



Recycled Water Terminology: Why the Words We Use Matter

October 20, 2022, 11:00 am – 12:30 pm

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For reporters: all speakers today are off the record.



Bryan Langpap, P.E., BCEE

PUBLIC INFORMATION OFFICE, MANAGER
LOS ANGELES COUNTY SANITATION DISTRICTS

Why is terminology important?



Be mindful of word choices



Let's help each other



Create action thru clear communication

GET
ATTENTION

MAINTAIN
ATTENTION



MESSAGE
COMPELLS

POSITIVE
ACTION
BY AUDIENCE





Patricia Tennyson

EXECUTIVE VICE PRESIDENT
KATZ & ASSOCIATES

A New Kind of Outreach

Communicating about potable reuse is more complex than most water projects...

- More likely to face uneasiness and/or opposition
- Requires starting with context
- Must continually reinforce the purpose and need for the project
- Community alliances and stakeholder buy-in are essential from the start

PATRICIA A. TENNYSON, MARK MILLAN, AND DAVID METZ

Getting Past the “Yuck Factor”: Public Opinion Research Provides Guidance for Successful Potable Reuse Outreach

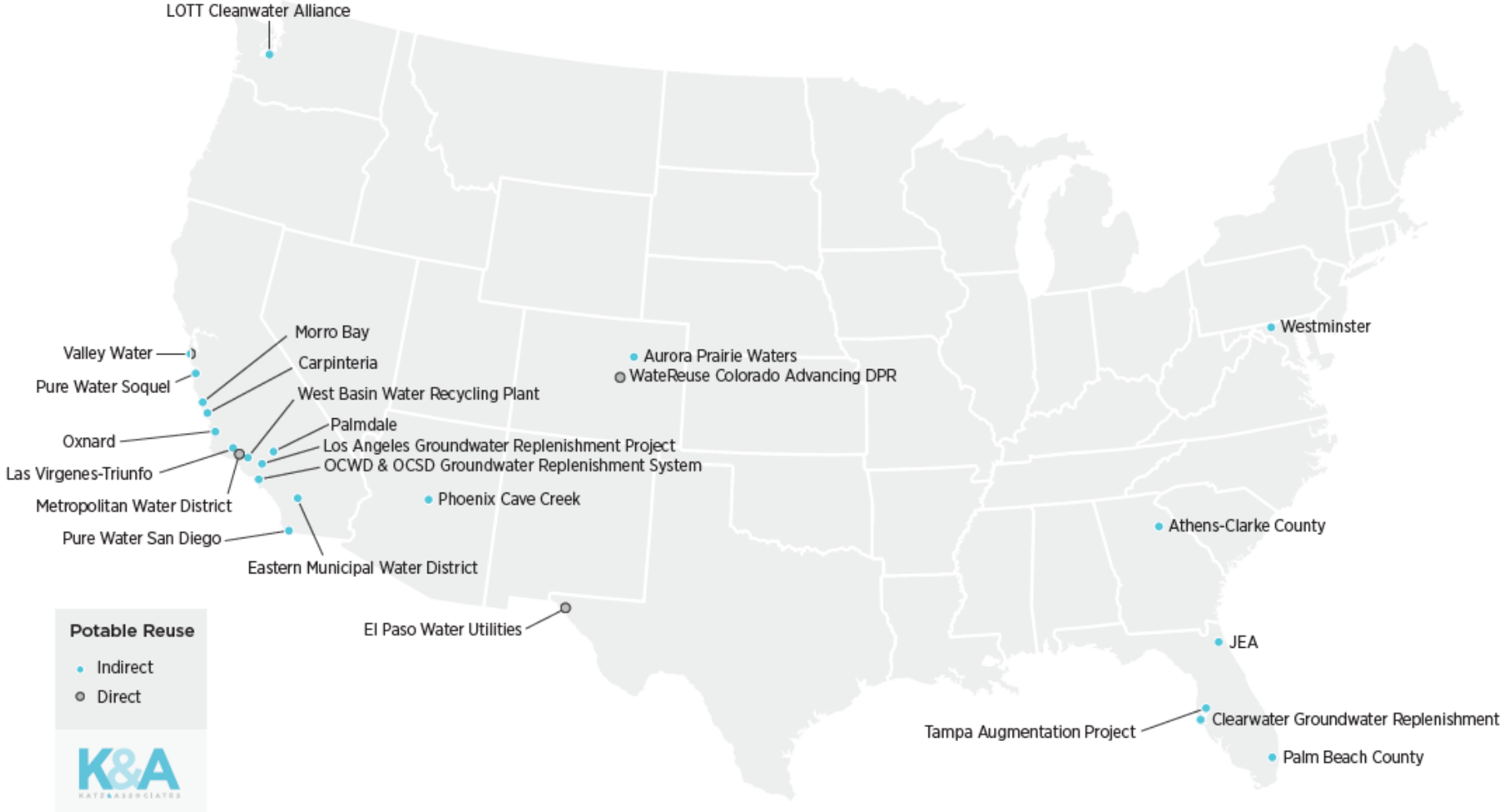
When potable reuse projects run into opposition, it is never because of problems with the technology; instead, the biggest barrier is usually public and political opposition. Some use the specter of potable reuse as a warning to their communities to conserve or else drink “toilet water.” In other instances, grassroots opposition emerges from public concerns—whether well informed or not. Increasingly, project proponents have realized the importance of community engagement and the associated public opinion research to identify obstacles in public perception and strategies to overcome them. Knowledge of a community’s opinions about potable reuse will help a project sponsor develop a community information and engagement program to address community concerns early in the planning process. This article focuses on the research findings from the WaterReuse Research Foundation’s *Model Communication Plans for Increasing Awareness and Fostering Acceptance of Direct Potable Reuse* WRRF-13-02 (2015) and subsequent focus-group work that has built upon this initial effort.

LEVERAGING THE RIGHT RESEARCH, TERMINOLOGY, AND TOOLS CAN MAKE ALL THE DIFFERENCE IN SUCCESSFULLY GARNERING PUBLIC SUPPORT FOR POTABLE REUSE WATER.

58 NOVEMBER 2015 | JOURNAL AWWA • 107:11 | TENNYSON ET AL.
2015 © American Water Works Association

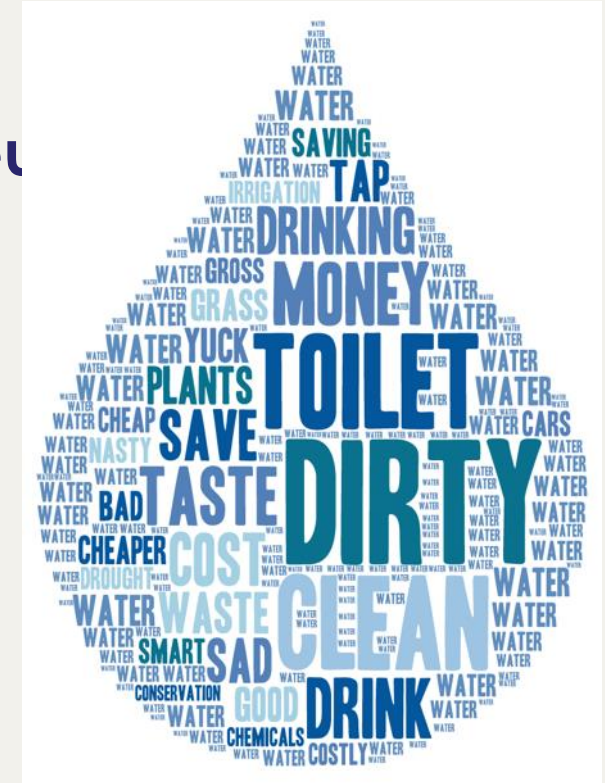


K&A Potable Reuse Projects



Toilet to Tap – Get Over It!

- The key players:
 - Upper San Gabriel Valley Water District potable reuse proposal – 1993
 - Miller Brewing facility on the 210 Freeway in LA
 - Dr. Forest Tennant/Citizens for Clean Water
- The real story and the media's role in the story
- Can't we just get rid of the phrase?



Early Contributing Factors

- National Research Council study “Issues in Potable Reuse: The Viability of Augmenting Drinking Water Supplies with Reclaimed Water” 1998: “...solution of last resort”
- Reports on pharmaceuticals and personal care products in wastewater/effluent receiving surface waters
- Lack of knowledge regarding potential risks/info on potable reuse systems contaminant removal ability
- Operator experience with these systems

Upper San Gabriel Valley Water District

- **1993 – Upper District and the Sanitation Districts of Los Angeles County proposed percolating recycled water into Upper San Gabriel Basin**
- Opposition by Dr. Forest Tennant using his medical and political connections (and his money) to fight plan
- **Toilet-to-tap phrase born...**
- Many state-level supporters/few local supporters
- **Heavy negative media coverage**
- Upper District Board voted to stop project



Los Angeles East Valley Project

- **LA Department of Water and Power (DWP) had conducted outreach in vicinity of plant and distribution**
- Facility was constructed and operated for several months
- **Mayoral campaign began using T-T-T to describe project and asserted community outreach had never been done**
- Print media and late-night television hosts (Jay Leno, for example) featured this heavily
- **Project turned off due to political and public opposition**



San Diego Water Repurification Project

- San Diego imported 85% of annual water used
- Also needed reduced wastewater discharge to ocean
- Project alive and well – with many LOCAL supporters and active outreach campaign – for over 5 years!
- “Sweeps Week” television reporter visited Upper Occoquan and Upper District, where she heard T-T-T – set included a toilet/black box/faucet to cement image
- Hard on these heels came: NRC “option of last resort” and media regarding pharmaceuticals
- City Council stopped project



Groundwater Replenishment System

- **First contract in 1998 issued by OCWD/OCSD Boards was for public outreach**
- Outreach began 10 years before a drop of water was produced
- **“We talked to anyone who would listen to us” (Mike Markus)**
- **Communication program:**
 - **Leadership at board and staff level**
 - **Research-based messages**
 - **Effective multi-cultural outreach**
 - **Frequent briefings: policy makers/media**
 - **Comprehensive, sustained outreach program**



Progress!

- **2008: Groundwater Replenishment System**
- Operators gained experience/advanced in science + technologies = Reduced concerns/greater confidence/expert panels
- **2012 NRC report: “...expanding water reuse...could significantly increase nation’s total available water resources...”**
- 2014 AWWA statement endorsing potable reuse
- **WaterReuse Research Foundation’s Direct Potable Reuse Initiative funded 34 research projects**
- Florida Potable Reuse Commission established a Framework for Potable Reuse in Florida

Here's What We're Up Against

- Word cloud from WRRF 13-02 focus groups
- Use words that resonate with your community:
 - Clean vs. treat
 - Filter vs. disinfect
 - Recycle vs. reclaimed

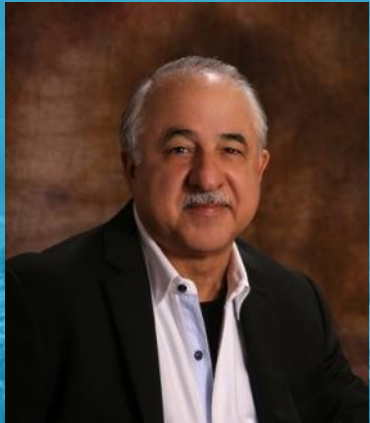


Terminology

- **WaterReuse California Communications Collaborative Group updated Water Reuse Context & Terminology**
- **Produced by workgroups from WaterReuse California Section, California Association of Sanitation Agencies (CASA) and Association of California Water Agencies (ACWA)**
- **Can be found on watereuse.org in the California Section**

What Else Can You Say

- Purified water, Pure Water, Drinking Water, etc.
- Advanced Water Purification, Purified Water, Advanced Purified Water, Highly Purified Water, Water Purification Project, etc.
- While “toilet-to-tap” is totally incorrect, it is often a headline and will remain in use – BUT you can play off this by saying: Toilet to treatment to treatment to treatment to treatment (this is now “recycled water”) to microfiltration to RO to ultraviolet light/advanced oxidation to reservoir to drinking water plant to tap”



