



OCWA
Orange County Water Association
ESTABLISHED 1957

Water Matters

News for the Orange County Water Community

Fourth Quarter 2021

Orange County Water District Staff Receive Top Honors from WateReuse California

During its annual conference and awards ceremony, WateReuse California recognized two Orange County Water District staff members with awards that reflect exceptional leadership in advancing water recycling in California. General Manager Michael (Mike) R. Markus, P.E., D.WRE, BCEE, F.ASCE received the President's Award and Principal Engineer Benjamin (Ben) Smith, P.E. received the Recycled Water Staff Person of the Year Award.

"Thank you to WateReuse California for recognizing our incredible staff for their leadership in advancing water reuse initiatives," said OCWD President Steve Sheldon. "We are proud to have a general manager like Mike lead the District's professional staff in developing innovative water reuse programs, such as the world-renowned Groundwater Replenishment System, and congratulate him on receiving this honor."

During his 33-year career at the District, Mike was responsible for managing the implementation of the Groundwater Replenishment System (GWRS) program, which first began operating in 2008. It is undergoing its final expansion which will be able to treat 100 percent of the region's wastewater, produce 130 million gallons a day of pure drinking water, and serve one million people daily when it is complete.

Mike's expertise and dedication to recycled water programs is reflected in the many achievements the GWRS has attained over the years, including being known as the world's largest advanced water purification system for indirect



2021
WateReuse California
ANNUAL CONFERENCE
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potable reuse and pioneering reverse osmosis technology for water reuse. Additionally, Mike remains committed to serving in leadership capacities for many industry organizations where he shares information, insights, and best practices with agencies across the globe. Currently, Mike serves on the board of directors of the Water Research Foundation, the National Water Research Institute, American Water Works Association, and the California Section of the WateReuse Association.

Under Mike's leadership, OCWD also manages the Green Acres Project (GAP), which became the nation's first landscape irrigation wastewater treatment plant when it became operational in 1991. GAP is a water reuse program that provides recycled water for landscape irrigation at parks, schools, and golf courses; industrial uses, such as carpet dyeing; toilet flushing; and power generation cooling – much of which is overseen by OCWD Principal Engineer Ben Smith, who supports the GAP program from operations, service and repairs, end-users, rules and regulations, accounting, and more.

"Congratulations to Ben for being recognized as Recycled Water Staff Person of the Year. I appreciate Ben's hard work and perseverance in supporting the District's recycled water programs," added Sheldon.

YOUR VOTE IS NEEDED!

2022 OCWA Board of Directors Election

The 2022 OCWA Board of Directors will be selected on Wednesday, November 17, 2021 during the November webinar. Plan to attend to ensure a quorum.

Projects like GWRS and GAP ensure a local, reliable water supply for the 2.5 million people the District serves. To learn more about OCWD and its recycled water programs, please visit the District's [website](#).

Our 2021 Corporate Sponsors

Our call for Corporate Sponsors for 2021 met with an overwhelming response.

In less than a day, we had more than double the number of Sponsors we had expected to attract.

With this support, we will build upon last year's success to continue our series of insightful industry webinars.

And as the County begins its pandemic recovery, we expect to renew the events and activities we had to postpone last year. Here are some of the Sponsors we have for 2021. To learn about all our Sponsors, visit the Sponsor page on the OCWA website.

[To learn about each corporation, please click each logo.](#)





October 20: Industry Insight Webinar

Tustin's Simon Ranch Reservoir and Pump Station Replacement Project

Presenters: **Michael Grisso** and **Joseph C. Blum**

Water Services Manager,
City of Tustin

Sr. Project Manager,
Butier Engineering, Inc.

It began with a relatively simple plan: The City of Tustin Department of Public Works wanted to replace the Simon Ranch Reservoir and Pump Station, a partially buried concrete water storage tank, with a new 1 million gallon tank. They wanted to upgrade the aged infrastructure to ensure the continued flow of domestic water in the neighborhood and provide better fire protection for the region. Whereas the original flow capacity of the Station was 700 gallons per minute, the new station would provide over 3,000 gallons per minute, a substantial increase for fire fighting!

