



Annual Report

In **2020**, we turned wastewater and trash into:

49

BILLION GALLONS OF RECYCLED WATER MEGAWATTS OF ELECTRICITY

77

177,000 TONS OF RECYCLED COMMODITIES 145,000 TONS OF COMPOST

MISSION

To protect public health and the environment through innovative and cost-effective wastewater and solid waste management and, in doing so, convert waste into resources such as recycled water, energy, and recycled materials.



RECYCLED WATER

RECYCLED MATERIALS

CORE VALUES

GREEN ENERGY

INTEGRITY

We are committed to ethical standards and accountability in our work

LEADERSHIP

We are committed to the advancement of excellence in wastewater and solid waste management

SERVICE

We are committed to reliable, responsive, and courteous service

Continuing to Fulfill Our Mission

n 2020, the novel coronavirus disrupted our world. Nonetheless, the Los Angeles County Sanitation Districts continued to provide wastewater and solid waste management services for more than half of LA County.

Our wastewater treatment plants have multiple treatment steps that kill or inactivate bacteria and viruses, including the novel coronavirus. Our solid waste management facilities provide for the controlled management of trash, which limits the spread of disease.

FRONT COVER: Sewer maintenance using a Hydrojetter.

ACK COVER: A well-deserved Thank You to our staff who continued to provide essential service through difficult times. Prior to the COVID-19 pandemic, the Sanitation Districts had already implemented many safety measures to protect our staff from pathogens in solid waste and sewage. As the coronavirus became a concern in California, many additional safety measures were enacted. These included requiring physical distancing, closing offices to non-critical visitors, requiring staff and visitors to wear face coverings, and having office staff work from home.

A MESSAGE FROM OUR CHIEF ENGINEER **2020's Unprecedented Challenges**

The COVID-19 pandemic has had an unprecedented impact on how we work and live. As an agency that protects public health and the environment by providing sanitation services for 5.6 million people, it was critical that the Sanitation Districts continue these essential services despite the onset of the pandemic in March 2020. I'm proud to report that we adapted and continued to move forward in the past year. Our treatment plants kept producing clean water, our solid waste facilities kept producing recycled commodities, and our power plants continued converting waste into green energy.

We could not have done this without our employees, who are all essential workers. About 1,000 of our 1,660 employees continued to work onsite to operate and maintain our facilities. A variety of new safety measures were implemented that successfully protected our staff. Our staff adapted and, in some cases, completely re-thought ways to get their jobs done safely.

The remaining staff shifted to work from home to reduce the potential for workplace transmission. Thanks to the efforts of our Information Technology staff, over 600 employees seamlessly shifted to working from home where productivity has matched pre-pandemic levels. Through use of virtual meeting software, staff stayed connected and continued collaborating on projects.

Despite 2020's unprecedented challenges, the Sanitation Districts continued to move forward on many important projects and this report describes a few of our achievements. One effort that I'm particularly proud of is the laboratory method that our staff developed early in the pandemic to detect the amount of novel coronavirus in wastewater entering our treatment plants. By tracking changes in these levels over time, our data can be used to predict changes in community infection rates. These data were shared with federal, state and local public health officials to help them manage the pandemic.

I am proud of the agency for overcoming obstacles to maintain a high level of service for our ratepayers. I am also grateful for the resilience, commitment and teamwork exhibited by our staff this past year and look forward to further strides in 2021 as we move past the pandemic.

Sincerely,

Robert C. Finante

Robert C. Ferrante Chief Engineer & General Manager



Boards of Directors (as of printing, March 30, 2021*)

Sasha Renée Pérez; Katherine Le

Robert Gonzales; Edward J. Alvar

Roger Chandler; Sho T

Emmanuel J. Estra

Monica Garo

Ali Sal

Ali Sajjad Taj; Rene J. Trevir

Alhambra DIST. 2, 16 Arcadia DIST. 15, 22 Artesia DIST. 2, 18, 19 Azusa DIST. 22 Baldwin Park DIST. 15, 22