Mark Millan

PRINCIPAL AND FOUNDER
DATA INSTINCTS

Why Words and Images Matter

Mark Millan
Founder & Principal



CWEA

Purple Pipe to Potable Reuse

The Right Water for the Right Use

Messaging that supports as many water recycling solutions as possible

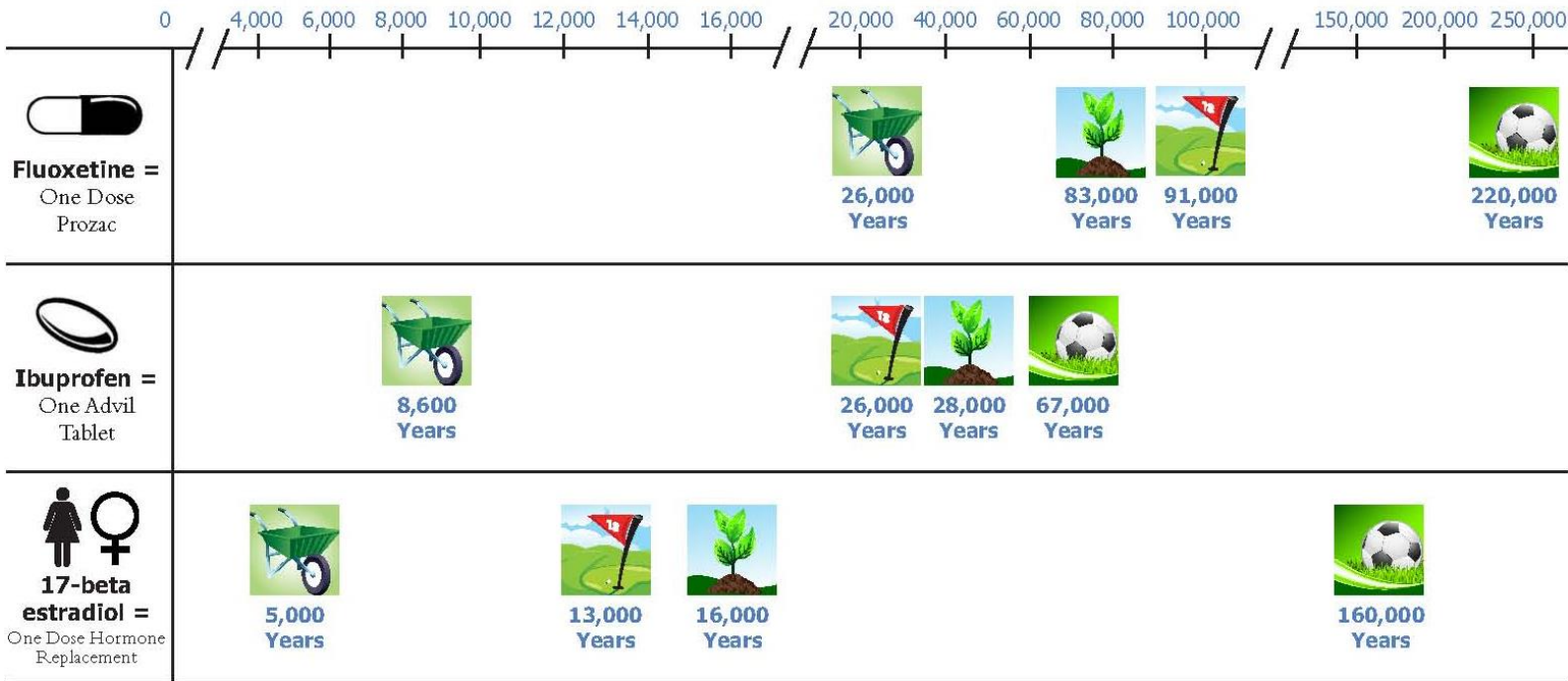


WHAT'S THE RISK?

A Comparison of Exposure to PPCPs from Recycled Water vs. Conventional Uses

This chart compares typical exposures to three Pharmaceuticals and Personal Care Products (PPCPs) — antidepressant, ibuprofen, hormone — with exposure to the same chemicals in recycled water under four different scenarios in which a person may come into contact with the water. For each scenario — child at play, agricultural worker, landscaper, and golfer — the chart shows how many years one could participate in that activity before reaching a single daily dose of the chemical from typical exposures.

Number of years of exposure to recycled water to equal conventional dose.



KEY: Four common scenarios where people may come into contact with recycled water.



Child at Play



Ag Worker



Landscaper



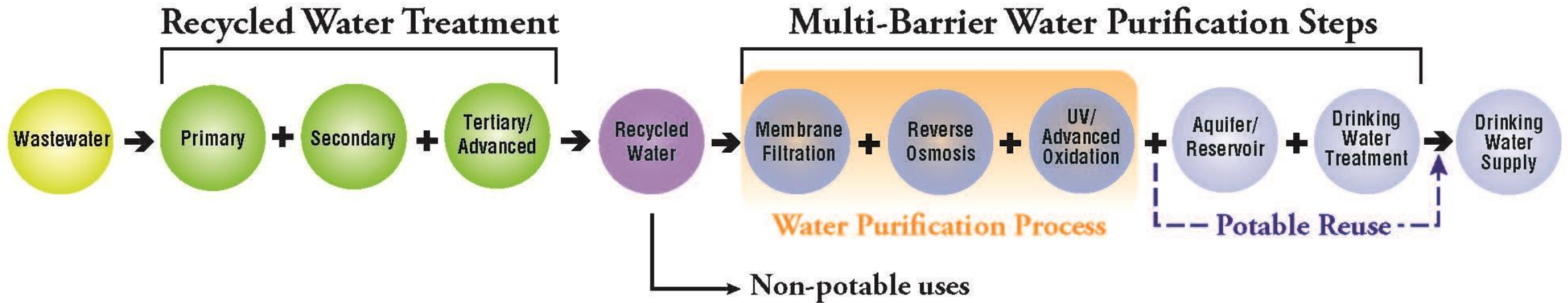
Golfer

WRF-09-07: Risk Assessment Study of PPCPs in Recycled Water to Support Public Review

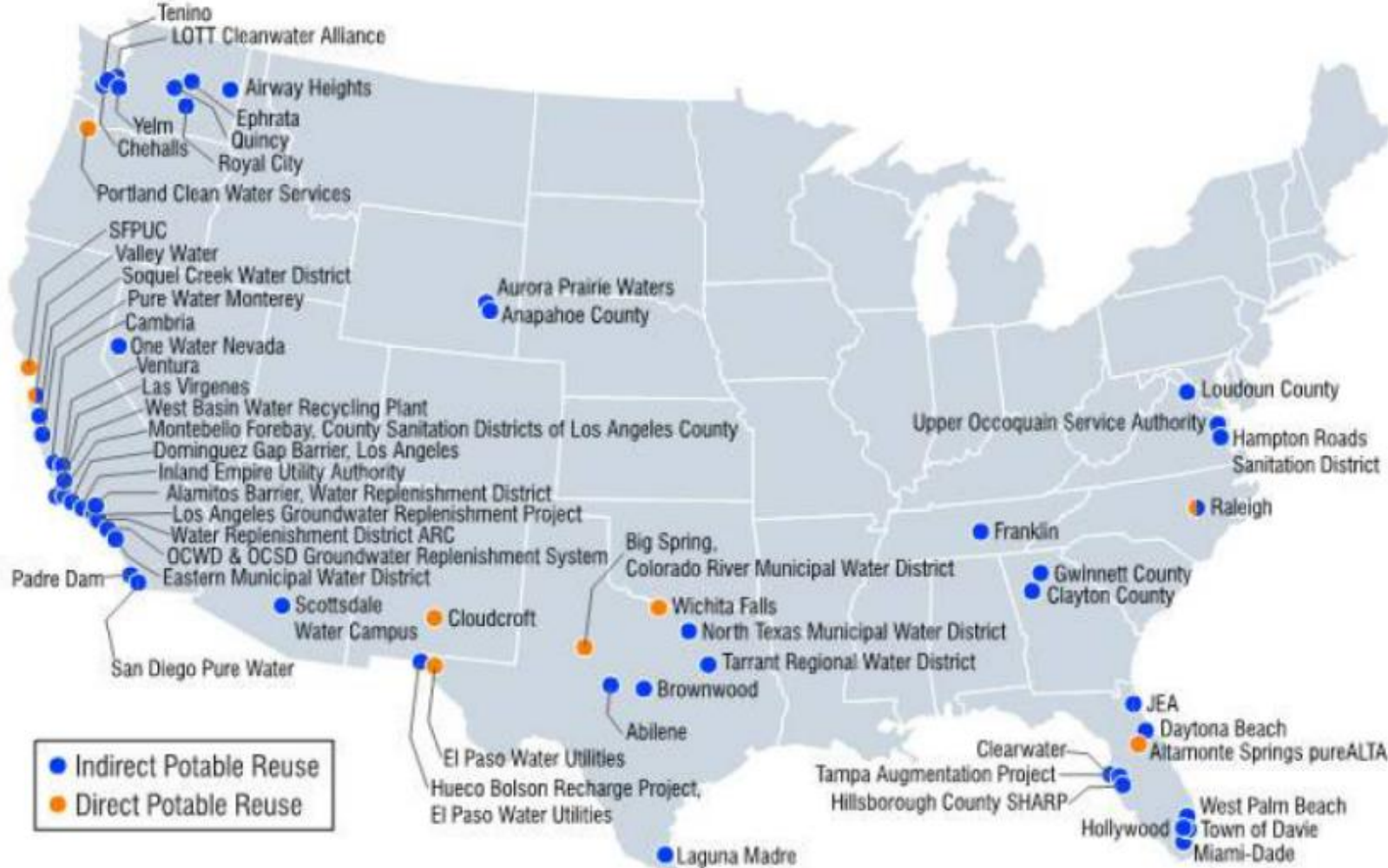


This study and handouts available at: WateReuse.com

Awareness of Treatment Processes



Potable Reuse in the United States



WRF 13-02

Model Communication Plans for Increasing Awareness and Fostering Acceptance of DPR



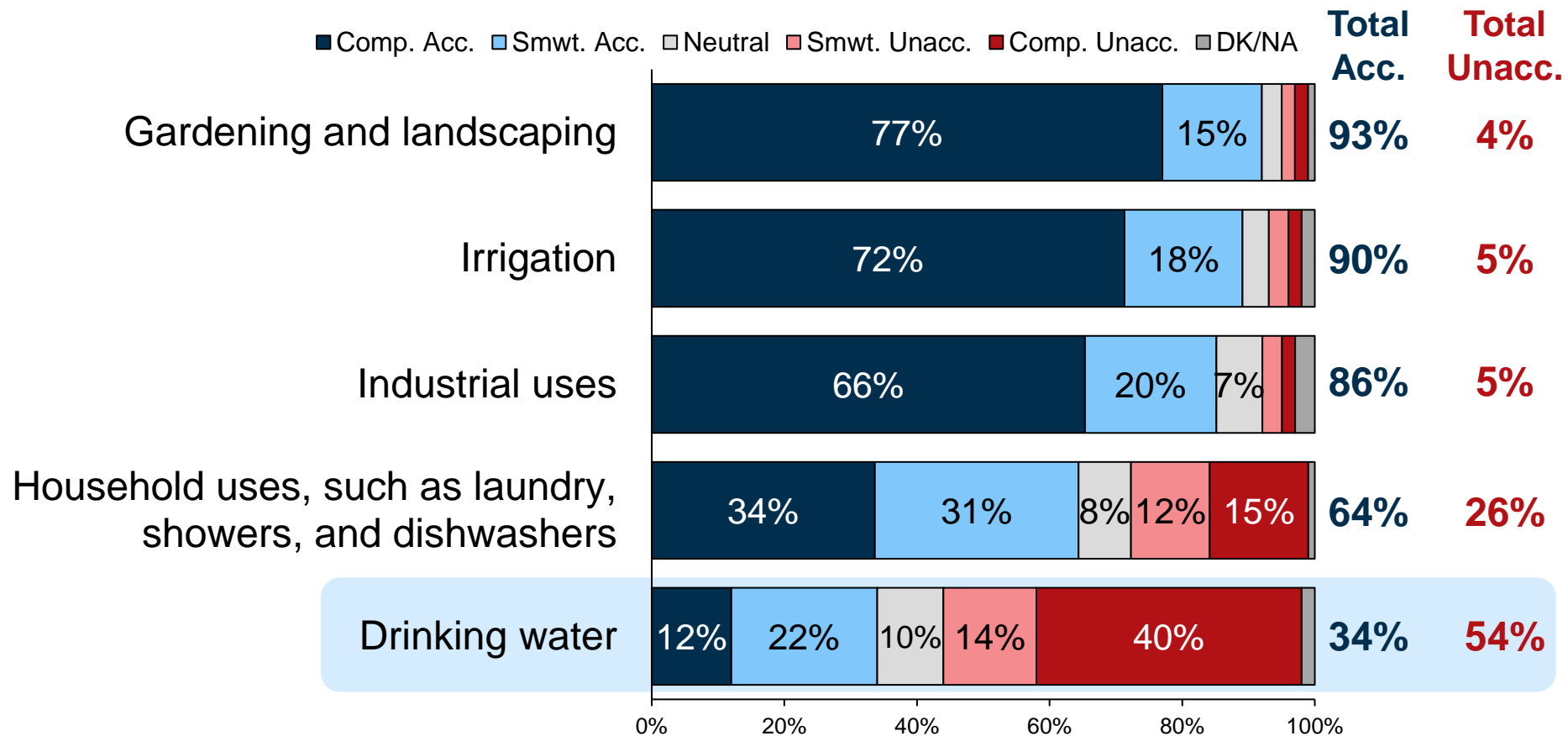
Getting Past the “Yuck Factor”: Public Opinion Research Provides Guidance for Successful Potable Reuse Outreach