From the beginning, however, concern was raised by the community that the new reservoir could potentially impact the views and aesthetic character of the neighborhood. The Reservoir and Pump Station is located in the Foothill Association Community in North Tustin, a residential neighborhood of large, custom homes. And the initial design of the facility had raised alarm because of its industrial look and its vast scale in comparison to the surrounding community.

The City partnered with Butier Engineering, TetraTech, and AKM Consulting Engineers, to design and construct a project that will meet all the expectations of the Association. And this was all done in the face of a unique set of challenges. Those challenges included site constraints for the demolition of the existing facility,

as well as construction of a new reservoir and pump station on a postage size parcel — approximately 0.29 acre.

In addition, a major challenge for the project was developing a shoring plan that would protect the reservoir as well as two residential homes adjacent to the property. The team's solution to this was both innovative and simplistic. You'll want to hear what they did.

Plan now to attend our October 20 webinar to learn more about this demanding project and how the design team met its many varied challenges. The issues they solved may be problems you encounter in the near future.

We are Proud to Recognize Our Corporate Sponsors for the October 2021 Webinar



About Our Speakers

Mike Grisso has over 20 years of experience in the operation and maintenance of municipal water and wastewater systems, including water resource management, capital project management, advanced water treatment systems, construction, maintenance, distribution, and collections of water and wastewater systems. Mike is responsible for managing the day-to-day operations, budgeting, planning and regulatory compliance for the City's water system.

Joe Blum has over 35 years of experience in the land development, water and wastewater service industry including engineering design, project management, construction and program management. He has been responsible as an owner and agency representative that include tasks for value engineering, construction management for major CIP projects throughout Southern California. Agencies include Chino Basin Desalter Authority, Santa Margarita Water District, City of Tustin, City of Anaheim, County of Orange, John Wayne Airport, City of Manhattan Beach, City of Santa Ana and Orange County Water District.

Wednesday, October 20, 2021

Online MICROSOFT TEAMS Presentation

Webinar Open for Log-In: 12:00

Presentation: 12:30 – 1:00

OCWA Members with Reservation: **FREE**

Non-Members with Reservations: **\$10.00**

Cancellations received AFTER Tuesday, October 19 CANNOT be refunded.

Visit the OCWA website to make reservations:
www.ocwater.org

RSVP IS A FINANCIAL COMMITMENT. NO-SHOWS WILL BE BILLED.

OCWA's Operator Expo Returns for 2021

Our Annual Event Returns after a Year of Lockdown with a Large Crowd, Many Vendors, and a Full Slate of Training Sessions and Competitions

This year's **Operator Expo** had everything the Orange County water community has come to expect from OCWA: a strong slate of training sessions, a wide array of spirited competitions, and a delicious barbeque lunch. Everyone had a great time as they earned Certified CE training units, interacted with dozens of vendors, and enjoyed watching or participating in the contests. Plans are already underway for next year's event.

Special thanks are due to the many Sponsors and Exhibitors who participated in this year's event.

Twenty-two Vendors joined us to display their products, demonstrate their uses, and answer all the operator's questions. In addition, **eight Sponsors** stepped forward to help ensure the success of the day. The names of all our Sponsors and the Vendors are listed [here](#). Without the generous support of our Sponsors, and the dedicated attention of the Exhibitors, our event would have been nowhere near the success we all enjoyed. We are especially indebted to **Irvine Ranch Water District**, for once again generously hosting our event at **Rattlesnake Reservoir**.

There was lot to learn and even more fun to be had at this year's annual event. We had some **200 operators, representing 23 water agencies from Orange and Los Angeles counties** sign-up for the event, and the training sessions were well-attended. Each participant earned 1 contact hour for each training session attended.

In the first hour, **Dik Haz** of **Vega Americas**, led the group through a comprehensive look at **Measurement Technology: Solutions for the Water/Wastewater Industry**. In his thorough examination of the topic, Mr Haz discussed a wide array of topics, everything from level and pressure to switching and connectivity.

This presentation was followed by a thorough overview of **Fire Hydrant Maintenance**. Led by **Richard Lesma**, with **CLOW**, and **Matt Armstrong** from **M&H**, attendees were shown a multitude of approaches to the different hydrants available on the market today. At the conclusion of the session, there was a demonstration of a relatively new skill challenge for water operators: **Hydrant Hysteria**.

