Water reuse is becoming more important to water security in arid regions like California. The California Recycled Water Policy calls for an increase of 1 million acre-feet of reused water per year by 2020 and 2 million by 2030. Assembly Bill (AB) 574 mandates that California establish a legislative framework for direct potable reuse (DPR) – where highly treated wastewater is recycled for drinking and other potable purposes – by 2023.

Technology already exists to treat reused water to levels meeting or exceeding health standards. But adequate technical capacity is not sufficient. Water reuse can trigger revulsion, especially when water is reused for drinking or other potable purposes. This note explores outreach and engagement strategies to overcome the “yuck factor” and achieve public support for water reuse.

Case Studies

Los Angeles East Valley Water Recycling Project

In 1995, the Los Angeles Department of Water and Power (LADWP) began developing the East Valley Water Recycling Project. This $55 million water-reclamation project was intended to help “drought-proof” Los Angeles by using treated wastewater for groundwater recharge, irrigation, and other purposes. The project secured necessary approvals and construction was completed in 2000.

But as East Valley was about to come on-line, it was derailed by a public-relations disaster. Problems began when the Los Angeles Daily News published an article about East Valley with the headline “Tapping Toilet Water.” The concept of sewage being used for drinking sparked public outcry.

At the same time, an open Los Angeles mayoral contest was beginning. Several candidates seized on opposition to East Valley as campaign fodder, pledging to put a stop to “toilet-to-tap.” City attorney James Hahn was ultimately elected and made good on this promise. Hahn shut down East Valley and required LADWP to sever the pipeline bringing recycled water to the Hansen Spreading Grounds.
February Industry Insight Presentation Sponsors

Richard Brady & Associates and Psomas

This month, OCWA is proud to have two sponsors for our Industry Insight Presentation: Richard Brady & Associates and Psomas. You’ll want to be certain to arrive early for the event as both companies will have representatives on hand to discuss their varied capabilities and answer your questions.

Richard Brady & Associates

BRADY is a multi-disciplined engineering and construction management firm locally based in Southern California. Founded in 1999, BRADY specializes in providing Public Agencies with cost effective solutions to improve water reliability, quality, and service.

BRADY’s skilled team of in-house civil, mechanical, structural, and electrical engineers are committed to designing facilities that are safe, sustainable, simple, smart and secure.

We provide design and construction management services for pipelines, reservoirs, pump stations, flow control and treatment facilities.

Psomas

Dedicated to balancing the natural and built environment, Psomas provides sustainably engineered solutions to public and private clients nationwide. As a full-service consulting firm, they help their clients create value and deliver complex projects.

Psomas’ water and wastewater experts have decades of experience providing design solutions to municipal clients for potable water, recycled water, and wastewater projects. They provide practical solutions for both new and the rehabilitation of aging infrastructure including pipelines, reservoirs, pump stations, and related facilities. Psomas’ strength is in providing economical solutions that minimize impacts to residents and the environment.

Sustainable practices are incorporated into all of Psomas’ services. From designing ISI (Institute for Sustainable Infrastructure) certified projects such as removing pollutants from urban stormwater runoff to site design for LEED-certified projects and their renewable energy practice, Psomas is in the forefront of the sustainable design movement.

Founded in 1946, Psomas provides services from offices throughout California, Arizona, and Utah.

OCWD’s Denis Bilodeau to be Inducted into UCI Engineering Hall of Fame

Orange County Water District Board of Director Denis Bilodeau, P.E., will be inducted into the University of California Irvine Samueli School of Engineering Hall of Fame February 8, 2019.

The Hall of Fame honors those who have made a significant impact in their profession, or in other ways have brought distinction to their alma mater. Director Bilodeau graduated in 1991 from UCI earning a Bachelor of Science degree in civil engineering and he is a registered civil and traffic engineer. He is one of 12 Samueli School of Engineering Hall of Fame inductees this year and one of four in the engineering category.

Director Bilodeau was nominated for his impact on the field of engineering for leading the effort to bring the world’s largest water reclamation facility, the Groundwater Replenishment System (GWRS), online.

POSITIONS AVAILABLE

PACE Advanced Water Engineering has positions available for a variety of water professionals. Among the opportunities on their team are:

Senior CAD Designer – Stormwater
CAD Designer – Environmental Water
Design Engineer – Environmental Water
Design Engineer – Stormwater
Project Engineer – Environmental Water

For further information on these and other currently open positions, please check them out in the “Opportunities” section of the OCWA website:

www.ocwater.org/Opportunities
A service area water outage is probably the worst disaster that can befall a provider. For vital as water is for daily domestic and business use, it is critical in emergencies for fire protection. Indeed, after a major disaster, water is one of the key resources that must either be maintained or restored as quickly as possible.