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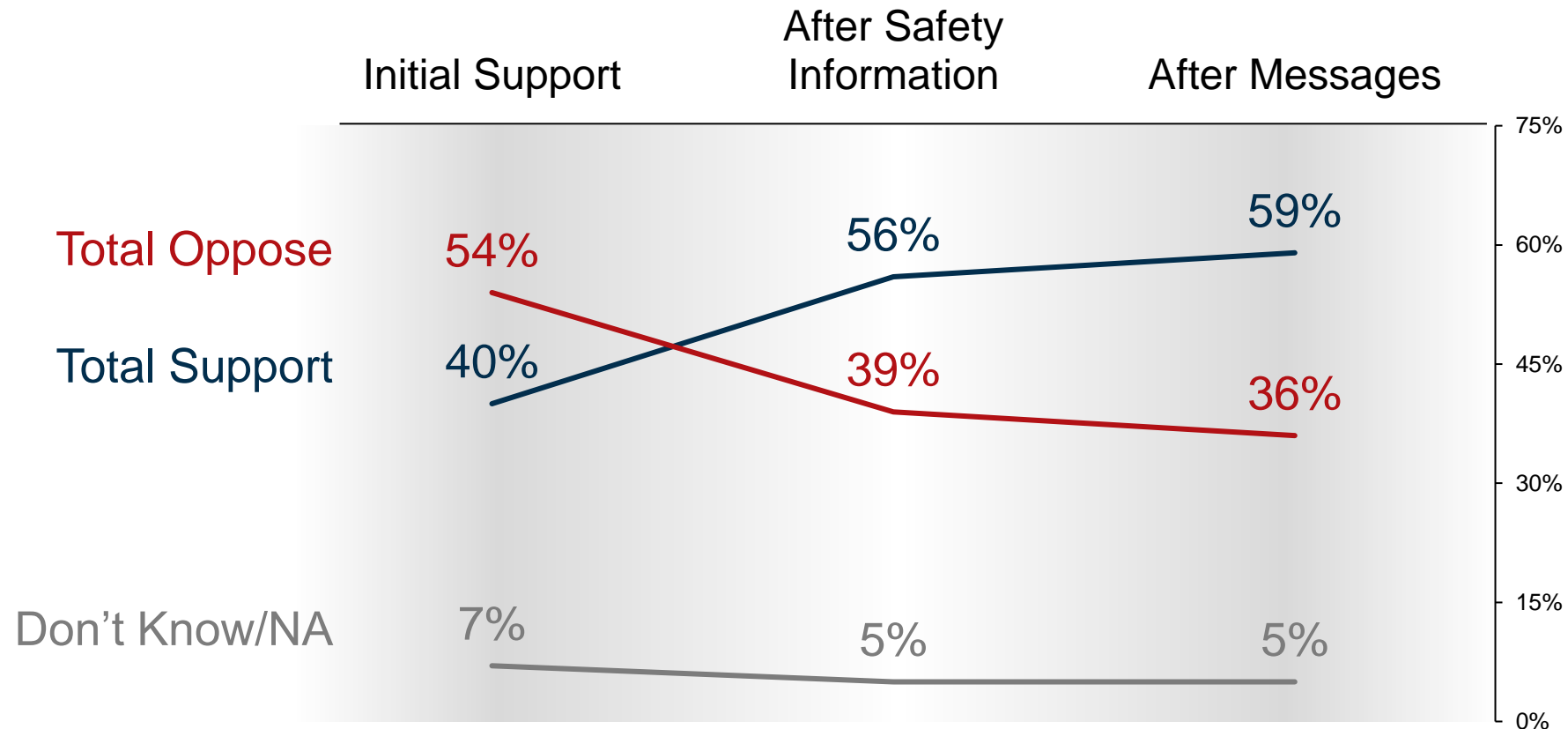
Locally, voters approve of all potential uses of recycled water... except drinking.

I am going to read you a list of potential uses for recycled water. Please indicate whether you consider each item to be a completely acceptable, somewhat acceptable, somewhat unacceptable, or completely unacceptable use for recycled water.



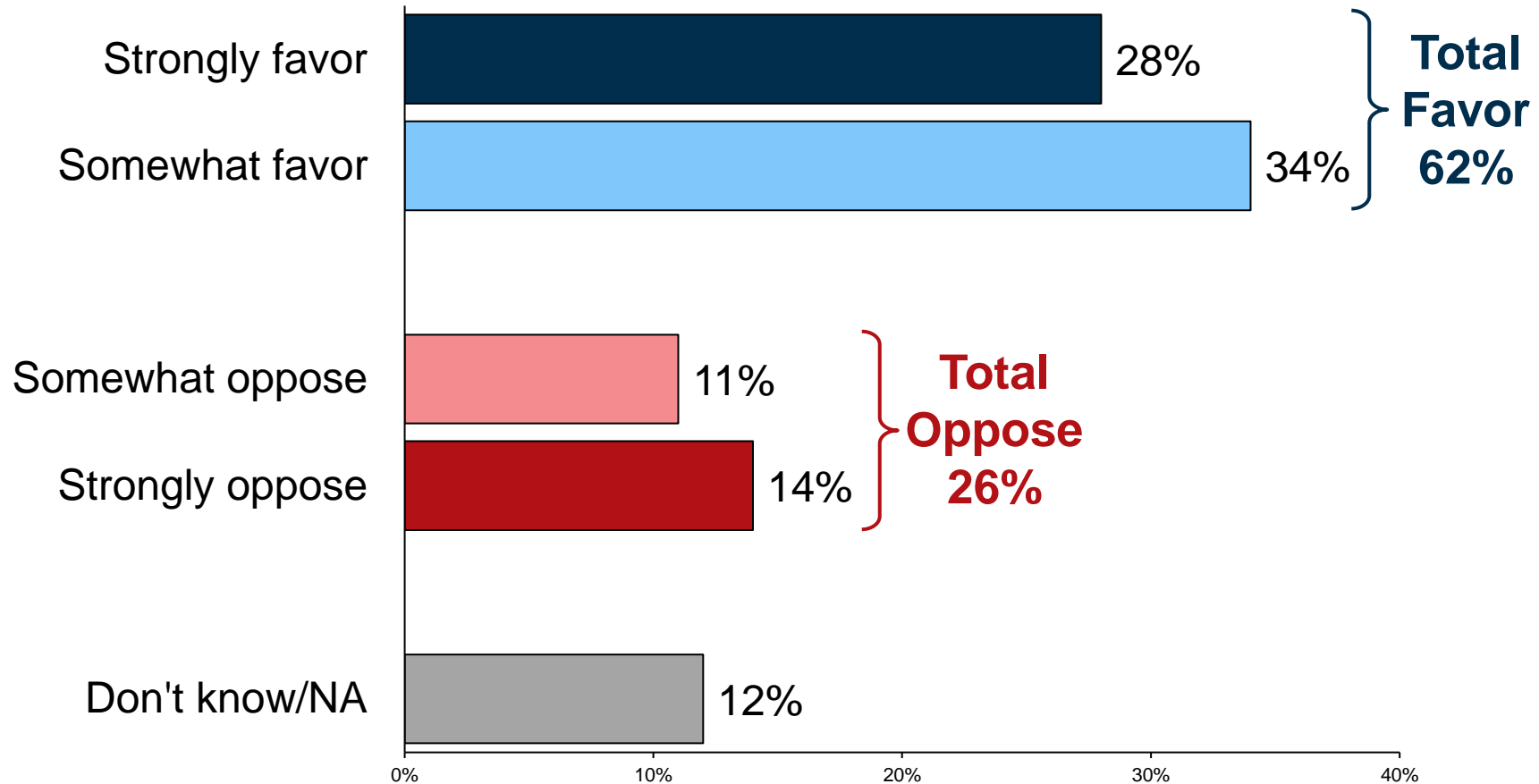
Though they are initially opposed, voters quickly become more comfortable with direct potable reuse after information about safety.

Do you support or oppose direct reuse of recycled water in your community for all household purposes, including drinking?



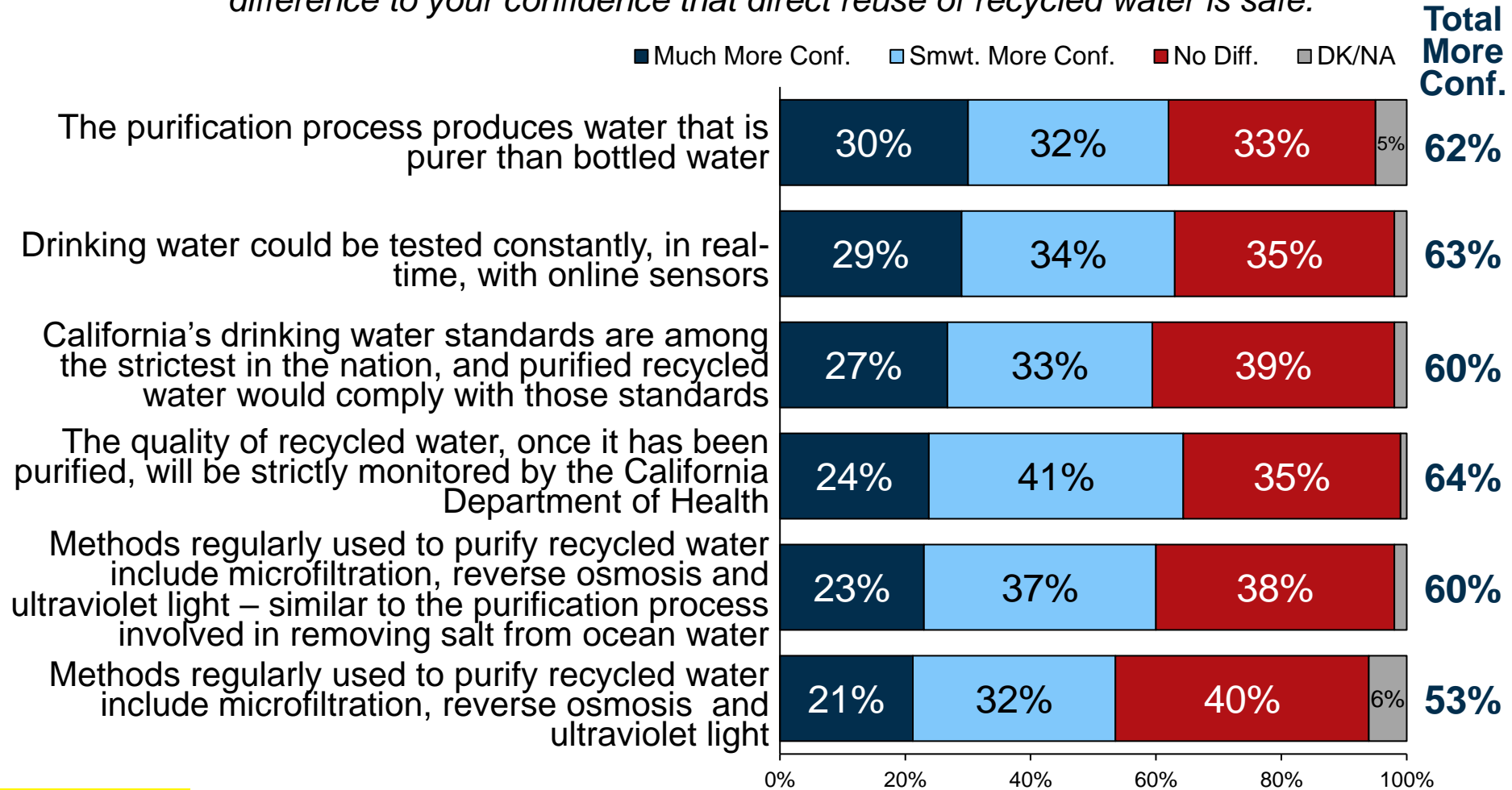
Even a basic description of the process involved in direct potable reuse inspires more confidence.

How would you feel about using advanced treated recycled water as an addition to the supply of drinking water, that is water treated with **ultra-filtration, reverse osmosis, and advanced oxidation**?



Solid majorities say a variety of additional information gives them more confidence in DPR.

I am going to read you a list of facts about direct reuse of recycled water. Please indicate if it makes you much more confident, somewhat more confident, or it makes no difference to your confidence that direct reuse of recycled water is safe.