Hydrant Hysteria is a competition that measures a two-person team's skill at assembling a hydrant quickly, completely, and

accurately. All parts must be assembled in the proper manner and the reassembled hydrant is then tested by the judges for its ability to operate correctly. A team from **Huntington Beach Utilities Division** was on-hand to demonstrate the competition. It is hoped by next year other agencies will field enough teams to make a true competition of it. A number of people expressed interest in learning more. For those looking for guidance in putting together a team, **Boyd Schultz**, of Laguna Beach County Water District, is available to provide both guidance and support. Boyd can be reached at bschultz@lbcwd.org.

This year's **Pipe Tapping Contest** was a little different from events in the past. Because of the pandemic, many teams didn't have their usual opportunity to practice and prepare for the event, so the field of teams was considerably smaller than usual. We did have four teams showup however, enough for a rousing competition.

The winning team, **City of Anaheim's "Production Tappers"** captured first place with a respectable time of 1:53.22. Second



The Pandemic Didn't Halt this Year's Operator Expo

Continued from Page 4

place was taken by the “West Coast Tappers” from the City of Santa Ana with a time of 1:59.66. The “Tappers” almost didn’t compete. Just prior to the start of competition, the team’s “Copper Man” was called back to the City Yard for an emergency. Faced with imminent disqualification, the team asked Jake Bryant, who was at the Expo as part of the Huntington Beach Hydrant Hysteria demonstration team, if he would “tap in” and take the missing man’s place. Jake was happy to step up and help his fellow water workers. A



true case of good sportsmanship and comradery.

Special thanks to Boyd Schultz with Laguna Beach County Water District who organized and ran the Pipe Tapping Contest. Set up for the event was done the day before by crews from both IRWD and LBCWD. Afterwards, teams from the City of Santa Ana, City of Anaheim, and Irvine Ranch Water District assisted



with dismantling and the final cleanup of the event.

In the morning’s other event, the Horseshoe Competition, over 16 teams signed up for what turned into a spirited

competition. Aply organized and run by Fred Ojeda from Yorba Linda Water District, the event was a real crowd pleaser, with many close matches. First Place was taken by a team from Irvine Ranch Water District, while Second Place went to a team from City of Santa Ana. There was also a women’s team competition.



Unfortunately, only one team signed up, from City of Huntington Beach, so those two women competed against each other. First Place went to Maria Miller, while her teammate, Renic Blodgett, took Second Place. It is hoped additional women’s teams will participate next year so there can be a true competition.



The morning’s educational sessions and competitions were capped off with a delicious lunch catered by Blake’s Place of Anaheim, followed by an opportunity drawing with a great range of prizes donated by the sponsors and vendors, everything from tool bags to camp seats, power tools to gift cards.

All agreed it was a great day of education and competition, and everyone left looking forward to 2022’s event. Should you have suggestions for improving next year’s event, contact the OCWA Board. We look forward to hearing from you.



Photos of all the days events, and a listing of all the Sponsors and Vendors, are available on the OCWA website.

[Click here](#) for the photos and [click here](#) for Sponsors and Vendors.

The Current Drought in California – in One Page

By JAY LUND, Director, Center for Watershed Sciences, UC Davis

- California has more hydrologic variability than any state in the US, meaning that we have more drought and flood years per average year than any other state. This is a problem, but has also meant that we have designed for droughts, which are always testing us.
- 2021 is the 3rd driest year in more than 100 years of precipitation records. 2020 was the 9th driest year in the precipitation record.
- Much warmer temperatures are further reducing streamflows and aquifer recharge, and has lengthened and deepened the wildfire season.
- Large reductions are occurring in surface water available for agriculture, especially in the San Joaquin Valley, but also in the Sacramento Valley and smaller river valleys statewide.
- Much increased groundwater pumping greatly reduces agricultural impacts, but affects rural wells.
- Major forest and aquatic ecosystem impacts are occurring, especially for wildfires and salmon runs, particularly for winter-run salmon downstream of Shasta Dam.
- A growing number of small communities and towns are being affected, in addition to more common problems for rural household and community wells. Santa Clara Valley (San Jose area) is the most-affected major urban area, seeking 30% water use reductions.



