroux, and Shane Trussell, Trussell Technologies	Collaborative Development of Non-RO IPR at Marine Corps Base Camp Pendleton (CA) Dr. Fred Gerringer, Hazen and Sawyer	International Plumbing & Residential Code Requirements for Onsite Water Reuse Richard Anderson, International Code Council, Inc.
4:15 pm - 4:45 pm	Using a BAC Filter Model to Make Better Design Decisions Andrew Newbold, Hazen and Sawyer	Real-Time Data Processing & Event Classification for Direct Potable Reuse Billy Raseman, Hazen and Sawyer WRF 4954	Advanced Water Treatment: Lowering the Carbon Footprint of Water Recycling John Crisman and Andrea White, Moleaer, Inc.	Re-thinking Membrane Bioreactor Design for Advanced Treatment Anthony Zamarro, CDM Smith	SFPUC's Journey: From Non-Potable Opportunities to Planning Direct Potable Reuse Andrew Salveson, Carollo Engineers	The Pretreatment Program Drives the Future of One Water (CA) Michael Simpson, LA Sanitation & Environment	Google Bayview: Blackwater Reuse Facility Lessons Learned (CA) Zachary Gallagher, Natural Systems Utilities; Salah Nezar, CBRE at Google
6:00 pm - 9:00 pm	INDUSTRY PARTY: WATER IS LIFE – AN EVENING AT THE GEORGIA AQUARIUM GEORGIA AQUARIUM OCEAN'S BALLROOM, 242 IVAN ALLEN JR BLVD NW, ATLANTA, GA SPONSOR: AECOM						

Making water reuse a cornerstone of water resilience management.

One Water takes a holistic perspective toward water supply management while being fit-for-future applies a similar lens to managing the utility itself. Together, these concepts can ensure water reuse plans focused on quality rather than origin become a cornerstone of water management strategies.

Fit-for-future elements such as Intelligent Water enable utilities to substantially diversify water portfolios and bring a One Water vision to life. By combining the principles of One Water and becoming fit-for-future, organizations can amplify water reuse using alternative supply sources such as recycled water, stormwater, gray water and sea water.

The concepts clearly intertwine. Embracing the connections can help you burst through the obstacles to One Water success. Learn more:

**Becoming fit enough
to tackle One Water's
3 biggest challenges**



**Building a
fit-for-future
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WEDNESDAY, MARCH 9

8:00 am -
9:30 am

BREAKFAST PLENARY SESSION – MARQUIS B-D

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WATER REUSE REGULATOR SUMMIT BRIEFING

Presenters

- Erika Crespo, Assistant Deputy Director, Water Quality Division – Texas Commission on Environmental Quality
- Shellie Chard Director, Water Quality Division – Oklahoma Department of Environmental Quality

WATER REUSE IN THE ONE WATER RESEARCH PORTFOLIO

PRESENTED BY THE WATER RESEARCH FOUNDATION

Peter Grevatt, CEO, The Water Research Foundation

9:30 am -
9:45 am

NETWORKING BREAK

9:45 am -
11:00 am

INNOVATION PLENARY PANEL – MARQUIS B-D

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SETTING THE STAGE FOR POTABLE REUSE: 50 YEARS OF THE CLEAN WATER ACT

Moderator

Adam Krantz, Chief Executive Officer, National Association of Clean Water Agencies

Panelists

- Brian Armstrong, Executive Director, Southwest Florida Water Management District (Florida)
- Thomas Sigmund, Executive Director, NEW Water (Wisconsin)
- Nancy Sutley, Deputy Mayor of Energy and Sustainability, City of Los Angeles (California)
- Gilbert Trejo, Vice President of Operations and Technical Services, El Paso Water (Texas)

11:00 am

CLOSING REMARKS

Craig W. Lichty P.E., Client Director and Vice President, Black & Veatch; WaterReuse Association President

JOIN THE WATEREUSE COMMUNITY

The WaterReuse Association is the nation's only trade association solely dedicated to advancing laws, policy, funding, and public acceptance of recycled water. Our membership includes utilities that recycle water, businesses that support the development of recycled water projects, and customers that use recycled water for operations.

Why Join?