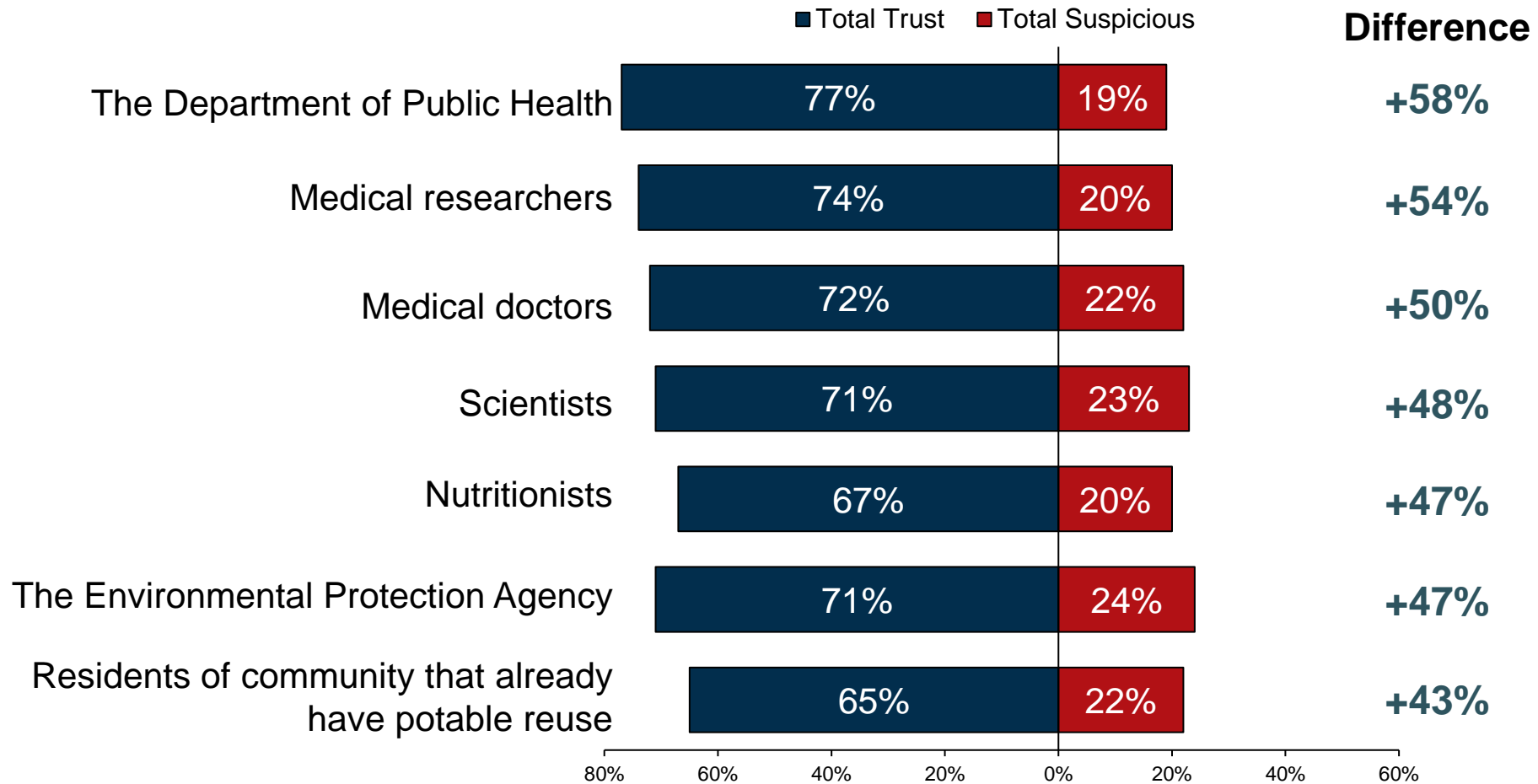
Images were also extremely helpful.

- Some participants expressed interest in seeing or touring a treatment plant.
- Several said that images of the treatment equipment helped ease their concerns; although they had no idea how any of the machinery work, its apparent sophistication increased their comfort level.

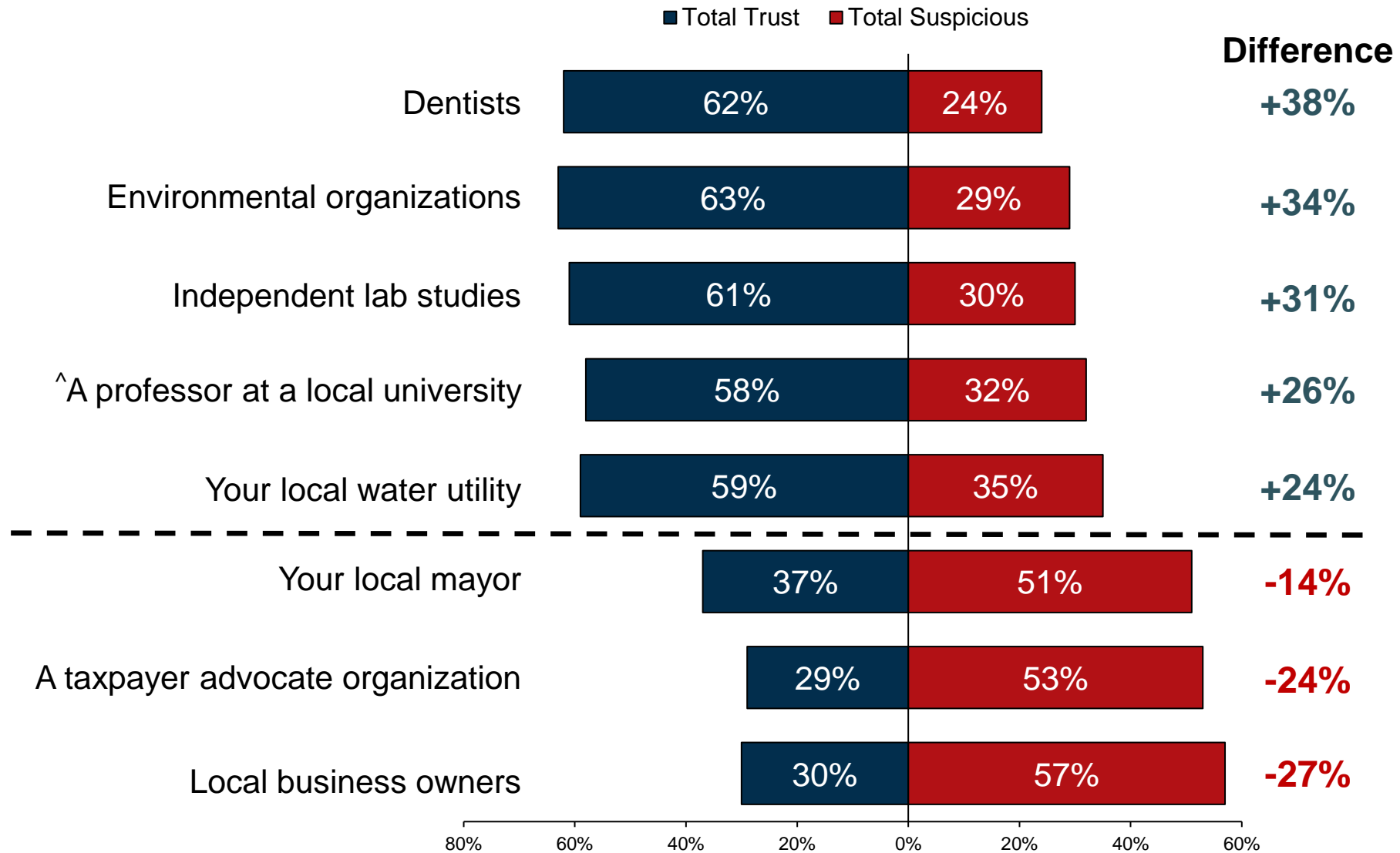


Top messengers are generally those with scientific expertise.

I am going to read you a list of people and organizations that may provide information about recycled water. Please tell me if you would generally trust that person's or organization's opinion on this issue, or if you would be suspicious of it.



Those with a political or economic perspective are less credible.



Focus group participants preferred “purified water” or “certified water” as descriptors.

(Participants Allowed to Select Up to Three From List)

DPR Names	Sunnyvale	San Diego	Total
Purified Water	13	14	27
Certified Water	10	12	22
Advanced Treated Water	6	5	11
Renewed Water	3	4	7
Recycled Drinking Water	3	3	6
Refreshed Water	4	1	5
New Water	1	2	3
Supplemented Natural Water	2	1	3
Cyclical Water	0	1	1
Blended Drinking Water	1	0	1
Reused Potable Water	0	1	1
Reclaimed Water	0	1	1
Reused Water	1	0	1
Renovated Water	0	1	1
Rescued Water	0	0	0

Among “purified water” names, “advanced purified water” was best.

(Participants Allowed to Select One From List)

“Purified Water” Names	Sunnyvale	San Diego	Total
Advanced Purified Water	8	10	18
Purified Water	7	6	13
Purified Recycled Water	0	3	3
Purified Wastewater	0	1	1

SUNNYVALE FEMALE: “Advanced” means they took that extra step. It’s not just purified water, it’s advanced which sounds better to me.

SUNNYVALE FEMALE: It’s advanced in what way? Like you put ten different chemicals in there and that’s why it’s advanced?

Excerpts from WRF 13-02



one glass at a time . . .

Helping people understand
Potable Reuse

A Flexible Communication Plan
for use by Public Information Professionals



Key Messages

Top Three Key Messages

Potable reuse provides a safe, reliable and sustainable drinking water supply.

Using advanced purified water is good for the environment.

Potable reuse provides a locally controlled, drought-proof water supply.

Key Messages Explained

Potable reuse, or purified water as described below, uses advanced, multi-stage treatment to provide a safe, reliable and sustainable drinking water supply.

Here are some tested and useful message bullets :

- Proven engineered treatment processes are used to purify water to a level that is safe to drink
- Purifying water is a “multi-barrier process” designed to separate water from pollutants.
- There are various treatment processes to accomplish this objective.
- Purified water is tested, in real-time, with online sensors and will be strictly monitored by the Department of Health.
- Purified water will comply with or exceed strict state and federal drinking water standards.
- The purification process produces water that is more pure than most bottled waters.
- Purified water is currently used to supplement drinking water in many communities in the United States and around the world. There have been no problems from using purified water to augment drinking water supplies.

At times it may be advantageous to include a more detailed description of the advanced technological processes used to purify recycled water. In such instances, the following language is an example of how to describe the microfiltration/reverse osmosis/ultraviolet light treatment train:

- The water first goes through microfiltration, a pretreatment process, where water is pumped through tubes filled with tiny membranes. Each membrane is made up of hollow fibers, perforated with holes 1/300th the width of a human hair! As the water moves through the tubes, solids and bacteria are caught in the fibers.
- The water then goes through reverse osmosis where it's forced through membranes that remove salt and microorganisms, including viruses, bacteria and most chemicals of emerging concern.
- Now the water is very clean, but one more step ensures its safety: exposing the water to ultraviolet light to cause any remaining organic molecules to break down.

Using advanced purified water is good for the environment.

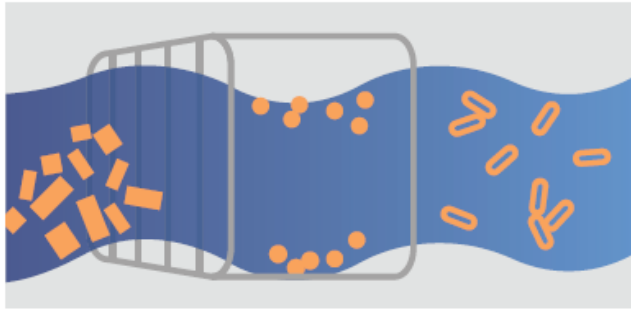
The more recycled water we use for whatever purpose we use it, the less we have to take out of rivers, streams and our ocean groundwater supplies. This is good for rivers and streams.