- Sizable long-term reductions in irrigated area seem unavoidable in parts of the San Joaquin Valley. Urban water conservation statewide is helpful, and still more conservation will help a bit.
- A more formal state water accounting system is needed to support tighter surface water right administration, SGMA planning and implementation, and environmental uses. Water right curtailments are likely to become routine in more basins.

Further Reading

Arax, Mark (2021), “The Well Fixer’s Warning,” *The Atlantic*, August 17.

Lund, J.R., J. Medellin-Azuara, J. Durand, and K. Stone, “Lessons from California’s 2012-2016 Drought,” *J. of Water Resources Planning and Management*, Vol 144, No. 10, October 2018.

Pinter, N., J. Lund, and P. Moyle. “The California Water Model: Resilience through Failure,” *Hydrological Processes*, Vol. 22, Iss. 12, pp. 1775-1779, 2019.

EPA Loans OCWD PFAS Removal Funds

The U.S. Environmental Protection Agency (EPA) has made a \$131 million Water Infrastructure Finance and Innovation Act loan to the Orange County Water District to help remove per- and polyfluoroalkyl substances (PFAS) from drinking water sourced from local groundwater.

OCWD’s PFAS Facilities Treatment Project is ensuring a safe and reliable drinking water source by building water treatment plants within the county. Under this new project, thirty-five PFAS treatment systems for 59 impacted wells operated by 11 cities and retail water districts within OCWD’s service area are being designed, permitted, and constructed within two years. The project will improve drinking water quality by removing PFOA and PFOS found in groundwater supplied by the wells.

The \$131 million WIFIA loan is expected to finance nearly half of all up-front project costs, which are currently estimated at \$267 million. The remaining up-front project costs will be funded by borrower cash. This WIFIA loan is expected to save OCWD approximately \$26 million over alternative financing options. Project construction and operation are expected to create an estimated 800 jobs and construction is expected to be completed by spring 2023.

Implications

- If next year is also dry, agricultural and environmental impacts will increase and urban impacts will expand.
- Warmer temperatures from climate change are worsening droughts, reducing the amount of precipitation that arrives at reservoirs and aquifers, lengthening wildfire seasons, and worsening conditions for cold-water fish species, such as salmon. We need to further adapt water, land, and environmental management for these changes.
- Under SGMA, farmers will need to repay additional groundwater pumped during the drought, meaning some reductions in lower-valued crops in wetter years so aquifers can recover to sustain permanent crops in future droughts. Few basins can sustain aquifers with managed aquifer recharge alone; many will need deep reductions in aquifer pumping in wetter years.
- Another dry year is likely. Very dry watersheds, very low reservoir levels, falling aquifers, and higher temperatures mean more precipitation is needed to make next year not dry.



Orange County Water Association

63rd Annual Christmas and Holiday Party

Friday, December 3, 2021

6:00 Cocktails * 7:00 Dinner * Fun & Games 'til 11:00

Sponsorship Opportunities Available!

Diamond Level ~ \$2,500 or more

Includes: 1 Table for 10, Prominent Logo Displays, 3 Sponsor-Provided Slides Rolling During Event, and Special Event Branding!

Gold Level ~ \$1,500 or more

Includes: 1 Table for 10, Prominent Logo Displays, and a Sponsor Provided Slide Rolling During Event!

Silver Level ~ \$500 or more

Part of Group Logo Display!



Further details coming soon about:

7° [seven-degrees]™
Laguna Beach

For Sponsorship Opportunities, contact Bobby Young at byoung@lbcwd.org

To Register, or for Additional Information, visit www.ocwater.org

To register by mail, make checks payable to:

OCWA * P.O. Box 51404 * Irvine, California 92619-1404

Thousands of Dollars in Raffle Prizes!

...and that's a lot of Holiday Cheer!

Advanced Forecasting Strengthens Prado Dam's Water Retention

Advanced Weather & Streamflow Forecasts Could Help Retain Water for an Additional 60,000 People Annually

As drought persists in the state of California, the need to increase water supply reliability is an essential issue facing water managers.

