



December 2023

## Trustee Update

It has been an eventful year for the WaterReuse California (WRCA) community. During the recent 2023 Annual Conference in Indian Wells, California, WaterReuse included a plethora of knowledge of water reuse technologies, outreach & education, technical sessions, and much more. I am excited to announce that we also unveiled our LA Chapter poster at the conference, we have not had posters since 2019 and bringing this back was refreshing. We were also able to meet our goal of donating \$15k to the Bahman Sheikh University of California, Davis Scholarship established by WRCA which supports undergraduate students pursuing a degree at UC Davis focused on developing and implementing sustainable solutions for water resources management, including water recycling.

With the anticipated adoption of direct potable reuse regulations on or before December 31, 2023, WaterReuse has actively engaged with the membership to gather feedback on the developing criteria. The history of rulemaking proceedings has been and continues to be extensive however, the changes are welcomed and positive. Reflecting on the LA Chapter's achievements over the years, I am excited by the future opportunities to advance water recycling for a new, resilient water supply.

I look forward to working with all of you and seeing the great things you accomplish; wishing you all a happy holiday season!

*Your Los Angeles Chapter  
Trustee,*  
**Rafael Villegas, PE, MSCE**



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Newsletter designed by:



## President's Message

2023 is a bittersweet year that started with the retirement of Earle Hartling who presented on his four decade career in recycled water during our February 2023 bi-monthly chapter meeting which was hosted at LA County Sanitation District. He talked about the chapter's humble beginnings as the Los Angeles County Reclaimed Water Advisory Committee (LACRWAC - pronounced "lacker-wack"), a few major setbacks to water reuse in LA County, and the amazing strides we have made in this past decade. Another significant retirement at the end of the year will be Jennifer West, the Managing Director for WateReuse California. She has a long career in water-related public policy working nearly 20 years in water legislation and regulation and more than 9 years as our Managing Director. She was instrumental in sponsoring and advocating for many water and water reuse bills, working closely with California legislators and regulatory agencies. We are forever grateful for Earle and Jennifer's contributions to WateReuse.

In 2024, WateReuse Los Angeles will strive to shake up our bi-monthly meeting locations. Our meetings are typically hosted at agencies, whom we are very grateful for, that have the

staff and capacity to support a meeting of our size and provide a tour of one of their facilities. If a member does not volunteer to host a meeting, which is certainly no easy task, we have a list of agencies that we call upon who graciously provide their time and facilities for our meetings. Next year we'll try to see if we can have a meeting or two outside of usual rotating list of water agencies. In the past we have had meetings hosted at the LA County Arboretum, LA County Public Health, Forest Lawn, Carollo Engineers' downtown office, and the La Kretz Innovation Campus. If you know of an LA County vendor, customer, client, institution, non-governmental organization, etc, that would be willing to host one of our meetings, please reach out to myself or anyone else in the LA Chapter leadership.

*Stay safe!*

**Jared Lee**  
**Chapter President**



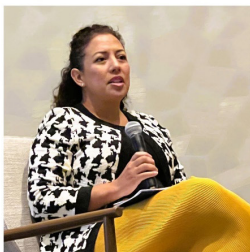
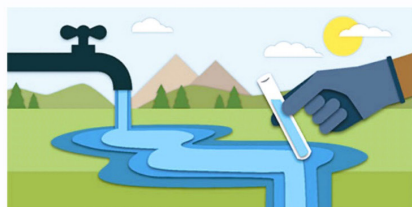
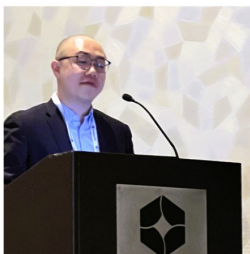


## 2023 WateReuse Conference Recap

More than 700 attended WRCA annual conference in Indian Wells, Calif on November 5th through 7th – breaking all previous state section attendance records. The conference featured technical sessions and panels on the most pressing issues facing water reuse in California, and also included numerous networking opportunities. During the conference, the 2023 Annual Reuse Awards of Excellence were awarded, which highlighted the best and brightest projects and people in the California water reuse sector.