The City of Buena Park has long realized its vulnerability to water outages. Its water supply consists of a combination of city water wells (70%) and imported water (30%) from Metropolitan Water District (MWD). The City’s water system was designed to operate using both sources of supply.

However, the northern portion of the City, the Bellehurst area, is at a higher elevation than the rest of the City. For this reason, its water supply is primarily from MWD, which provides water at a pressure sufficient to reach the Bellehurst area. The lower parts of the City are primarily supplied by the City’s eight water wells. Therefore, should the City lose its supply from MWD, either by earthquake or some other natural disaster (wildfire), there could be a service area outage.

To address this potentiality, the City decided to upgrade the Rosecrans Booster Pump Station both to guard against a possible outage and to allow for independence from imported MWD water.

Located along Rosecrans Avenue east of Beach Boulevard, since 1964 the Station has drawn from a 20 million gallon water reservoir to provide service to the “Upper Zones” of Buena Park. In upgrading the Pump Station, the City is undertaking an important emergency response project, one that adds operational flexibility and a level of redundancy to the water system.

But more than guarding against emergencies, with the start-up of the revitalized Rosecrans Booster Pump Station, the City will have the capability to use its wells for all its water needs. Dubbed the “Upper Zone Improvement Project,” upon completion the City will be able to pump more well water than before. This will allow for independence from imported MWD surface water, ensuring greater autonomy as it saves the City substantial revenue through use of less expensive groundwater.

Francisco Gutierrez has 25 years of experience in his field. He earned his Bachelor of Science in Civil Engineering with emphasis in Environmental & Water Resources at the University of California, Irvine. The first 16 years of his career were spent working for a consulting firm in Phoenix, Arizona. Mr. Gutierrez has been a member of the Society of Hispanic Professional Engineers for many years and, at times, has served on their board. His experience is quite diverse and includes design and construction of large capacity water and wastewater treatment plants and pump stations.

Francisco Gutierrez, P.E.
Associate Engineer, Dept. of Public Works/ Engineering, City of Buena Park

Dan has over 35 years of experience with the planning, design, and construction management of public works projects including water treatment and conveyance facilities. Prior to joining BRADY, Dan was the engineering manager/construction manager for Padre Dam Municipal Water District overseeing the inspection and the construction management team for the District’s Capital Improvement Program. In the private sector, Dan provided construction management services to various public agencies including the construction management for the Santa Fe Irrigation District’s $22 Million Bond program. Dan was the construction manager for the City of Buena Park Rosecrans Pump Station Project.

Dan Black
Construction Manager, Richard Brady & Associates

Maira has over 13 years of experience in design of wastewater systems and water systems on public works projects throughout Southern California. As she is fond of saying, each project she’s undertaken has been unique and challenging in its own way, affording her the opportunity to keep learning. She has extensive experience on sewer rehabilitation, well rehabilitation, and pump station upgrade projects. Maira’s qualifications include NASSCO MACP and PCP certifications and Envision Sustainable Professional (SP).

Maira Salcedo
Project Manager, Engineering Psomas

For more information, contact Leticia Villarreal at (714) 378-3201

OCWA Members with Reservations……. $30
OCWA Members without Reservations…. $45
Non-Members with Reservations……….. $45
Non-Members without Reservations…… $45

Reservations must be made by EOB, Tuesday, February 19, to qualify for the Reservation Rate. Cancellations received AFTER this date CANNOT be refunded.

To make reservations, please go to the OCWA website:
www.ocwater.org

For more information, contact Leticia Villarreal at (714) 378-3201

Please identify yourself by name and membership number.

RSVP IS A FINANCIAL COMMITMENT. NO-SHOWS WILL BE BILLED
UC Davis Researchers Exam Public’s Perception of Water Reuse

Continued from Page 1

That public outcry could undermine a finished, $55 million project illustrates the importance of robust public engagement. As Gerald Silver, President of the Homeowners of Encino, said of LADWP’s poor outreach around East Valley: “Reaching out means reaching out in a way that people will understand.”

Water Reuse in Orange County

The Orange County Water District (OCWD) provides a successful example of water reuse. In 2008, OCWD began operating the Groundwater Replenishment System (GWRS), treating treated more than 70 million gallons per day of wastewater to potable standards. The product was then sent to replenish local aquifers used for drinking water.

The project has been widely recognized for its emphasis on education and engagement as well as engineering. A full decade before beginning construction, OCWD launched a public relations campaign to overcome negative perceptions of water reuse and secure broad support. The campaign employed various outreach strategies, including facility tours, television ads, briefings for elected officials, and partnerships with community groups and community leaders. It worked; the GWRS faced no substantial opposition. Media coverage of the project was generally positive, including headlines like “How California is Learning to Love Drinking Recycled Water” and “Magic in a Bottle”.