A [new report](#) evaluating a pilot program to use advanced weather and streamflow forecasts to enhance water storage capabilities at a Riverside County, California, dam found that enough water could be conserved to supply an additional 60,000 people per year.

The pilot program, called Forecast-Informed Reservoir Operations (FIRO), led by research meteorologists from the Center for Western Weather and Water Extremes at UC San Diego's Scripps Institution of Oceanography, found that 7,000 acre-feet per year of stormwater could potentially be added to groundwater recharge in Orange County. One acre-foot is equivalent to about 325,000 gallons. The program was supported by a combination of funds from the U.S. Army Corps of Engineers (USACE), Orange County Water District, and the California Department of Water Resources (DWR).

"We are excited to partner with Scripps and the USACE on this project, which increases water supply and reliability for the region," said Orange County Water District President Steve Sheldon. "Local stormwater capture is important because it lessens demand on imported water supplies, which are more costly and less reliable than groundwater."

"For several decades, Prado Dam has served its purpose well," said David Van Dorpe, deputy district engineer for USACE Los Angeles District. "The dam has reduced the flood risk for Orange County, while also balancing water conservation, ecological and recreational benefits. FIRO provides an opportunity to further enhance our operations to meet all of these needs."

To read this complete article, go to the [WaterWorld](#) website.

POSITIONS AVAILABLE

OCWA Members and their organization can post unlimited job listings to the Association website for FREE. Listings are promoted with periodic e-blasts sent to our 1,500+ contacts, representing over 45 agencies and more than 120 companies county-wide.

This is saturation coverage throughout the County. What else would you expect from the only Orange County Association dedicated to the local water community?

If you would like to post a job opening here, and are a current member, please send a PDF detailing the position to the OCWA webmaster.

There are a number of new positions listed on the OCWA website. Visit the website to access the information:

NEW OPPORTUNITIES:

OCWD - FHQ Heavy Equipment Operator (10-27)

SCWD - Accounting Supervisor (10-26)

SCWD - Senior Accountant (10-21)

Pacific Hydrotech - Project Manager

Pacific Hydrotech - Project Engineer

OCWD - Grounds Maintenance Technician

OCWD - Water Quality Intern

City of Brea - Water Distribution Operator

YLWD - Sr. Engineer

IRWD - Manager of Risk & Contracts Administration

MNWD - Accounting Manager

IRWD - Electrical Technician

For further information on these and other currently open positions, please visit the "Opportunities" section of the OCWA website:

www.ocwater.org/Opportunities

Members and their agency or company can post Opportunities to the OCWA website, free of charge, as often as they'd like. If you wish to post a job opening, and are a current member, please send a PDF of your listing to the OCWA webmaster. We'll post the listing to the website and, if space permits, advertise it in the member's-only monthly newsletter as well.

Board of Directors

President

Ryan Gallagher
(714) 213-9758

rgallagher@mknassociates.us

Vice President

Sandy Scott-Roberts
(714) 378-3292

sscott@ocwd.com

Secretary

Dave Jones
(916) 769-8753

drjones@hazenandsawyer.com

Treasurer

Bobby Young
(949) 837-7050

BYoung@lbcwd.org

Directors

Candice Espinoza
(714) 765-5323

CEspinoza2@anaheim.net

Derek Kurtti

(805) 550-9656

dkurtti@gmail.com

Taryn Kjolsing

(949) 541-1327

tkjolsing@scwd.org

Key Contacts

Membership

Dave Jones

(213) 234-1090

drjones@hazenandsawyer.com

Legal Counsel

Jeff A. Hoskinson

(949) 453-4260

jeff.hoskinson@aalrr.com

Programming

Sandy Scott-Roberts

(714) 378-3292

sscott@ocwd.com

Golf Tournament

Michael Sinacori

(949) 644-3342

msinacori@newportbeachca.gov

Public Outreach

Ryan Gallagher

(714) 213-9758

rgallagher@mknassociates.us

Communications

Tim Hogan

(714) 903-3991

timhogan@socal.rr.com

OCWA's Board of Directors meets on the third Wednesday of each month, unless notified otherwise.

At present, meetings are being held virtually.

The next meeting is scheduled for:

**October 20, 2021
11:00 am to Noon**

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