Bell DIST. 1, 2 Bell Gardens DIST. 2 Bellflower DIST. 2, 3, 18 DIST. 2, 18 DIST. 3

Bradbury DIST. 15, 22

Carson DIST. 8 **Cerritos** DIST. 2, 3, 18, 19 Claremont DIST. 21 Commerce DIST. 2 Compton DIST. 1. 2. 8 Covina DIST. 22 Cudahy DIST. 1 Culver City DIST. 5 Diamond Bar DIST. 21 Downey DIST. 2, 18 Duarte DIST. 15, 22 El Monte DIST. 15 El Segundo DIST. 5, SBC Gardena DIST. 5 **Glendora** DIST. 22 Hawaiian Gardens DIST. 19 Luis Roa; Maria Teresa Del R Hawthorne DIST. 5 Hermosa Beach SBC Huntington Park DIST. 1 **Industry** DIST. 15, 18, 21 **Inglewood** DIST. 5 Irwindale DIST. 15, 22 La Cañada Flintridge DIST. 28, 34

La Mirada DIST. 18 La Puente DIST. 15, 21 La Verne DIST. 21, 22 Lakewood DIST. 3, 19 Lancaster DIST. 14 Lawndale DIST. 5 Lomita DIST. 5 Long Beach DIST. 1, 2, 3, 8, 19

Los Angeles City DIST. 1, 2, 3, 4, 5, 8, 9, 16 Nury Martine Ioe Buscai

Marco Barcena; Jorgel Chav Dan Koo Rav Dunt Sonny Śanta In Beverly Hills DIST. 4 Lester J. Friedman; Robert Wunderli D. Montgomery Lew Richard Barak Lula Davis-Holmes; Jim Dea Naresh Solanki; Bruce Barro Jennifer Stark; Jed Lean Ivan Altamirano; John Sor Aia Brown: Michelle Chambe Victor Linares; Jorge A. Marque Jose R. Gonzalez: Elizabeth Alcante Alex Fisch; Yasmine-Imani McMorr Nancy Lyons; Ruth Lo Claudia Frometa; Blanca Pache Bryan Urias; Margaret Finl Jessica Ancona; Victoria Martin Drew Boyles; Chris Piment Tasha Cerda; Paulette C. Franc Michael Allawos; Karen Dav Alex Vargas; Alex Montei Justin Massey; Michael Det Manuel Avila; Karina Maci Corv Mo James T. But H. Manuel Ortiz; Larry Burro Michael A. Dav Ionathan C. Curtis: Teresa Walk Keith Eich; Richard B. Gunter I La Habra Heights DIST. 18 Dennis Laherty; Brian Bergma John Lewis; Steve De Ru Charlie Klinakis; Valerie Mun Tim Hepburn; Muir Day Todd Rogers; Jeff Wo R. Rex Parris; Marvin Cr