Info Graphics

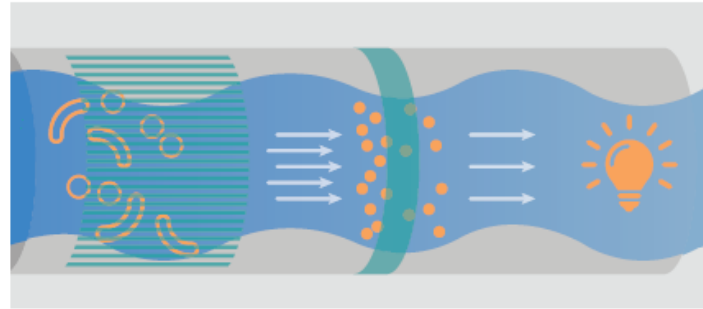
Simple and explanatory images are powerful tools

Existing Wastewater Treatment

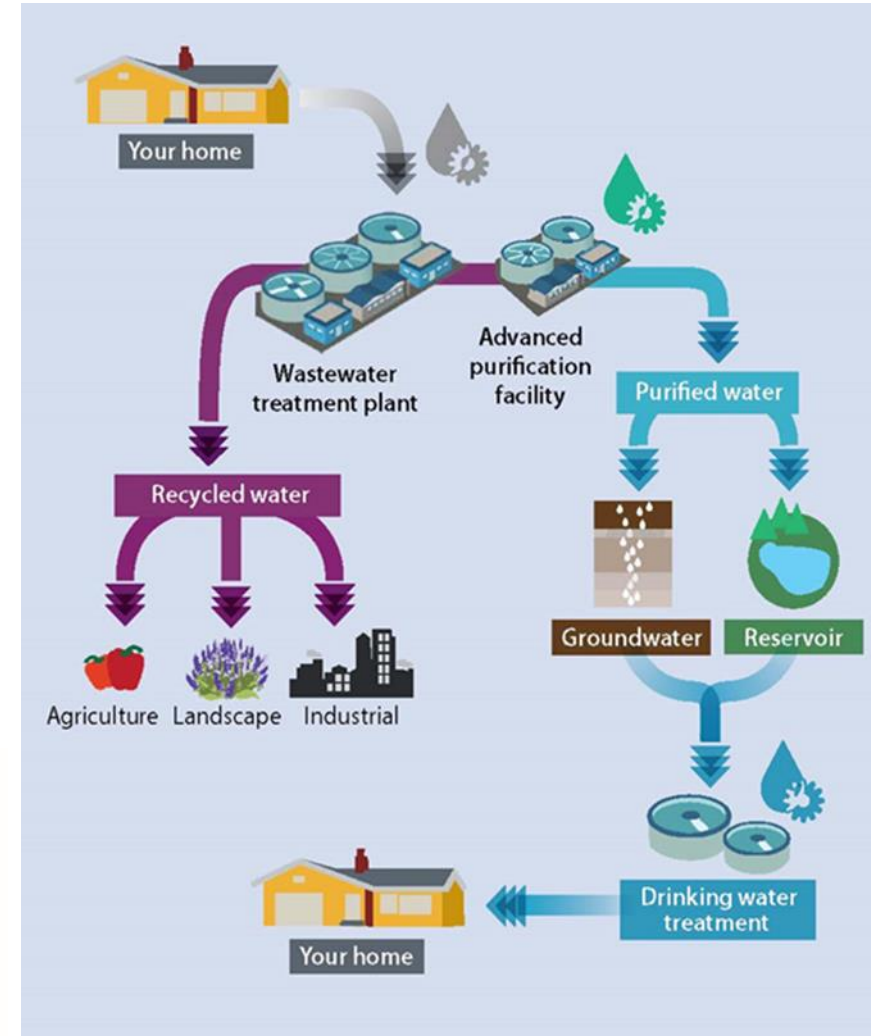
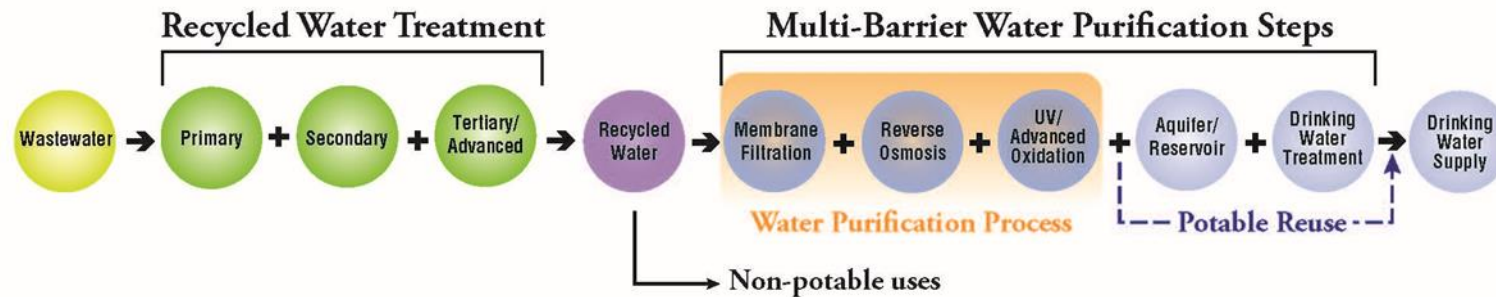


PRELIMINARY PRIMARY SECONDARY

Advanced Purification Process



MEMBRANE FILTRATION REVERSE OSMOSIS UV/ADVANCED OXIDATION



Branding

PureWater SF

Innovative Research Exploring the Possibilities for Purified Water



Our Coordination Team



**Rupam Soni,
Chair**
Metropolitan
Water District
of Southern
California



**Patsy
Tennyson**
Katz and
Associates



Mark Millan
Data Instincts



**Rebecca Rubin,
Vice -Chair**
Soquel Creek Water
District



Gina Ayala
Orange
County Water
District



**Melanie Mow
Schumacher**
Soquel Creek
Water District

Updated Terminology Document

- Original Terminology doc published in 2016
- Updated published October 2019
- Provides California public education and outreach professionals with a framework to discuss water reuse with the public and glossary to help navigate the technical terms frequently encountered

Inter-Agency Collaboration

WaterReuse Associations (WRA & WRA CA)

California Association of Sanitation Agencies (CASA)

Association of California Water Agencies (ACWA)



Examples:

Recycled Water generally refers to domestic wastewater that has been cleaned so that it can be used more than once. The terms “reclaimed water,” “reuse water” and “recycled water” are often used interchangeably depending on the local community or region.

Purified Recycled Water or **Purified Water** has passed through multiple proven advanced treatment or cleansing processes. It has been verified through rigorous monitoring and testing to be safe to add to a community’s water supply, including drinking water supplies.

WaterReuse California Signage Guidelines

- Proposed new Title 22 language
- Create a more uniform public message
- Guidelines include suggestions for sign composition, color, font, size, and message.
- Published in February 2021





Gabriela Dow

DIRECTOR PUBLIC AFFAIRS & COMMUNITY RELATIONS
ARDURRA

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CWEA

BACKGROUND

Gabriela Dow, Ardurra

- ✓ 30 years of experience, including as a journalist from 1990s (newspapers) to television (local KCBS and two CNN bureaus) as well as digital platforms.
- ✓ Communications Director for an eGov tech startup, staff for a US Governor, White House Office of Public Liaison / Engagement, and Director of Public Affairs & Community Relations.



RECYCLED WATER TODAY: FROM THIS ... TO THIS ... TO THAT?!

Why did it work there and not here?

- ▲ 1999: San Diego halted its first repurification project after public outcry
- ▲ “Toilet to Tap” made national headlines
- ▲ Objections:
 - ▲ Health, safety, and operational concerns
 - ▲ Lower-income neighborhoods in the southern part of the city would become guinea pigs for untested technology



EMERGING TECHNOLOGIES / TERMS

No matter how small or large of an outreach piece, the QR code scans into the same mobile landing page to present updated info, two-way communication, social media integration and tracking. Oceanside uses their code on construction signs, doorhangers, flyers, calendars, letters, etc.



TAKE A VIRTUAL REALITY TOUR!

Jump into the BIG Picture! Take a virtual 360-degree tour to learn how the water is purified! Step into the Ray Stoyer Water Recycling Facility, the East County AWP Demonstration Facility and Lake Jennings with this video that lets you look up, down and ALL around. Visit www.EastCountyAWP.com to experience a tour virtually.



ON THE VIRTUAL REALITY TOUR YOU WILL

- See** first-hand how technology is used to recycle and purify water
- Learn** why the program is needed in East County
- Discover** the benefits of this potential new water supply

Visit www.EastCountyAWP.com or call (619) 258-4613 to:

- Take a virtual reality tour
- Schedule a community presentation
- Learn more about the Program

BARRIERS TO COMMUNICATION



OVERCOMING BARRIERS



ENGAGING DIVERSE COMMUNITIES

COVID-19
Arabic/Farsi/Chaldean Virtual Town Hall
3:30pm - Arabic/Farsi | **6:30pm** - Arabic/Chaldean
 Moderator & Translator: Mohammad Tuama | Moderator & Translator: Noori Barka
 Participate on: **LIVE**
 The Middle Eastern - San Diego -or- Chaldean Radio
 The Middle Eastern Magazine
Ask Questions, Get the Facts, Stay Safe!

SEWER BILL ON PROPERTY TAX INVOICE
1 تموز 2020
فاتورة الصرف الصحي على ضريبة الأملاك

City of El Cajon
 Sponsored ·

Please click below for the latest information on City of El Cajon sewer billing, which now follows the ...See More

ATTENTION

City of El Cajon Residents & Businesses: Sewer Billing Update!

LEARN MORE

CITYOFELCAJON.US/SEWER
Sewer Billing is Moving to Property Tax Invoices **LEARN MORE**

carlsbadsm.metroquest.com
Carlsbad Sustainable Mobility Plan
 Task 4 / 5
 Progress

Describe what an improved transportation network could look like and what it would mean for you. This can mean safer places to walk and bike, a climate that encourages transportation innovation, or anything else that comes to mind.

In ten years, I want Carlsbad to be a place where...

Advanced Water Purification
 East County

Thank you for your feedback!

Please take a moment to provide feedback to help us improve our tours.

How informative was the tour?
 Not Informative Informative Very Informative

Before the presentation, how would you rate your understanding of the advanced water treatment process?
 Poor Fair Good Excellent

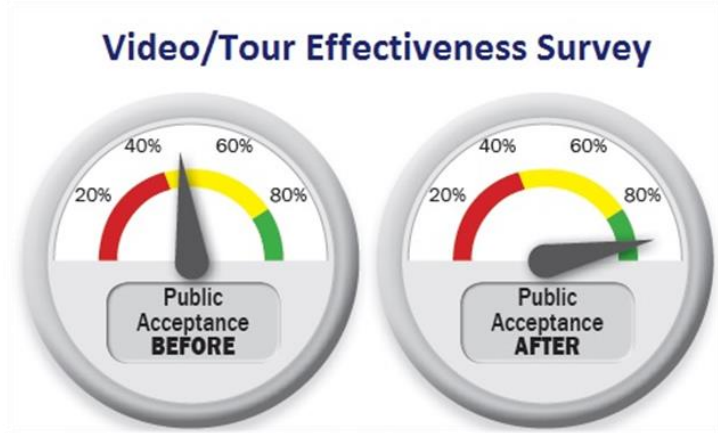
After the presentation, how would you rate your understanding of the advanced water treatment process?
 Poor Fair Good Excellent

What level of support do you currently have for including advanced purified recycled water in the drinking water supply?
 Strongly Oppose Somewhat Oppose Somewhat Favor Strongly Support

What was the most valuable information you gained from the tour?

