

Partnering for Impact in California: The Regional Recycled Water Program

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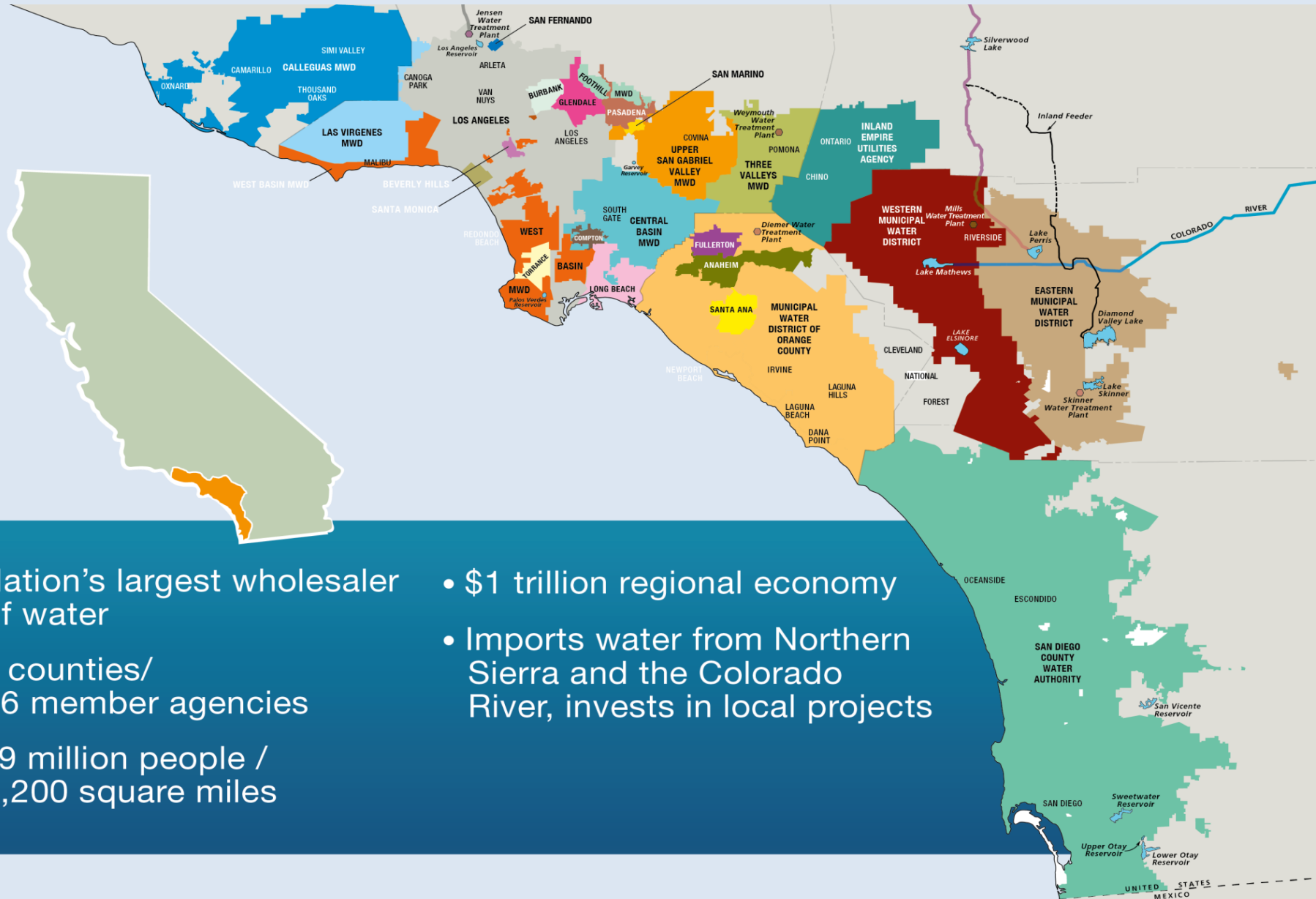
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**LOS ANGELES COUNTY
SANITATION DISTRICTS**
Converting Waste Into Resources