In addition, WRCA held its first-ever charity golf tournament which will help fund the **Dr. Bahman Sheikh Memorial Scholarship**. This scholarship supports undergraduate student(s) pursuing a degree at UC Davis who are studying water sustainability and related topics. The tournament was sold out and a great time was had by all. A video overview of the event is available at the WateReuse California website, [www.watereuse.org](http://www.watereuse.org).

- Christopher Bellona, Colorado School of Mines
- Monica Sanchez, PE, Los Angeles County Sanitation District
- Luisa Sangines, Valley Water
- Theresa Slifko, Metropolitan Water District of Southern California



Panel: Be a PFAS Leader: Proactive Measures to Manage PFAS Across Multiple Types of Reuse hosted by Dr. Charlie Liu, Kennedy Jenks' National PFAS Practice Leader credit: Dawn

WateReuse California Awards Luncheon, eleven exemplary communities, programs, and leaders were recognized for advancing the practice of water reuse in 2023. The winners exhibit the creativity, vision, and expertise that will carry us into a new era of water reuse:

- Recycled Water Agency of the Year – Small:  
**Las Gallinas Valley Sanitary District**
- Recycled Water Agency of the Year – Medium:  
**City of Santa Monica**
- Recycled Water Agency of the Year – Large:  
**Orange County Water District & Orange County Sanitation District**
- Recycled Water Outreach/Education Program of the Year:  
**Water Replenishment District – Albert Robles Center**
- Recycled Water Customer of the Year:  
**Valley-Wide Recreation and Park District**
- Recycled Water Customer of the Year:  
**Shone Farm**
- Recycled Water Staff Person of the Year:  
**Melanie Mow Schumacher**
- Recycled Water Advocate of the Year:  
**Rupam Soni**
- Bahman Sheikh Award for Vision in Water Reuse  
**The Harvest Water Team**
- WateReuse California Distinguished Service Awards:  
**John Robinson, John Robinson Consulting Inc**  
**Dawn Taffler, Kennedy Jenks**





*The WaterReuse California Distinguished Service Award being presented to Dawn Taffler by David Pedersen*



*The Dr. Bahman Sheikh Memorial Scholarship Golf Tournament was held at the historic Celebrity Course at Indian Wells*

## Management of algae growth in recycled water reservoirs

By Alex Franchi, Ph.D., PE, BCEE – Associate Vice President with AECOM

Recycled water is stored in open reservoirs across Southern California for use in irrigation, water features, and cooling systems. Reservoirs provide the perfect environment for algae growth, requiring water, sunlight, and nutrients. Algae blooms are exacerbated during warmer months and dry periods when water temperatures are typically higher and reservoir levels are low. This has presented a suite of challenges to utilities and recycled water users. Generally, algae growth reduces the water quality by increasing the turbidity and accumulating at the end of the distribution system.

For example, algae growth (combined with higher water temperatures) increases chlorine demand, making it more difficult to maintain the chlorine residual required in the distribution system to maintain microbial quality. Some varieties of algae, such as cyanobacteria (blue or green algae), can release compounds toxic to humans, livestock, and wildlife. Algae growth can also cause operational issues by requiring the frequent removal of algae from pump screens. In irrigation systems, algae growth can cause physical clogging of pumps, irrigation lines, sprinklers, and aerators. In cooling towers, algae growth is troublesome because it leads to Legionella growth and can also lower the cooling system's efficiency by blocking screens and distribution decks and interfering with water flow.

The tools available to recycled water providers to minimize algae growth are described below.

**Reservoir aeration and mixing:** Many algae proliferate in standing water, and the agitation provided by an aeration system can prevent blooms from occurring. Aeration of the water body will assist in minimizing algal formation and will help to re-oxygenate the water following blooms. Bubble plume aeration, nanobubbles, mixers, oxygen aspirators, and oxygenation are available technologies in use or being tested by the industry.

**Monitor nutrients (nitrogen and phosphorous), reservoir water level, and climatic conditions:** Monitoring of nutrients and conditions within the reservoir is important in understanding the likelihood of

algal blooms and assessing if algae reduction methods should be implemented. Monitoring of these conditions is also important during an algae bloom, as it is important to remember that dead algae release nutrients within the reservoir, often causing secondary blooms.