Additional Comments/Feedback:

Name (optional): _____

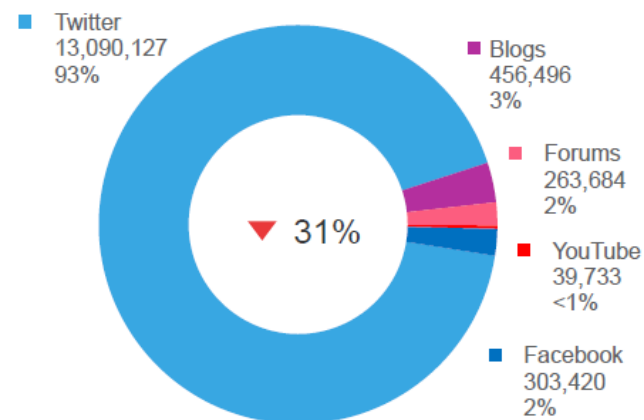


ANALYTICS & METRICS

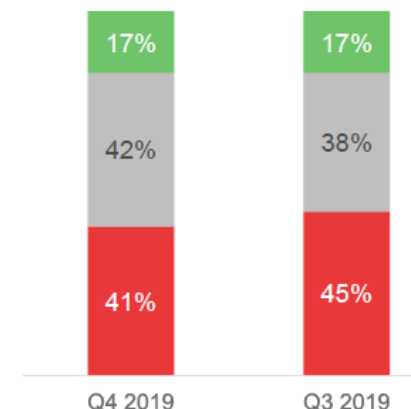
Opening Text	Hit Sentence	Source	Influencer	Reach	Desktop Reach	Mobile Reach
ews/local/chula-vista-park-unc... go there, said Harborside Elementary School parent...		KNSD-TV	Uman Fleming	1,092,976	312,862	780,114
ews/local/chula-vista-residents... The Reimagine Harborside Park Community Works		KNSD-TV	Karla Rendón-A	222,236	61,923	160,313
a-community-meeting-to-decide... KUSI Newsroom		CHULA VISTA (KUSI) – Over the last KUSI-TV		956,175	393,018	563,157
-vista-community-meeting-to-de... -- details below. More info:CHULA VISTA (KUSI) – Head Topics			KUSI News	2,736,837	807,759	1,929,078
re.com/opinion/story/2022-09-... factory for almost 30 years in Chula Vista. Chula		The San Diego U By		2,736,837	807,759	1,929,078
re.com/opinion/story/2022-09-... our childhood home in west Chula Vista and mov		The San Diego U By		2,736,837	807,759	1,929,078
l with Ammar Campa-Najjar, cal... our childhood home in west Chula Vista and mov		The San Diego U The San Diego		2,736,837	807,759	1,929,078
l with John McCann, candidate... factory for almost 30 years in Chula Vista. Chula		The San Diego U The San Diego		2,736,837	807,759	1,929,078
re.com/communities/south-cou... Chula Vista has created a homepage and email add		The San Diego U By		155,435,837	58,599,491	96,836,346
ndanddrink/foodnews/a-souplan Best Thing to Do in These Four Scenarios?NBC San		MSN.com		3,801	2,487	1,314
09/10/alojamiento-y-falta-de-vi... de Chula Vista aumentará el alcance comunitario		El Latino San Die	Horacio Renter	155,435,837	58,599,491	96,836,346
alth/other/san-diego-hospitals-t... alleged attack on a woman, two...		NBC San Diego. MSN.com	Rory Devine(\n\	155,435,837	58,599,491	96,836,346
icias/san%20diego/sue%c3%b1c... prepárate para el calor extremo		Telemundo San	Tania Luviano	155,435,837	58,599,491	96,836,346
icias/san%20diego/el-hurac%c3... prepárate para el calor extremo		Telemundo San	TELEMUNDO D	155,435,837	58,599,491	96,836,346
icias/san%20diego/se-registra-c... prepárate para el calor extremo		Telemundo San	Marinee Zavala	155,435,837	58,599,491	96,836,346
icias/san%20diego/mujer-inmigi... prepárate para el calor extremo		Telemundo San	Tania Luviano	155,435,837	58,599,491	96,836,346
icias/san%20diego/mujer-mexic... prepárate para el calor extremo		Telemundo San	Tania Luviano	155,435,837	58,599,491	96,836,346
ns/crime/arraignment-schedule... wildfire near Lakeside		KFMB San Diego/City of Chu	MSN.com	155,435,837	58,599,491	96,836,346
me/Components/News/News/... -term solutions at Harborside Park."		"The 90-day t City of Chula Vista		58,452	27,620	30,832
re.com/opinion/editorials/story... Disagree?Let us know.		The Chula Vista City Council	The San Diego U By	2,473,320	743,527	1,729,793
Chula Vista park that became a... section. Disagree? Let us know.		The Chula Vista C The San Diego U The San Diego		2,736,837	807,759	1,929,078
l/2022/09/01/chula-vista-park-c... Harborside Park in Chula Vista is now closed after		KPBS-FM		346,178	139,257	206,921
o-news-now/drought-in-san-die... threatening the supply of Colorado River water.		I Player FM		1,077,233	401,393	675,840
na-se-murio-el-1-de-julio-perso... Foto del parque Harborside el 25 de agosto del 2021		newsexplorer.net		43,755	7,525	36,230
				1,747,200,460	655,818,982	1,091,381,478

Online mentions about Climate Change spiked in October

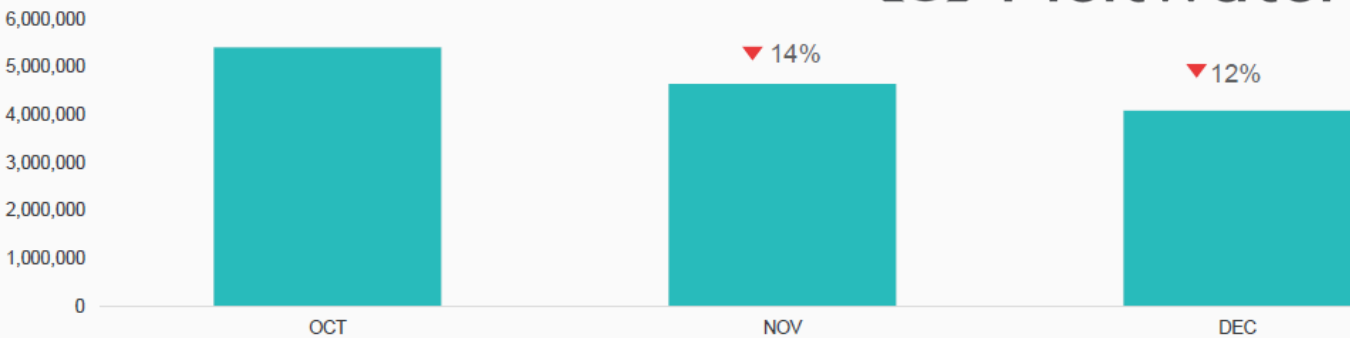
14,153,460 TOTAL MENTIONS



SENTIMENT



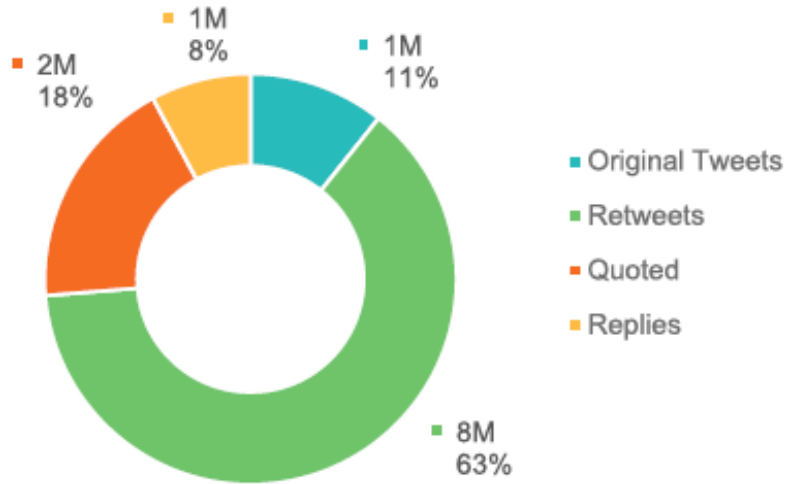
MONTHLY VOLUME TREND



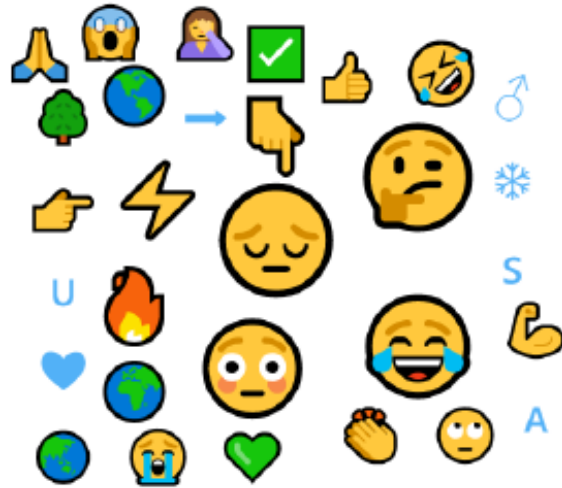
Meltwater

EVOLVING COMMUNICATION

TWEET TYPE BREAK-DOWN



TOP EMOJIS:



Looking back as we create a #Water #Infrastructure #Innovation future! 🤩💧♻️🌟 @PadreDam @SanDiegoCounty @CityofElCajon @helixwater @sdcwa @WaterFdn @WaterReuseAssoci @WaterReuseSD @APWASanDiego #CAwater #WaterReuse #Santee #ElCajon #EastCountySD #RecycledWater

Padre Dam MWD @PadreDam · Sep 17, 2020

Circa 1963: An aerial view of Padre Dam's @Santee_Lakes and @carltonoaksgolf ! #ThrowbackThursday



9:25 AM · Sep 18, 2020 from Santee, CA · Twitter for iPhone

ANALYZING COMMUNICATION

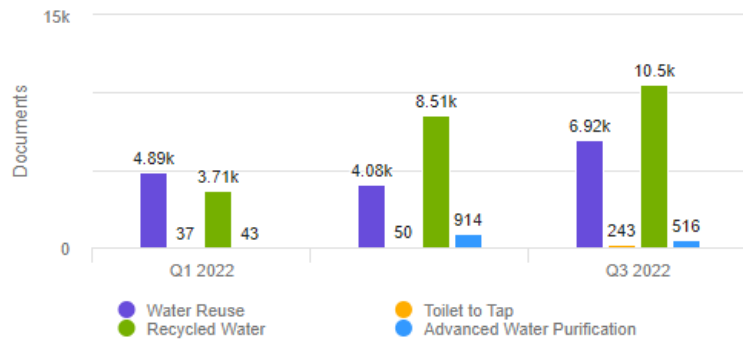
Analyze > Water Keywords Analysis

Jan 30, 2022 - Sep 30, 2022

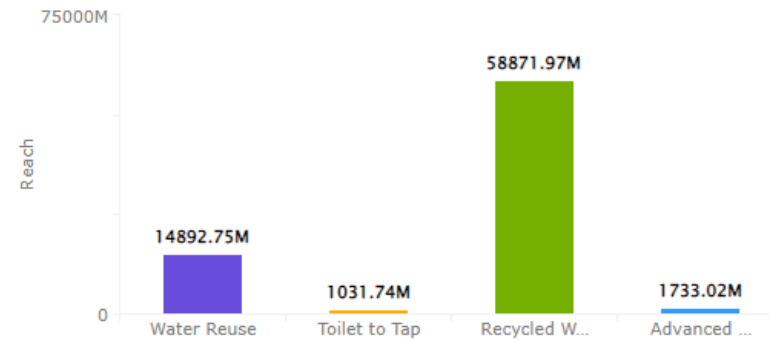
ACTIONS



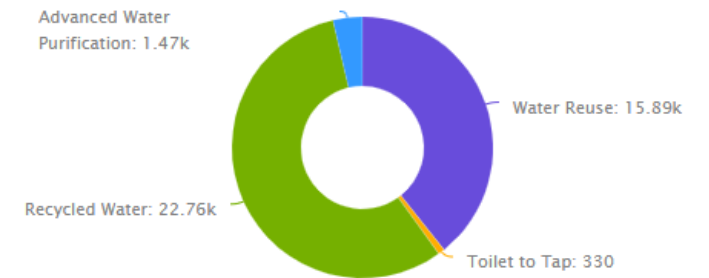
Media Exposure | News



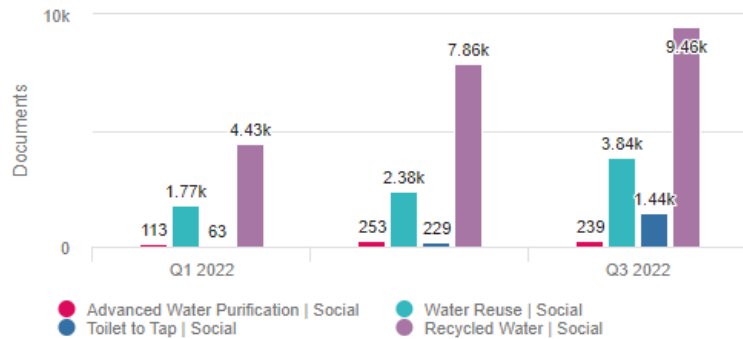
Potential Reach | News



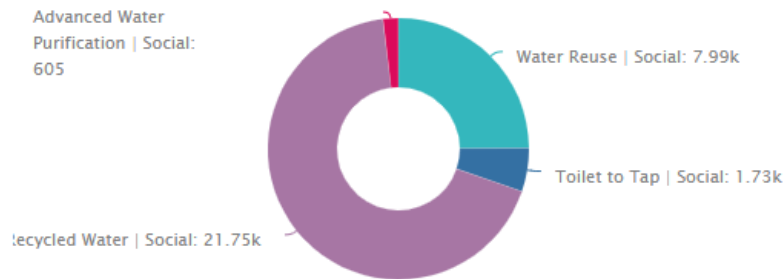
Share of Voice | News



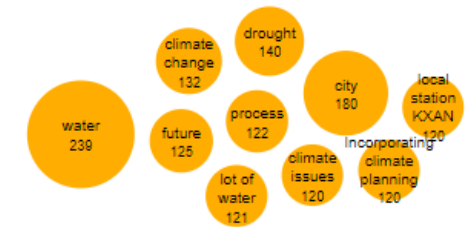
Media Exposure | Social



Share of Voice (SOV) | Social



Themes | Toilet to Tap



MEASURING SUCCESS

Experience

Oceanside's
World of Water!
Saturday, March 23
from 10 a.m. to 1 p.m.