Robert Garc

Robert Pullen-Miles; Pat Kearne

Mark Waronek; James Gazel

DIST. 1. 2. 8. 9	Hilda Solis: Holly Mitchell			
DIST. 3, 5, 18, 19, 21	Hilda Solis; Janice Hahr			
DIST. 14, 20, 22, SCV	Hilda Solis; Kathryn Barger			
DIST. 27, NR Hilda S	Solis, Sheila Kuehl, Kathryn Barger,			
	Holly Mitchell, Janice Hahn			
DIST. 17 (2nd DIR)	Kathryn Barger; Sheila Kuehl			
	Marisela Santana: Jose Luis Salache			
Manhattan Reach DIST 5	SBC Suzanne Hadley: Hildy Storn			
	Picardo Laro: Jassica Torras			
Mannovia DIST 15 22	Tom Adams: Backy A Shaulin			
Montoballo DIST. 15, 22	Vimborly Ann Cobos Cowthorns			
	Scarlet Peralta			
Monterey Park DIST. 2, 15	5 Yvonne Yiu; <i>Henry Lo</i>			
Norwalk DIST. 2, 18	Jennifer Perez; Tony Ayala			
Palmdale DIST. 14, 20 DIST. 20 (2nd DIR)	Steven Hofbauer; <i>Austin Bishop</i> Richard J. Loa; <i>Austin Bishop</i>			
Palos Verdes Estates DI	ST. 5, SBC Michael Kemps David McGowan			
Paramount DIST. 1, 2	Peggy Lemons; Brenda Olmos			
Pasadena DIST. 15, 16, 17	Victor Gordo			
Pico Rivera DIST. 2, 18	Raul Elias; Gustavo Camacho			
Pomona DIST. 21	Tim Sandoval; Steve Lustro			
Rancho Palos Verdes DI	ST. 5, SBC Eric Alegria David Bradley			
Redondo Beach DIST. 5, 9	SBC Bill Brand; Nils Nehrenheim			
Rolling Hills DIST. 5	Jeff Pieper; Patrick Wilson			
Rolling Hills Estates DIS	T. 5, SBC Steve Zuckerman Frank Zerunyan			
Rosemead DIST. 15	Sandra Armenta; Margaret Clark			
San Dimas DIST. 21, 22	Emmett Badar; Denis Bertone			
San Gabriel DIST. 2, 15	Denise Menchaca; Chin Ho Liao			
San Marino DIST. 15, 16	Ken Ude; Susan Jakubowski			
Santa Clarita SCV	Bill Miranda; Marsha McLean Laurene Weste: Marsha McLean			
Santa Fe Springs DIST. 1	8 John M. Mora: <i>Joe Angel Zamora</i>			
Sierra Madre DIST 15	Rachelle Arizmendi			
Signal Hill DIST 3	Edward H I Wilson: Keir Iones			
DIST. 29	Lori Y. Woods; Keir Jones			
	Edward H. J. Wilson; Tina Hansen			
South El Monte DIST. 15	Gloria Olmos; Richard Angel			
South Gate DIST. 1, 2	Maria Davila; Gil Hurtado			
South Pasadena DIST. 16	Diana Mahmud; Jack Donovan			
Temple City DIST. 15	Vincent Yu; Cynthia Sternquist			
Torrance DIST. 5, SBC	Patrick J. Furey			
Vernon DIST. 1, 2, 23	Leticia Lopez			
DIST. 1, 2 DIST. 23	William J Davis Carol Menke; Melissa Ybarra;			
	n J. Davis; Diana Morales Gonzales			
Wainut DIST. 21, 22	Robert Pacheco; Eric Ching			
west Covina DIST. 15, 21,	22 Letty Lopez-Viado Dario Castellanos			
West Hollywood DIST. 4	Lindsey P. Horvath; John D'Amico			
Whittier DIST. 2, 15, 18	Ioe Vinatieri: Cathy Warner			

Alternate Directors in italics

3 >



Who We Are

he Sanitation Districts consist of 24 independent special districts serving about 5.6 million people in Los Angeles County. The service area in the map to the left covers approximately 850 square miles and encompasses 78 cities and unincorporated areas in the county.

The Sanitation Districts were created in 1923 to construct, operate, and maintain facilities that collect, treat, and dispose of domestic and industrial wastewater. The Sanitation Districts operate and maintain the larger, regional wastewater collection systems, while cities and unincorporated areas within each

SERVING **5.6** million people 850 square miles **78** cities

District are responsible for their smaller local collection systems. In the 1950s, the Sanitation Districts were given responsibility for solid waste management (excluding trash pickup).

To maximize efficiency and reduce costs, the 24 Districts work cooperatively with one administrative staff headquartered near the

intersection of the 60 and 605 freeways, north of Whittier. Each District has a Board of Directors consisting of the mayor of each city served, and the Chair of the County Board of Supervisors for unincorporated territory. Each District pays its proportionate share of administrative costs.

Overall wastewater and solid waste management budgets for 2019-20 are \$622 million and \$172 million, respectively. Both systems provide essential public services at some of the most competitive service rates in the country.