- Impact national and state policymaking
- Engage with your peers
- Connect everyone in your organization with one membership
- Access education and professional development
- Build your network and expand your business



Learn more and join: www.watereuse.org/join



UTILITY OF THE FUTURE TODAY

The Utility of the Future Today (UoTF) Recognition Program honors forward-thinking water resource recovery and recycling facilities. In 2022 the program highlighted utilities serving as anchor institutions in their communities. Winners demonstrated a thorough commitment to diversity, equity, and inclusion. Public and private water sector utilities of all sizes, with no major permit violations in the year prior to the submission date, are encouraged to apply.



The WaterReuse Association partners with the Water Environment Federation (WEF), the National Association of Clean Water Agencies (NACWA), and The Water Research Foundation (WRF) in leading this program, with support from the U.S. Environmental Protection Agency (EPA) and Department of Energy (DOE). **For a complete list of winners, please visit watereuse.org/utotf.**

WATEREUSE MEMBERS RECOGNIZED IN 2022

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Miami-Dade County Water & Sewer Department | Florida
King County Wastewater Treatment Division | Washington

NUTRIENT REDUCTION & MATERIALS RECOVERY

Sacramento Regional County Sanitation District | California

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DC Water | District of Columbia
Eastern Municipal Water District | California
Trinity River Authority of Texas | Texas

WATER REUSE

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City of Pompano Beach Utilities Department | Florida
City of Westminster | Maryland
Toho Water | Florida

WATERSHED STEWARDSHIP

City of Tucson Water Department | Arizona
Houston Public Works | Texas



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STUDENT ART & TIKTOK CONTEST

This year, WaterReuse Association held a contest for art and video creations about water reuse. Students from Georgia, Florida, and South Carolina were eligible to submit. WaterReuse Association congratulates all participants for their fun and educational submissions. The winners are:

BEST DRAWING: 1ST – 4TH GRADE

Ruby D., Ruth Hill Elementary, Newnan, GA

BEST DRAWING: 5TH – 8TH GRADE

Reise H., Union Grove Middle School, McDonough, GA

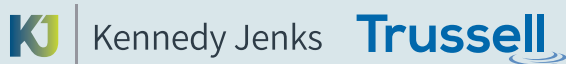
TIKTOK CONTEST: 9TH – 12TH GRADE

First Place: Briana Esquenazi & Nathalia Restrepo,
Doral Academy Prep Charter, Doral, FL

Second Place: Delfina Maggio & Maria Alcocer,
Doral Academy Prep Charter, Doral, FL

Third Place: Luka De La Hoz & Brianna Miranda,
Doral Academy Prep Charter, Doral, FL

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Scan to Watch



Drawing by Ruby D.



Drawing by Reise H.

INDUSTRIAL WATER REUSE CHAMPIONS AWARD

The inaugural Industrial Water Reuse Champions Award recognizes top Fortune 1000 companies that incorporate the best-in-class water recycling and reuse programs to improve water stewardship and achieve their water management goals. The award program was developed by WaterReuse in partnership with the U.S. Chamber of Commerce, Veolia, and University of Pennsylvania Water Center as part of the National Water Reuse Action Plan.

2023's awards recognize:

PepsiCo's Positive (pep+) program collaboration with the Water Replenishment District of Southern California to invest in the water replenishment projects.

Intel's water treatment and recovery facilities (WATR) located in Oregon, Intel Gordon Moore Park, and Arizona, Ocotillo campus that enable Intel to treat and reuse billions of gallons of water each year.

APA Corporation's produced water management approach and performance in the Permian Basin of Texas and New Mexico.

Award Partners



U.S. Chamber of Commerce





A worthwhile journey

It's said that bold journeys begin with a vision but are sustained by grit. We know ours did.

In 1963, the founding Board of Irvine Ranch Water District made the far-reaching decision to collect and treat sewage to produce recycled water.

By 1967, we were delivering recycled water to agricultural customers throughout the District. Today, we produce almost 10 billion gallons a year of drought-proof recycled water, nearly 30 percent of IRWD's water sales.

Almost all public and commercial landscape in our service area — parks, medians, sports fields, school campuses, HOA properties, golf courses — is irrigated with recycled water. It's also used for cooling, construction, and composting, and for toilet flushing in dual-plumbed buildings.

And every gallon of recycled water saves a gallon of drinking water — a worthwhile investment in water reliability.