**Chemical Treatment:** Despite good reservoir management, the use of algaecides is often unavoidable if a bloom occurs. The traditional method is the application of copper sulfate. However, caution must be exercised, as excessive use of copper and sulfur in the reservoir can be toxic to aquatic plants and animals, as well as turfgrass that is irrigated with recycled water. In-reservoir chlorination is not recommended because of the production of disinfection by-products, toxicity to wildlife, and cost.

**Management of Light Intensity and Exposure:** Covering reservoirs is impractical because of the high cost of the infrastructure. The use of aquatic dye can lower light intensity in the water column and limit algae growth. This is only practical for smaller reservoirs.

**Filtration of reservoir effluent:** Fine screens, media, or disc filters can be used to remove algae, detritus, slime, algae, moss, and snails from recycled water after storage in a reservoir. These filtration solutions should be designed to automatically self-clean to minimize the impact on operations. A well-designed filtration system can minimize the impact of algae on water quality, and it is gaining popularity amongst recycled water providers.



Blue-Green Algal Bloom in Reservoir credit: Santa Clara Valley Water News



## Interview with WateReuse California President, David W. Pedersen

David Pedersen is the General Manager of Las Virgenes Municipal Water District and Administering Agent for the Las Virgenes-Triunfo Joint Powers Authority. In these roles, he serves as the chief executive responsible providing water and sanitation services to residents of the Conejo/Las Virgenes Valleys. He is currently the President of WateReuse California and serves on the Boards of the Association of California Water Agencies, Southern California Water Coalition, California Association of Sanitation Agencies and the Urban Water Institute. We sat down with Dave to speak on his role with WRCA and the coming year..

### What motivated you to take on this role with WateReuse CA?

I'm passionate about the importance of water reuse and recycling to secure California's water future -- so the role with WateReuse California (WRCA) was a natural fit for me. WRCA has a very special place for me and my agency, LVMWD. We lack local water supplies in our part of Southern California, so water recycling is our best means to diversity our water supply portfolio. We started in the early 70s and have an expansive purple pipe network that runs throughout our communities, serving 20 percent of our demands. Now, we're taking recycling to the next level at LVMWD by kicking off design-build work on a \$364 million potable reuse project called the Pure Water Project Las Virgenes Triunfo. The project will be among the first reservoir augmentation projects in California and will supply up to 30% of our region's water demands.

### What accomplishments over the last year are you most proud of?

I'm most proud of the planned adoption of direct potable reuse (DPR) regulations by the State Water Resources Control Board on December 19th. This is a monumental achievement for



California, and the culmination of more than a decade of work by so many amazing water leaders with a bold vision for the future. Jennifer West, Managing Director of WRCA, is one of those water leaders and will be able to mark this as a capstone achievement before stepping down from her role with the organization at the end of the year.

There was a time when some thought that DPR would not be possible in California – that it couldn't be done. Thankfully, they were wrong. Beginning with SB 918 (Pavley) in 2010, WRCA charted a stepwise path forward to develop the science needed to support the finding of an independent expert panel that DPR regulations could be prepared and protective of public health. More than \$6 million in research completed through the Direct Potable Reuse Initiative from 2012 to 2016 was key in supporting the expert panel's finding. In 2017, AB 574 (Quirk), a bill co-sponsored by WRCA and the California Coastkeeper Alliance, set the timeline for the DPR regulations to be adopted by December 31, 2023. Now, it's happening on-time and according to plan, which is amazing to see.

**What are your goals for the next year?**

Next year will be important one for WRCA – and a time of transition. First, we’ll be selecting a new Managing Director to lead the organization. It will be tough to fill Jennifer’s shoes, but I’m confident that we’ll find a dynamic leader to move us forward. In doing so, I’m anticipating that it will be a time to re-look at our strategic plan to be sure we’re prioritizing the issues that are most important to our members. With potable reuse regulations complete, we’ll want to shift our focus to supporting implementation of reuse projects across California – and that will require major financial resources. We’re looking at the potential for a climate resilience/resources bond on the November 2024 ballot, and I’d like to be sure that

it includes significant funding for water recycling. The Governor’s 2040 goal for water recycling in California is \$1.8 million acre-feet, and we’re going to need the state to help us make that a goal a reality.