➤ 3950 North River Road
Oceanside, CA 92058

- Tour the facility and learn about Pure Water
- Arts and crafts for the whole family
- Plant a take home succulent
- Water operation demonstrations
- Green Oceanside games and prizes
- Learn about water and water reuse
- Find out how to read your water meter

SEE OTHER SIDE ➤
to learn about
Pure Water Oceanside
— a new source of water coming to Oceanside!

For more information, directions and to let us know you're coming, visit www.PureWaterOceanside.org

Bring your whole family for a day of fun!

Hosted by the City of Oceanside



SEEING IS BELIEVING



Advanced Water Purification
East County

A fun and educational day!

EAST COUNTY Water FESTIVAL

YOU'RE INVITED!

pure water
oceanside
is ON the MAP!

WED | FEB
19
10 am

Please join the City of Oceanside
to commemorate the start of construction and
help place the **FIRST** advanced water purification
project in the San Diego region on the map!

RSVP by Feb. 17 to www.bit.ly/PWOGroundbreaking
SAN LUIS REY WATER RECLAMATION FACILITY
3950 NORTH RIVER ROAD, OCEANSIDE 92058

Pure Water Oceanside will purify recycled water to provide a local water
supply that is clean, safe, drought-proof and environmentally sound.

Tours of the San Luis Rey Water Reclamation Facility
will be offered after the event. Refreshments provided.

www.PureWaterOceanside.org





Melanie Mow Schumacher, PE

SPECIAL PROJECTS-COMMUNICATIONS MANAGER
SOQUEL CREEK WATER DISTRICT



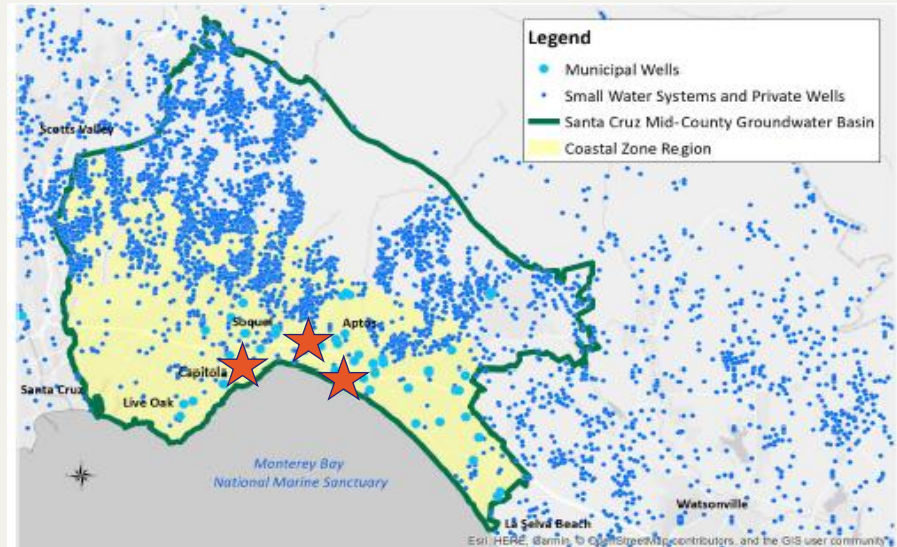
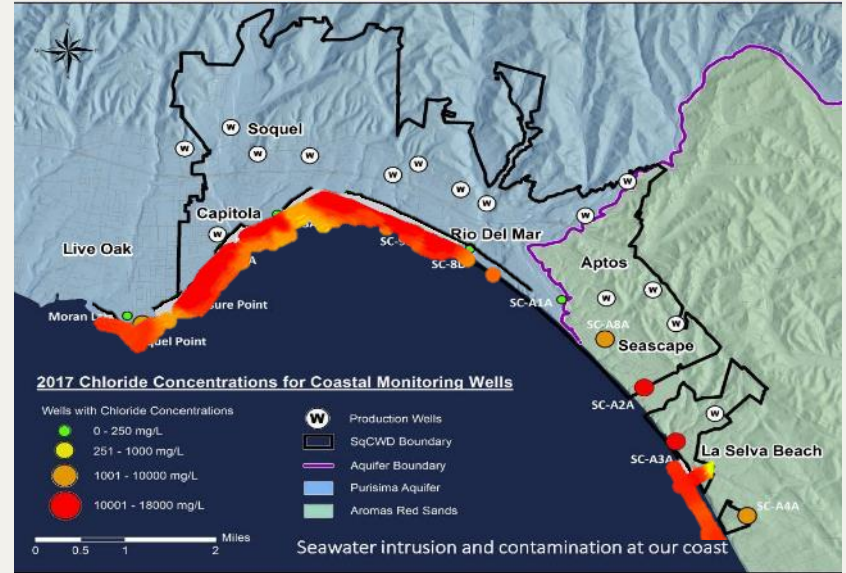
who we are...

- California Special District, which is a local government agency that provides essential services
- Serve the areas of Aptos, La Selva Beach, Opal Cliffs, Rio Del Mar, Seascapes, Soquel, and portions of Capitola
- 165+ miles of pipeline, 20 wells, 18 Tanks, 80 monitoring wells
- 48 Employees
- Governed by 5 elected officials who comprise our Board of Directors
- 16,000 Customers
- Produce about 3,300 acre-feet per year of water which equals over 90 million gallons per month



our water challenge

- **Critically overdrafted** as identified by the State of California with a mandate to be sustainable by 2040
- **Groundwater** is the **only source** of water for Soquel Creek Water District and much of the SC Mid-County Region
- **Contaminated** with seawater intrusion along the coast

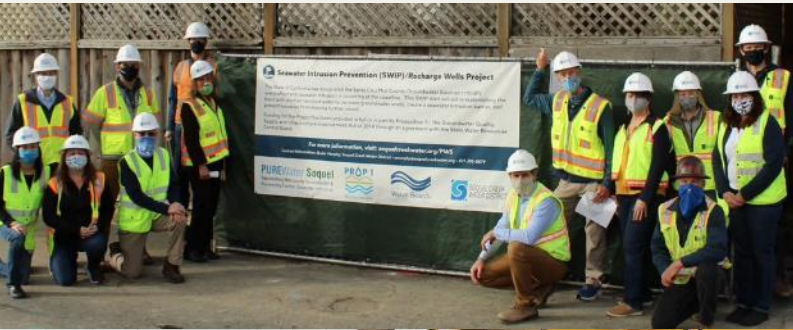


project overview

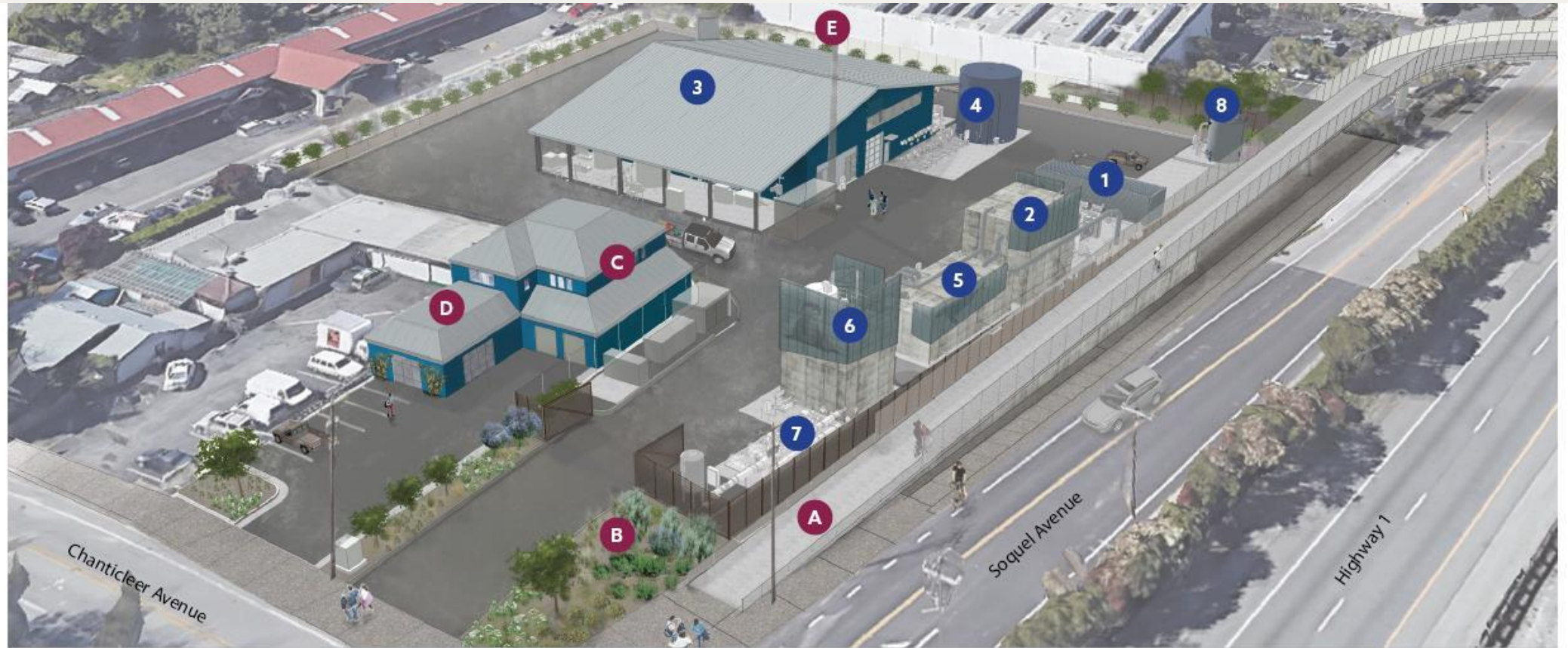
- Two Treatment Projects
- Over eight miles of conveyance pipeline
- Three seawater intrusion prevention wells
- Nine monitoring wells
- Goal is to produce up to 1,500 acre feet per year (1.3 MGD) of purified water
- Designed to be expanded to 3,000 afy (2.6 MGD), if needed



2021 - construction began



2024- anticipate project on-line



Process Flow

1. Ozone System
2. Ozone Contact/Membrane Filtration (MF) Feed Tank
3. MF, Reverse Osmosis (RO), Ultraviolet Light with Advanced Oxidation Process (UV/AOP) Building

4. RO Feed Tank
5. Reverse Osmosis Concentrate (ROC) Wet Well
6. Purified Water Tank and Decarbonation Unit
7. Purified Water Pump Station
8. Neutralization Tank

Other Components

- A. Bike/Pedestrian Bridge (by RTC)
- B. Demonstration Garden
- C. Operations Offices
- D. Education Center
- E. Communications Pole

wait a second...rewind...




2016/2017 - signs of resistance




community petitions

Stop Soquel Creek Water Dist. Neighborhood Poop Plant!!!




Soquel Creek Water District is in the EIR phase of building a treatment plant on the corner of Capitola Ave. and Soquel Dr. in Soquel CA. Raw wastewater and secondary/tertiary water will be pumped from the wastewater treatment plant in Santa Cruz to this site. It will then be processed and injected back into the aquifer to help offset the overdraft condition. We, the undersigned, are concerned citizens who urge our leaders to act now to change the *location* of the proposed plant. This is a residential neighborhood! We don't want the odor, noise, substantial light & glare at night, ground borne vibration, decline in home equity, decline in living environment. We want to live in a neighborhood not an industrial area! Go to the link to sign the petition. Let them know what we think. Thanks.


 goo.gl/BUfzj7

change.org Start a petition Browse Membership Q Log in


Petitioning [President of the Board Dr. Tom LaHue](#) and [2 others](#)

Stop Soquel Creek Water Dist. RAW WASTEWATER TREATMENT PLANTS!!!

 [Bob Mettalia](#) Soquel, CA



Sign this petition
Your info will stay private.
189 supporters
11 needed to reach 200

 Share with Facebook friends

Sign

By signing, you accept Change.org's [Terms of Service](#) and [Privacy Policy](#), and agree to receive occasional emails about campaigns on Change.org. You can unsubscribe at any time.

Soquel Creek Water District is in the EIR phase of building two treatment plants on the corner of Capitola Ave. and Soquel Dr. in Soquel CA. Raw wastewater and secondary/tertiary water will be pumped from the wastewater treatment plant in Santa Cruz to this site. It will then be processed and injected back into the aquifer to help offset the overdraft condition. We, the undersigned, are concerned citizens who urge our leaders to act now to change the *location* of the proposed plants. This is a

anonymous phone messages



Phone Message:
**“Melanie- I recommend you
drink your own sewage
water”**

public comments at board meetings



How do we build trust and educate the community about potable reuse?