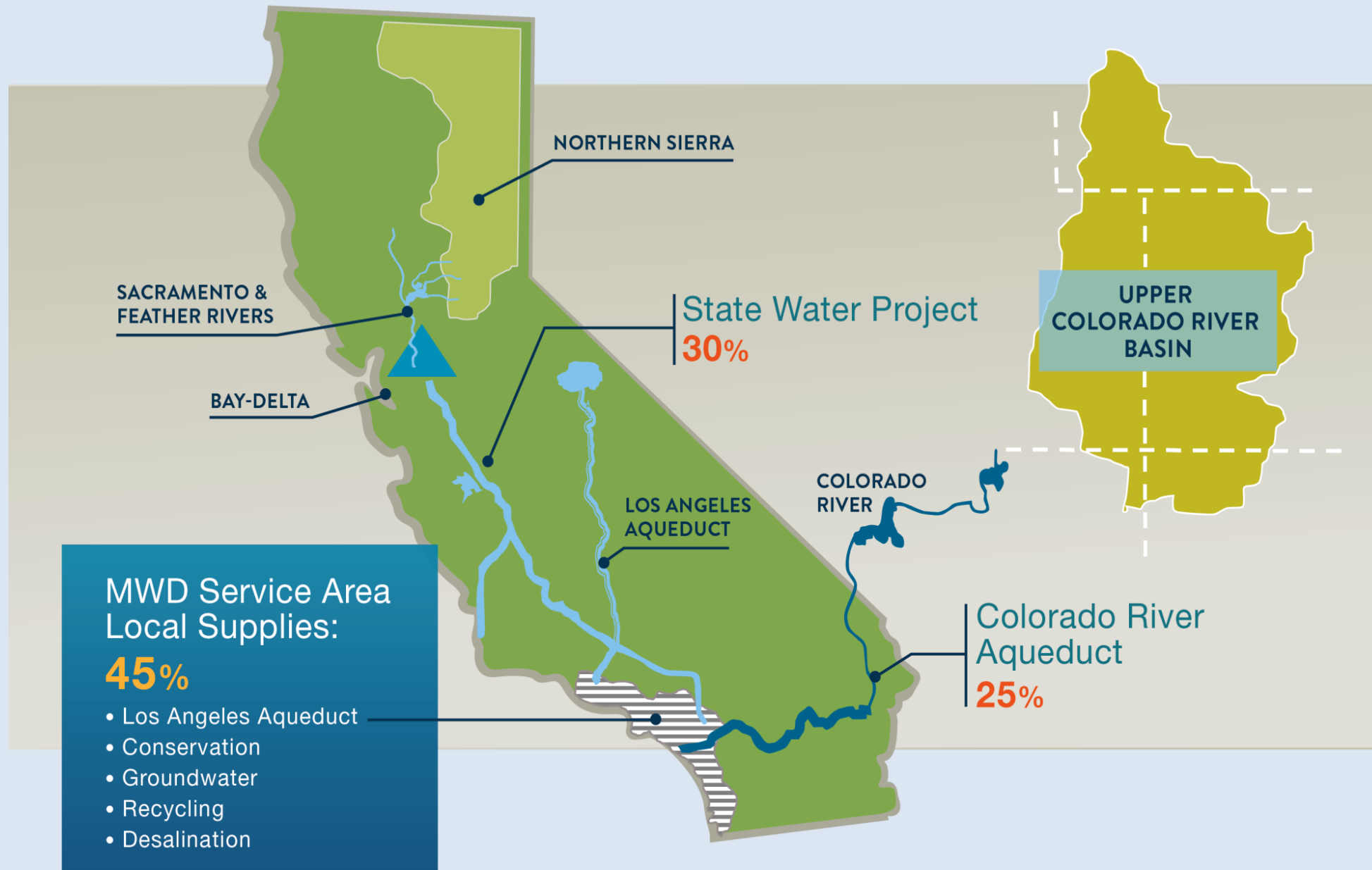
METROPOLITAN OVERVIEW



- Nation's largest wholesaler of water
- 6 counties/ 26 member agencies
- 19 million people / 5,200 square miles
- \$1 trillion regional economy
- Imports water from Northern Sierra and the Colorado River, invests in local projects