THEN



NOW



DESIGN, BUILD & FINANCE SOLUTIONS


Envisioning water from a treatment to remediation, recharge to reuse, or conveyance to storage perspective is what we do. Whether traditional bid-build or collaborative delivery, Kiewit offers diverse resources and a track record of delivering projects on time and within budget. Our financial strength can help to secure cost-effective, comprehensive financing solutions for projects.

LET'S WORK TOGETHER



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RESOURCES TO SUPPORT YOUR EXPERIENCE

PROFESSIONAL DEVELOPMENT

The 2023 WaterReuse Symposium is pleased to offer Professional Development Hours (PDHs) for all states. It is the attendee's responsibility to follow up with state accreditation agencies to see whether you qualify.

How Do I Earn Educational Credits at the Symposium?

The 2023 Annual WaterReuse Symposium PDH Request form is available at the registration desk. Please complete and email the form to symposium@watereuse.org or return it back to the registration desk before the end of the Symposium. The final deadline to email the form to receive your PDH Certificate is Friday, June 16, 2023.

When Will I Receive Credits for the Symposium?

Certificates will be emailed to participants within 4 weeks after submission of the PDH request form. 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

A link will be emailed to all Symposium attendees after the conference for access to the PowerPoint presentations.



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Advocacy.

NACWA connects a vast and diverse network of utilities to form an unmatched force in clean water advocacy. As the sole association representing public clean water agencies, the collective voice of NACWA members strengthens our unique impact on legal, legislative and regulatory policies that benefit every community across the country.

Unity.

Through national and regional events and other engagement tools, NACWA fosters peer-to-peer networking with the sector's most innovative and resilient clean water leaders – sharing creative strategies, common challenges and successful solutions.

Value.

NACWA boasts a government affairs staff dedicated to providing the latest sector trends and developments, as well as legislative, regulatory and legal expertise, and essential technical and economic analysis.

Find out how you can add your voice to shape the future of clean water.

Visit nacwa.org.



Leaders in water reuse for over 30 years.

As new water sources become more scarce, our expertise and guidance helps our clients explore their options, plan innovative solutions, and make the most of the resources that they already have.

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FELICIA MARCUS, Stanford University Water in the
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SECURING OUR WATER FUTURE TODAY

WRD manages two of the most utilized urban groundwater basins in the U.S. With the help of three water treatment facilities, WRD no longer needs to import water from Northern California or the Colorado River for groundwater replenishment. This ensures a clean, safe, and sustainable groundwater supply for the four million residents within the WRD service area.

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for Water Recycling &
Environmental Learning**

**Leo J. Vander Lans
Advanced Water
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**Robert W. Goldsworthy
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WRD's Albert Robles Center purifies 14 million gallons of water per day, providing a locally sustainable water supply for groundwater replenishment while bolstering drought-resiliency.

The Leo J. Vander Lans Facility purifies 8 million gallons of water per day for use in coastal injection wells, preventing seawater intrusion and providing supplemental groundwater replenishment.

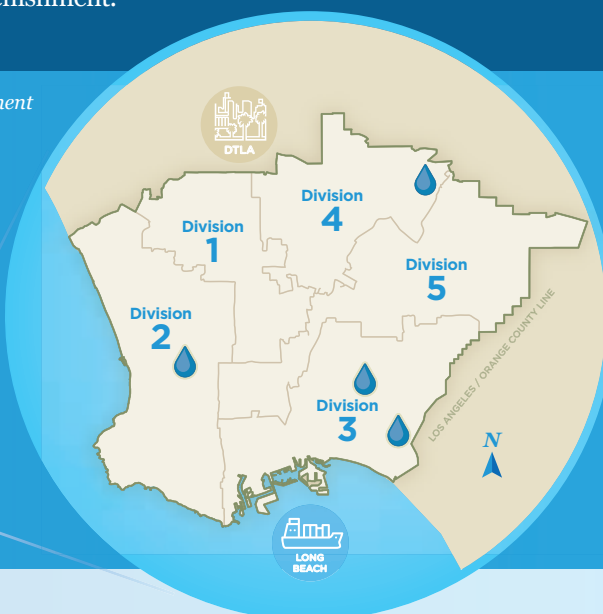
The Goldsworthy Desalter uses reverse osmosis to treat 5 million gallons of brackish (salty) groundwater that is trapped inland due to historical seawater intrusion.

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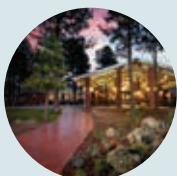
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