OCWD continues to creatively prioritize public relations as the GWRS expands. In 2017, OCWD secured special permission to bottle its recycled water for consumption. The bottles were distributed at tasting events throughout Southern California. In 2018, OCWD gained substantial media attention by earning a Guinness World Record for the most recycled water produced in 24 hours.

Research Insights

Research confirms that outreach and engagement can increase acceptance of water reuse. Providing consumers with information on water reuse is a good first step. A survey commissioned by the water-technology company Xylem Inc. found that 89% of California residents are more accepting of reused water after learning more about the treatment process. A similar survey from the Victor Valley Water District (SCVWD, which oversees the Silicon Valley project), noted: “If people see their neighbors taking a taste, or their friends and peers, they get over a psychological barrier – it becomes normalized.” Indeed, the SCVWD found that taking a tour more than doubled the percentage of people strongly in favor of potable wastewater reuse.

Key Takeaways

1) Engage Proactively: The LADWP case study shows that it is difficult to recover once a negative narrative has taken hold. Hence outreach should begin early, during project planning. Options include working with community organizations, the media, and local leaders to explain how and why key decisions were made; sending brochures to utility customers; and hosting informational booths at public events.

2) Message Carefully: How information is delivered is as important as the content itself. Messages should be delivered in clear, non-technical language, and should emphasize positive aspects and low risks of recycled water. It is also useful to articulate how water recycling can mitigate local water-supply issues.

3) Encourage Public Involvement: Broad public involvement in creates a sense of ownership that increases support. Project managers should consider recruiting local and stakeholders for advisory councils, providing opportunities for public comment, and offering tours and open houses.

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2019 WateReuse California Annual Conference

The 2019 WateReuse California Annual Conference will be held March 17-19 at the Hyatt Regency Orange County in Garden Grove, California. The conference is designed for individuals, organizations, and agencies that are associated with or interested in the design, management, operation, and use of water recycling facilities and projects in California. It is especially helpful in providing decision makers the opportunity to learn more about recycled water in California.

The conference will feature more than 40 technical presentations, poster presentations, technical tours, receptions, an awards luncheon, the annual Gordon Cologne Breakfast, and an exhibition.

Contact WateReuse for conference information and registration.
Volunteers and Presenters Needed for Children’s Water Education Festival

Popular Event takes place at UC Irvine on March 27 to 28

Your time and dollars are needed to ensure the smiles of more than 7,000 students at the 23rd annual Children’s Water Education Festival, taking place this year on Wednesday and Thursday, March 27 and 28, 2019 on the campus of UC Irvine.

The children, their teachers and chaperones are already scheduled to come. It will take your involvement to make sure their experience is enriching and memorable. Consider you or someone from your company appearing as a presenter for either or both days. Maybe you’d rather be a sponsor and receive prominent recognition for your contribution at one of many levels. Then again, you might want to volunteer your time. Hundreds of volunteers are needed for a variety of positions.

Since its inception, more than 130,000 Orange County children have attended the award-winning Children’s Water Education Festival, which is recognized nationally as the largest event of its kind. Its mission is to educate students about water-related and environmental issues. Never has there been a more important time to teach our children that they can make a difference in protecting our water resources and environment for today, tomorrow and the future.

The event is presented by the Orange County Water District, Disneyland Resort, National Water Research Institute, and the OCWD Groundwater Guardian Team.

The longevity and success of this award-winning event is the result of gifts of time, talent and resources. The Festival wouldn’t be possible without your help; we appreciate your commitment and time. Learn more and register as a presenter, sponsor or volunteer by visiting the Festival website.

Young Science Entrepreneur Wants To Market Her Water Testing Device

Gitanjali Rao is already on the 2019 Forbes 30 Under 30 list and she hasn’t even made it to high school yet. In 2017, the then 11-year-old from Lone Tree, Colorado was named “America’s Top Young Scientist” for the design of a small, mobile device that tests for lead in drinking water.

Rao hasn’t stopped there. She’s now getting help from scientists in the water industry to create a working prototype of the device that could eventually be on the market.

Rao’s invention is named Tethys, after the Greek Titan goddess of clean water. The 3D-printed box is about the size of a deck of cards and contains a battery, Bluetooth and carbon nanotubes. Rao got the idea after reading about how similar technology can detect hazardous gas in the air. Her immediate reaction was “why not use carbon nanotube sensors to detect lead in water?”

The Flint water crisis was the motivation behind the invention. Rao remembers watching her parents try to test their drinking water with an at-home test strip kit. The results seemed inconclusive and unreliable. The other option was to send a water sample to a lab.

"[Tethys] is for people who don’t really know what’s in their water from the pipes leading to their house. My target market right now is people in their homes as well as schools," Rao said.