Two or more races **0.5% Native Hawiian**

or other Pacific 0.3%

Inland Empire Regional Composting Facility Mesquite Regional Landfill





Numbers as of Dec. 31, 2020

What We Do

WASTEWATER

We collect, treat and recycle the wastewater (sewage) from 5.6 million people in Los Angeles County. Our wastewater system currently treats about 400 million gallons per day, enough to fill the Rose Bowl nearly five times a day. This system includes 11 wastewater treatment plants, 48 pump stations, over 1,400 miles of sewer, and two state-of-theart composting facilities for managing the solids removed during treatment.



Over 1 trillion gallons of water recycled since 1962

SOLID WASTE

Our solid waste management system accommodates about one quarter of the county's solid waste. We manage the waste hauled to us with a system that includes two active landfills, three materials recovery/transfer facilities, and a recycle center. We also have infrastructure for a waste-by-rail system to handle the county's waste in the future when local disposal options are exhausted.

GREEN ENERGY

The Sanitation Districts are one of the country's leading producers of green energy. Some of the electricity is used in powering Sanitation Districts' operations; the rest is exported to the local grid, which reduces the power that utilities must produce and thereby reduces greenhouse gas emissions.

Megawatts produced: Enough for 77,000 homes



Our Organization

CHIEF ENGINEER & GENERAL MANAGER Robert C. Ferrante

ASSISTANT CHIEF ENGINEER & ASSISTANT GENERAL MANAGER Charles E. Boehmke

DEPARTMENTS & SECTIONS

ENGINEERING	FACILITIES	FINANCIAL	HUMAN	SOLID WASTE	TECHNICAL	WASTEWATER
	PLANNING	MANAGEMENT	RESOURCES	MANAGEMENT	SERVICES	MANAGEMENT
Construction Management Electrical & Instrumentation Design Sewer Design Structural, Architectural, & Geotechnical Design Wastewater & Solid Waste Design	Information Technology Planning & Property Management Public Information Wastewater Planning	Accounting Budget & Finance Purchasing	Employee Benefits Employment Services Payroll	Energy Recovery Fleet Management Solid Waste Operations & Engineering	Air Quality Environmental Health & Safety Laboratories Legislative Programs Reuse & Compliance Wastewater Research Water Quality	Industrial Waste Joint Water Pollution Control Plant Wastewater Collection Systems Water Reclamation Plants

ENGINEERING

Design and construction oversight of Sanitation Districts' facilities

FACILITIES PLANNING

Long-range planning, environmental review, environmental permitting, property management, information technology, public relations, security, facilities management, and document management

FINANCIAL MANAGEMENT

Budgeting, accounting, purchasing, revenue collection, and insurance

HUMAN RESOURCES

Hiring employees, payroll, benefits, and compliance with state and federal employment laws

SOLID WASTE MANAGEMENT

Operation and maintenance of the solid waste management facilities and energy recovery facilities

TECHNICAL SERVICES

Water recycling, biosolids management, water and air permit compliance, research, environmental health and safety, laboratory processes, regulatory advocacy, and legislative advocacy

WASTEWATER MANAGEMENT

Operation and maintenance of wastewater management facilities and regulating industrial discharges to the Sanitation Districts' sewer system

an and the



Staying Competitive

he solid waste business is very competitive and recycled commodities, like paper, plastic and cardboard, must now be very pure to be sold. In early 2020, the Sanitation Districts started up a new, state-of-the-art, recycling system at the Puente Hills Materials Recovery Facility. This system uses a variety of high-tech equipment, including a robot with artificial intelligence to produce purer commodities, while recovering recyclables four times faster than earlier equipment.

Despite restrictions from COVID-19, our staff learned how to optimize the new equipment and quickly had the system running well. The new system is exceeding expectations for purity and output, which is helping the agency provide cost-competitive recycling for its member cities.

ACCOMPLISHMENT & MILESTONES

New state-of-the-art system that processes more material per hour and produces purer product.

Innovative Testing

S anitation Districts' staff developed a laboratory method to test untreated sewage and cleaned water for genetic material from the novel coronavirus. Tests of treated water at our treatment plants confirm that the wastewater treatment process eliminates the virus.