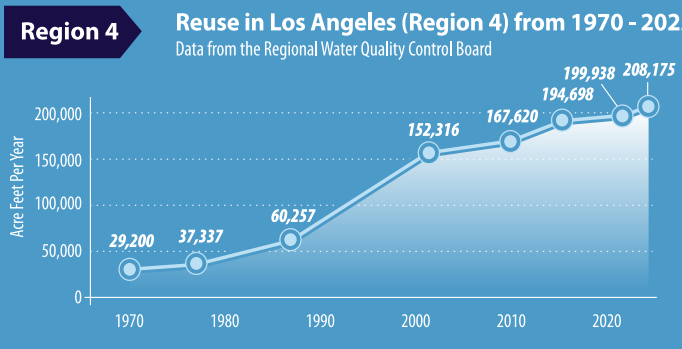
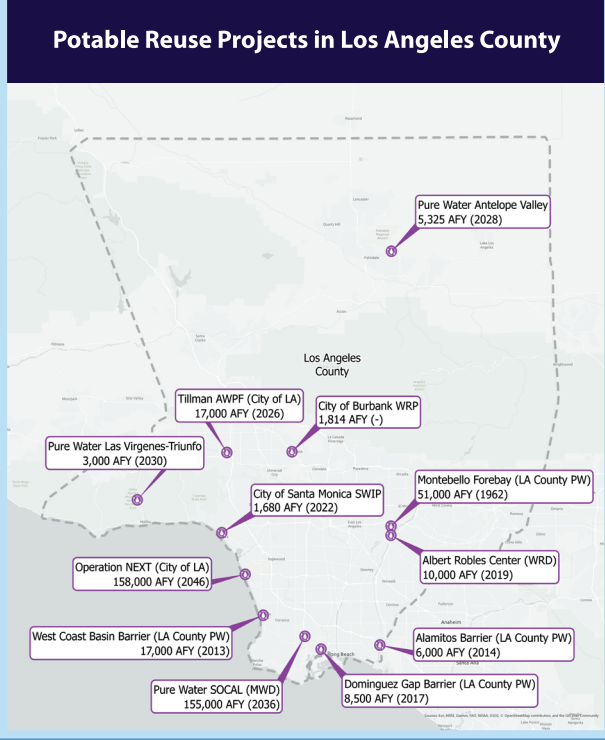
**Why is WateReuse such an important organization?**

I think WRCA and its national partner and parent organization, the WateReuse Association, are at the center of a growing movement to make our nation’s water resources more resilient to a changing climate – and it is happening at a time when it is so urgently needed. Water reuse and recycling is one of our best adaptation strategies. I cannot think of anything more important.



**Los Angeles Chapter Active Members**

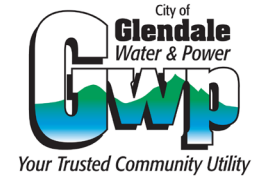
- AECOM
- Arcadis
- Atkins
- Black & Veatch
- Brown and Caldwell
- Burbank Water and Power
- California American Water
- California Coastkeeper Alliance
- California State Water Resources Control Board
- California Water Service Company
- Canillo Engineers
- Central Basin Municipal Water District
- City of Los Angeles, LA Sanitation
- City of Santa Monica
- Dudek
- EKI Environment & Water
- ESA
- Eurofins Easton Analytical, Inc.
- GHD
- Glendale Water & Power
- Hatch Company
- Hazen and Sawyer
- Jacobs
- John Robinson Consulting, Inc.
- Katz & Associates, Inc.
- Kennedy Jenks
- Kiewit
- Las Virgenes Municipal Water District
- Long Beach Public Utilities
- Los Angeles County Department of Public Works
- Los Angeles Department of Water and Power
- Metropolitan Water District of Southern California
- Michael Baker International
- Mott MacDonald
- Palmdale Recycled Water Authority
- Parsons
- Pomras
- Rincon Consultants
- Rose Hills Memorial Park and Mortuary
- Rowland Water District
- Sanitation Districts of Los Angeles County
- Santa Clarita Valley Water Agency
- Sanitas
- Tetra Tech
- Trussell Technologies, Inc.
- UCLA
- Upper San Gabriel Valley Municipal Water District
- Walnut Valley Water District
- Water Replenishment District
- West Basin Municipal Water District
- Woodward & Curran



**Check out the LA Chapter Webpage**  
<https://wateruse.org/sections/wateruse-california/chapters/los-angeles-chapter/>



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