It's not what you said. It's the way you said it.

just

and often who said it



SOQUEL CREEK WATER DISTRICT NEWS AND UPDATES
JUNE 2017

What's On Tap

AT THE SOQUEL CREEK WATER DISTRICT

Update on PUREWater Soquel

In January we received a grant of up to \$2 million dollars to help fund continued evaluation efforts for the District's proposed Pure Water Soquel Project. It would use advanced water purification methods to purify recycled water for replenishing the groundwater basin and protecting against seawater intrusion.

This funding is part of an \$800 million dollar funding source through the State Water Resources Control Board for projects which prevent and clean up contamination of groundwater that serves as a source of drinking water, since groundwater is

currently our sole water supply and sewer contamination. It is already occurring along the coastline, the prevention of seawater intrusion from moving further inland is a top priority for the District, community, and the State. This \$2 million dollar grant (maximum amount for the grant award) is timely and extremely useful in supporting studies that are currently underway (such as water quality testing, groundwater

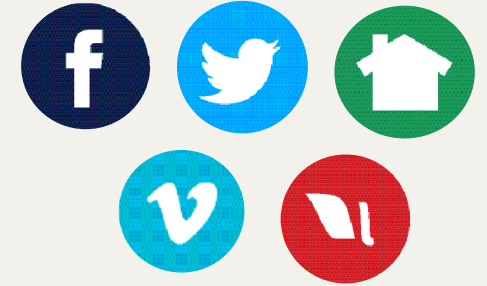
modeling, and environmental review) and furthering knowledge around groundwater recharge.

"The award of this grant illustrates the state's recognition of the crucial work we're doing to protect the groundwater basin and our focus to make the most efficient use of ratepayers' money by leveraging it with state funding."
-Ron Duncan, District GM

Next steps include release of the draft Environmental Impact Report in late Spring 2018. This will include a 45-day review period for public input and comments. No project will be decided on until the CEQA process is completed. For more information visit soquelcreekwater.org.

We welcome input from our customers to [sign up](#) to receive this information.

Sincerely,
R. Duncan
Ron Duncan
General Manager



Remembering Laura Brown District GM from 1995-2017

On December 28, 2017, Laura Brown, District General Manager from 1995-2017, passed away. She was a high quality and professional leader with a particularly strong sense of service and an unwavering dedication to the public. She was a pleasure to work with and a source of inspiration to all who knew her. Her high standards for professional conduct and her generous gifts to the District through the construction of both the Water Treatment Plant and the Water Distribution System are a testament to her leadership. We are immensely grateful for her service to the District.

JAN-MARCH 2018 www.soquelcreekwater.org

SOQUEL CREEK WATER DISTRICT

Customer Service • Our Water • Conserving Water • Construction • Who We Are

Our Community Water Plan serves as the District's roadmap to meet our goal of sustainability by 2040.

Learn more about the [Community Water Plan](#).

How do I...
 Pay My Bill?
 Conserve Water?
 Find Board Agendas and Minutes?
 Learn About the Groundwater Emergency?
 Access the Community Water Plan?
 Apply for a Report?
 Get Price Sheet, Sewing Patterns?
 Apply for a District Job?
 Report under water or leaks?

Join our Newsletter
 Email Address:
 First Name:

PG&E PUBLIC SAFETY

Upcoming Events
 May 2018 - 10:00am
 Board Meeting
 May 17 2018 - 10:00am
 PUBLIC HEARING NOTICE
 May 17 2018 - 10:00am
 Board Meeting - CANCELED

Important News
 For the Love of...
 Board Meeting
 The first of February brings thoughts of Valentine's Day and love. Love also of course goes to the heart of the day's celebration. Love is a powerful and...

one-on-ones, presentations, and LOTS of information





A sustainable and drought-free water supply is essential for preserving and promoting economic vitality throughout Santa Cruz County. For these reasons the business community is deeply supportive of the Pure Water Soquel Project.

Robert Singleton
Executive Director,
Santa Cruz County Business Council

#InThisTogether

SOQUEL CREEK WATER DISTRICT



Salt water intrusion is destroying agricultural land along the coast. I've experienced it in my field where we grew heather for many years. The well that provided irrigation water became contaminated and the field is no longer suitable for farming. It is not too soon to address the problem and to begin protecting valuable farm lands.

Pete Cartwright
Long term resident of La Selva Beach

#InThisTogether

SOQUEL CREEK WATER DISTRICT



"We are proud to be water stewards of conserving, recycling, and protecting the environment and creating a thriving community."

Toni Castro and Carrie Arnone
Capitola Soquel Chamber of Commerce

#InThisTogether

SOQUEL CREEK WATER DISTRICT



Protecting our Water Supply for Future Generations.

#InThisTogether

SOQUEL CREEK WATER DISTRICT



The problem of saltwater intrusion and ongoing overdraft must be addressed. I am pleased the water District is responding to this serious issue before it is a full-scale crisis.

Craig Wilson
Public Safety Official &
District Customer

#InThisTogether

SOQUEL CREEK WATER DISTRICT

#inthistgether campaign



GWRS GROUNDWATER REPLENISHMENT SYSTEM

360,097,442,576 gallons produced

- About GWRS
- The process
- The need
- The OCWD/DC San partnership
- Frequently asked questions
- Steering committee
- Independent advisory panel
- Project supporters
- Annual reports
- Final expansion

GROUNDWATER REPLENISHMENT SYSTEM

GWRS - new water you can count on

The GWRS is the world's largest water purification system for indirect potable reuse. The system takes highly treated wastewater that would have previously been discharged into the Pacific Ocean and

elected & key officials attended conferences and tours



Technical Advisory Panel

- Chair: Channah Rock, Ph.D. (University of Arizona)
- Joseph Cotruvo, Ph.D., BCES (Joseph Cotruvo & Associates)
- Jason Dadakis, PG, CHG (Orange County Water District)
- Lynne Haber, Ph.D., DABT (University of Cincinnati)
- Kara Nelson, Ph.D. (University of California, Berkeley)
- Gordon Thrupp, Ph.D., PG, CHG (Geosyntec Consultants)



convened independent technical advisory committee



National award winning

Spent ~\$8K

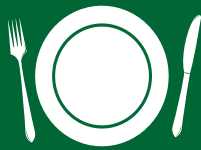
created a mobile educational trailer



\$903M Total Economic Benefit



RESIDENTIAL



BUSINESS



ENVIRONMENTAL

HIGHER COST OF WATER TO CUSTOMERS*



*Cost without project based on pricing alone
Source - Technical Memorandum: Estimating Benefits of the Pure Water Soquel Project, by Brent Haddad, Ph.D. and Bryan Pratt, D.Cand.



Dr. Brent Haddad

Associate Dean of Engineering for Technology Management and Professor of Environmental Studies



Center for Integrated Water Research



UNIVERSITY OF CALIFORNIA
SANTA CRUZ



Support **investment in infrastructure** to ensure a safe, reliable water supply



Support taking **strong action now** to address the issues of over-drafting and seawater contamination of the local groundwater



Are **comfortable** with **Pure Water Soquel**

SqCWD Phone and On-Line Survey, January 2020, performed by FM3

**Taking the pulse of the community-
conduct surveys**

...back to 2022



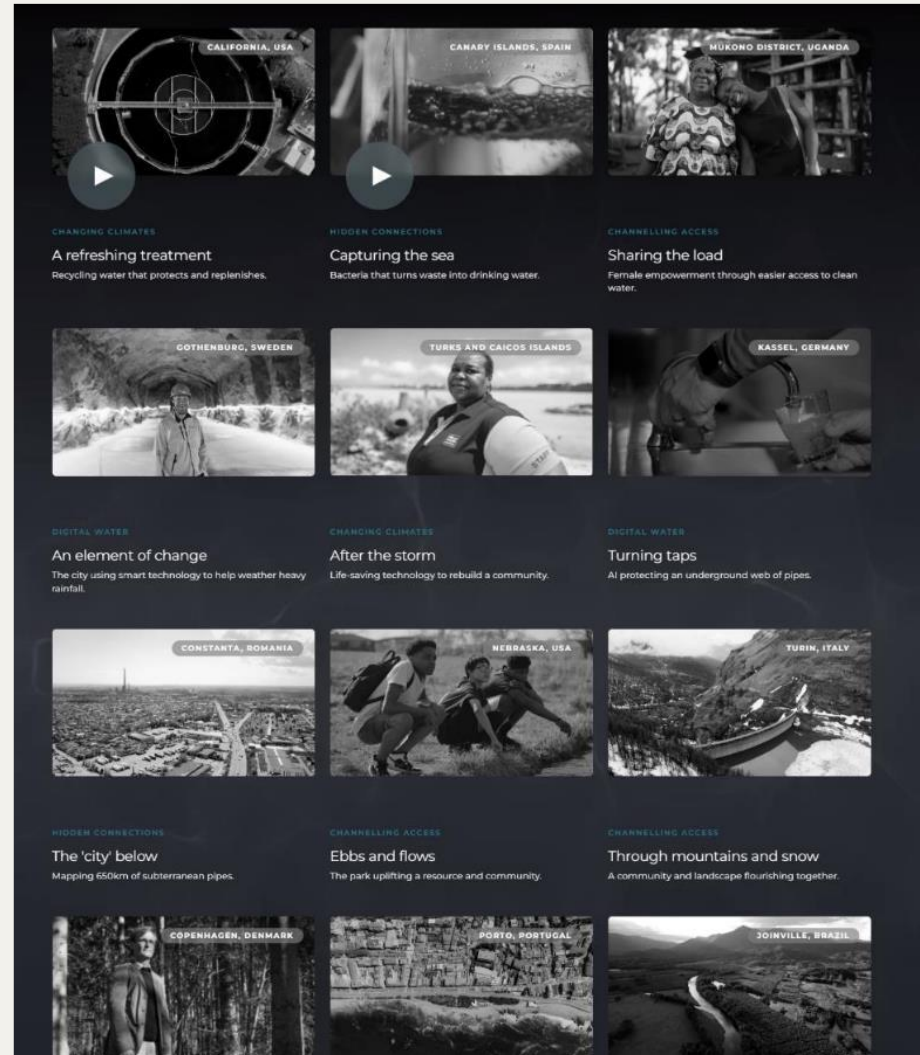
International Water Association's 'Beneath the Surface' Film Series- 2022



New online film series in 2022 presented by the International Water Association showcasing innovations taking place across the world of water, highlighting technological advancements and ways communities are coming together to protect this precious resource.

16 projects, 20+ diverse locations

Santa Cruz County, California, USA
Tenerife and Madrid, Spain
Mukono District, Uganda
Gothenburg, Sweden
Turks & Caicos
Kassel, Germany
Constanta City, Romania
Omaha, Nebraska, USA
Turin, Italy
Copenhagen, Denmark
Porto, Portugal
Joinville, Brazil
Switzerland and The Netherlands
Kingston, Jamaica
Polokwane, South Africa
Glasgow, Scotland



Discover stories of individuals and communities at the heart of preserving this precious resource.

www.bbc.com/storyworks/specials/beneath-the-surface/

“A Refreshing Treatment” – recycling water that protects and replenishes



Pure Water Soquel: A Refreshing Treatment. Part of the Beneath the Surface: Journey of Water Film series

Soquel Creek Water District

Santa Cruz County

CALIFORNIA

I think water is so critical and important

05:12

vimeo

<https://www.soquelcreekwater.org/645/Beneath-the-Surface-The-Journey-of-Water>

Thank you for the opportunity to spend some time with you



Feel free to reach out to me!
Melanie Mow Schumacher
melanies@soquelcreekwater.org



CWEA Film Festival

Enter your agency
or firm's videos by Dec 22nd
awards.cwea.org

A night-time photograph of the Town & Country Resort in San Diego. The central focus is a large, circular swimming pool illuminated with a bright blue light. The pool is surrounded by a paved deck with several teal umbrellas and lounge chairs. In the background, a large, multi-story hotel building is lit up with warm yellow lights, and numerous palm trees are scattered throughout the resort grounds. The sky is a deep twilight blue.

CWEA

**2023
Annual
Conference**

April 18-21, 2023
Town & Country Resort
San Diego

An aerial photograph of Monterey, California, showing the harbor filled with sailboats, a large parking lot, and the coastline curving along the Pacific Ocean. The sky is blue with some light clouds.

CWEA

CWEA
P3S Conference

Jan. 30-Feb. 1, 2023

Monterey

*Pretreatment, Pollution
Prevention and Stormwater*



Thank You!