We are also testing untreated sewage for fragments of the coronavirus and have observed that the levels in our sewage predict new cases and hospitalizations from COVID-19 by 5 to 10 days. We are providing our results to public health officials and agencies like the Centers for Disease Control and Prevention to help them manage the pandemic.

Finding The Right Balance

he Sanitation Districts are striving to recycle more water and help our communities meet their water needs. However, when more water is recycled, less is discharged to rivers where that water might support habitat.

In collaboration with river stakeholders and agencies charged with protecting habitat, we completed a 5-year study on the effects of reduced river discharge to find the right balance between societal and environmental needs. This study has resulted in an Adaptive Management Plan that makes more recycled water available for reuse.

Under this plan, the timing and volumes of river discharge will be managed to sustain important habitat with annual monitoring performed to ensure there are no negative impacts. This effort can serve as a blueprint for other jurisdictions.

A stretch of San Jose Creek which receives recycled water.

Testing for the novel coronavirus.

RAININ

Maximizing Water Reuse

C onstruction of the San Jose Creek Water Reclamation Plant (WRP) Flow Equalization Project was completed in July 2020. The project consists of two, 4-million-gallon underground tanks, a pump station to drain the tanks and an odor control system. These tanks are the size of a football field and 50 feet deep.

During high-flow periods in the mornings and evenings, these tanks store primary effluent (partially treated wastewater). During low-flow periods overnight, the stored water is fed into the WRP's secondary treatment step, which uses naturally occurring microorganisms for treatment.

This system allows for more consistent flow and feeding of the microorganisms, which leads to better treatment. The system also makes more clean water available overnight when the demand for recycled water is highest.



n 2020, the Sanitation Districts revised important policies to modernize and improve agency efficiency. The Purchasing Policy was revised for the first time in 25 years. Changes included adjusting approval limits for inflation and incorporating new bidding processes for small construction projects. The new policy also improved our outreach for disadvantaged businesses.

The Sanitation Districts have concluded that water conservation has reduced sewage flows enough that expansion of the sewage system is unlikely to be needed. Instead of charging new sewer system users based on the cost to expand the system, the Connection Fee Ordinance was revised so that new users "buy in" to what has already been built. These revisions provide needed flexibility to use collected funds for upgrades and rehabilitation while also supporting state efforts to address California's housing shortage.



Inside a 50-foot deep equalization tank that is lined with plastic to protect the concrete from corrosion.

FUTURE CHALLENGES

Tunneling Set to Begin

he Clearwater Project involves building a new tunnel to reliably discharge cleaned water from the Joint Water Pollution Control Plant to existing ocean outfalls.

In 2020, the project's tunnel boring machine (TBM) was delivered to the construction site in 90 trucks. This state-of-the art machine was custom-built to meet the challenges of building one of Los Angeles County's longest tunnels and will be two and a half football fields long when fully assembled.

The TBM is named *Rachel*, after Rachel Carson, an author and activist who helped spark the environmental protection movement. This was the winning name in a contest open to Los Angeles County students. *Rachel* will begin her 7-mile, 4-year journey in the summer of 2021.

Tunnel boring machine waiting to be assembled and lowered into the tunnel access shaft.

Advances in Monumental Water Recycling Program

he Sanitation Districts and the Metropolitan Water District of Southern California took important steps in their partnership that could result in the largest water recycling program in the country. At full-scale, this program could produce 150 million gallons per day of purified water, which is enough to serve more than 500,000 homes.

In 2020, both agencies' Boards of Directors approved starting the environmental and planning studies for this program. The demonstration facility at the Sanitation Districts' Joint Water Pollution Control Plant (JWPCP) continues to provide information needed for the design and permitting of the full-scale facility. About 52 acres of JWPCP property are being prepared as a potential site for the full-scale facility and over 50 virtual tours of the demonstration facility were conducted despite the pandemic.

> EW SOURCE OF WATER Southern California

The demonstration water purification facility continues to provide valuable information.