Rao hopes to get a prototype out into the world in the next two years. In the meantime, she’s filling up her inventor’s notebook with new ideas.

To read more about this amazing young scientist, her invention, and her plans for the future, see the complete story on the NPR website.

Volunteer for Children’s Water Education Festival

The Children’s Water Education Festival will take place on Wednesday and Thursday, March 27 and 28, 2019 on the campus of UC Irvine. We need hundreds of volunteers, at least 18 years of age, for a variety of positions, such as activity aides at outdoor classrooms, as festival guides, and as registration attendants. If you are a behind-the-scenes type of person, volunteer shifts are also available on set up day, March 26.

Be a part of this award-winning program that has been attended by more than 130,000 children throughout Orange County since 1997. Learn more and register by visiting the Festival website.
ARE YOU INVOLVED IN THE WATER INDUSTRY IN ORANGE COUNTY?
If yes, then consider becoming a member of the Orange County Water Association (OCWA).
OCWA mission is to foster advancement in the Water Works Industry, set high standards for potable water, exchange ideas and work for standard policies and procedures of mutual help during water emergencies, disseminate information for the education of the general public in the use of water and its value to civilization and aid in water research.

ORANGE COUNTY WATER ASSOCIATION BY THE NUMBERS

OVER 230 MEMBERS

120+ Companies Represented

SAVE $100+/yr with membership event discounts

45+ AGENCIES REPRESENTED

50+ YEARS OF SERVICE TO ORANGE COUNTY

AS A MEMBER OF OCWA YOU WILL RECEIVE THE FOLLOWING BENEFITS

Build Your Network

- Monthly Meetings: Reduced fees for our monthly meetings which provide an opportunity to hear from local leaders on new and innovative projects, and meet other local water industry professionals.
- Annual Holiday Party: The annual holiday party brings together over 200+ members and guests.
- Annual Golf Tournament: This member only event draws 100+ water professionals. The event features prizes and a non-scramble format.
- Expand Your Contacts: Members gain access to OCWA’s vast member directory.

Advance Your Career

- Board Positions: Earn a position on the Board to gain leadership.
- Gain Visibility: Gain opportunities to present your agency/company’s projects or programs to our local network.
- Committee Positions: As a member, consider joining one of various committees.

Education and Training Opportunities

- Monthly Newsletter: Jobs, projects, local water news, regulatory and legislative updates each month.
- Safetyfest: Earn CEUs from State approved training sessions.
- Annual BBQ: This Operator Training Event, offers CEUs, over 20 vendor exhibitions, and a Pipe Tapping Contest.

To join OCWA visit our website at: ocwater.org/join-us
OCWD’s MID-Basin Injection Receives ASCE’s ‘Water Treatment Project of the Year’ Award

Orange County Water District’s Mid-Basin Injection: Centennial Park (MBI) project was recognized with the Water Treatment Project of the Year Award from the American Society of Civil Engineers – Orange County Branch (ASCE OC). The award will be presented at the 2019 ASCE OC Branch Awards Dinner held on February 21.

The 2.5-year $29.5 million MBI project is in the city of Santa Ana and will be completed in fall 2019. It is a solution that addresses a local groundwater depression in the central part of the Orange County Groundwater Basin (Basin), which currently provides about 77 percent of the water supply to more than 2.5 million residents.

The MBI project will inject up to 10 million gallons of Groundwater Replenishment System (GWR) water a day (MGD), enough water for 85,000 people. Filling this depression will reduce pumping costs paid by water agencies served by OCWD because the water will not have to be sent to its recharge basins in Anaheim. Additional project benefits include decreasing the threat of seawater contamination, reducing the potential for upwelling of deeper amber-tinted water and freeing up some storage space in the Basin near Anaheim to recharge other sources of eventual drinking water, such as more imported water and stormwater, when available.

Implemented in 2008, the GWRS produces 100 MGD of advanced purified drinking water and is the primary and most reliable source used to refill the Basin. A 30 MGD final expansion of the GWRS will come online in 2023 and the MBI project supports this expansion because it helps get more water in the ground.

The MBI project includes the construction of four injection wells, two monitoring wells, approximately 5,700 linear feet of supply pipeline, and approximately 4,200 linear feet of backflush pipeline. Construction phasing and communication were critical to the success of this project because its footprint impacted many stakeholders. The District began meeting with stakeholders long before the project broke ground, continues to meet regularly and maintains ongoing communication to minimize impacts to the community and address questions and concerns. Public outreach is a key part of all District projects. The MBI project scope was able to include improvements that will be made to Centennial Regional Park and the Heritage Museum of Orange County for the public to enjoy.

OCWD Engineer Ben Smith is the project manager and will attend the February 21 dinner to receive the award on behalf of the District.