Converting Food Waste into Renewable Vehicle Fuel

Since 2016, the Sanitation Districts have been recycling food waste into green energy to help our member cities meet state organic waste recycling requirements. In 2020, this system was expanded to produce renewable natural gas, which is used to fuel vehicles.

Waste haulers bring food waste slurry to our Joint Water Pollution Control Plant (JWPCP), where the food waste is anaerobically digested and converted to biogas. The JWPCP has a power plant that runs on biogas and is accepting as much biogas as possible. Due to the increase in biogas production from food waste, another way to use biogas was needed.

In 2020, a biogas purification system was constructed to produce renewable natural gas that is dispensed to cars and trucks at a nearby fueling station. This biogas reduces the need for fossil-fuel natural gas and reduces greenhouse gas emissions.

Trash truck fueled by natural gas that is partially derived from food waste.

TID



3600

Addressing Climate Change

The Sanitation Districts have long been a leader in reducing greenhouse gases (GHG). Production and use of recycled water, for example, reduce the need for imported water and the energy used to import water. We have also developed techniques to convert solid waste and food waste into green energy.

In 2020, our water recycling program avoided using 300,000 megawatt-hours of energy, and our green energy program produced 417,000 megawatt-hours of renewable energy. Collectively, these programs reduced GHG emissions by 346,000 metric tons, which is equivalent to removing 75,000 cars from the road. We are also converting our fleet to electric vehicles and have installed a number of charging stations to support this conversion.

Going forward, we will continue developing better ways to produce recycled water and green energy. We are also preparing climate change vulnerability assessments for our facilities, working on a more detailed greenhouse gas inventory, and finding ways to include climate change as a factor in routine decision-making.

Sanitation Districts power plant which generates green power from landfill gas.

Connecting With Our Community

ommunity engagement helps us understand the public's needs so that we can provide better service. The pandemic forced us to cancel in-person outreach, but we responded with live tours via Zoom and attendance has been higher than ever.



ACTIVE ENGAGEMENT THROUGH SOCIAL MEDIA

EVENTS

SPEAKERS BUREAU ADDRESSED 350 150 PARTICIPANTS PARTICIPANTS AT 7 IN-PERSON

AT 3 VIRTUAL **EVENTS**



100

AT 2 VIRTUAL

CLASSES

Awards & Achievements

2020 SUPERIOR ACHIEVEMENT & EXCELLENCE IN ENVIRONMENTAL SUSTAINABILITY AWARDS



TULARE LAKE COMPOST FACILITY

American Academy of Environmental Engineers & Scientists

2020 STANLEY E. KAPPE AWARD



WENDY A. WERT, P.E., BCEE American Academy of Environmental Engineers & Scientists

PLATINUM **AWARDS**

LANCASTER WATER RECLAMATION PLANT

LOS COYOTES WATER RECLAMATION PLANT

National Association of Clean Water Agencies



2020 NATIONAL ENVIRONMENTAL ACHIEVEMENT AWARD FOR PUBLIC OUTREACH National Association of Clean Water Agencies



2020 PUBLIC COMMUNICATION & OUTREACH PROGRAM AWARD



SCIENCE EDUCATION PROGRAM

Water Environment Federation

THE CLEARWATER PROGRAM

2020 COMMUNITY **ENGAGEMENT & OUTREACH** FILM FESTIVAL

California Water **Environment Association**

The Financial Landscape

Fiscal Year 2019-20

SOLID WASTE 22% \$172 Million WHERE THE MONEY GOES WASTEWATER 78% \$622 Million

WASTEWATER

SOLID WASTE





Commodity Sales

Food Waste Tipping Fees



\$1.3 Million



To join our team, visit governmentjobs.com/careers/LACSD.



LACSD STAFF FOR CONTINUING TO PROVIDE A CRITICAL SERVICE.

You are essential and appreciated!



🔰 SanDistricts

SanitationDistrictsLACounty

O SanDistricts

1955 Workman Mill Rd • P.O. Box 4998 • Whittier, CA 90607 www.lacsd.org • (562) 908-4288 ext. 2301 • info@lacsd.org