SOURCES OF WATER FOR SOUTHERN CALIFORNIA



Los Angeles County Sanitation Districts

Collect and treat sewage from 5.6 million people

GOVERNANCE

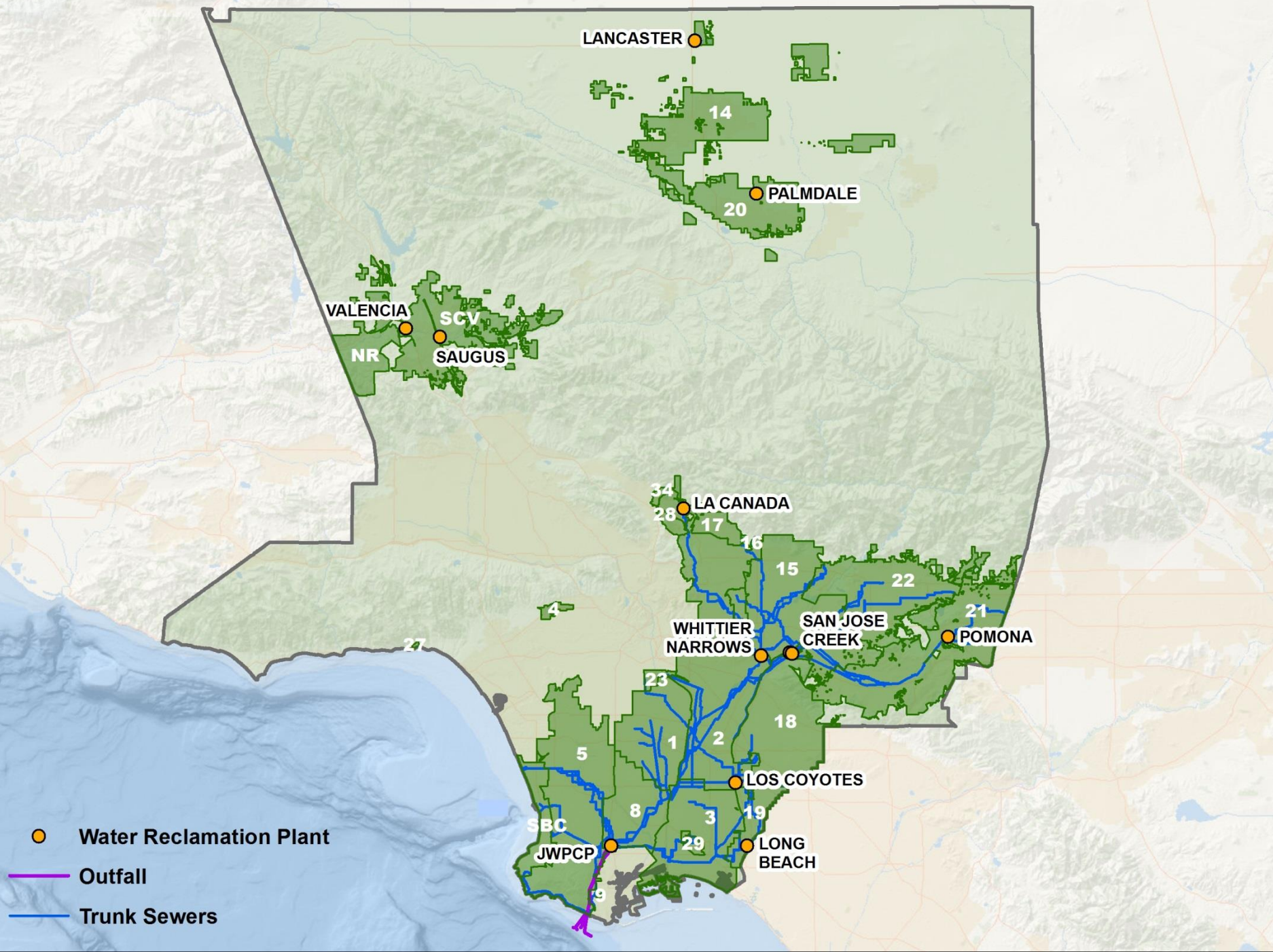
24 special districts with one staff

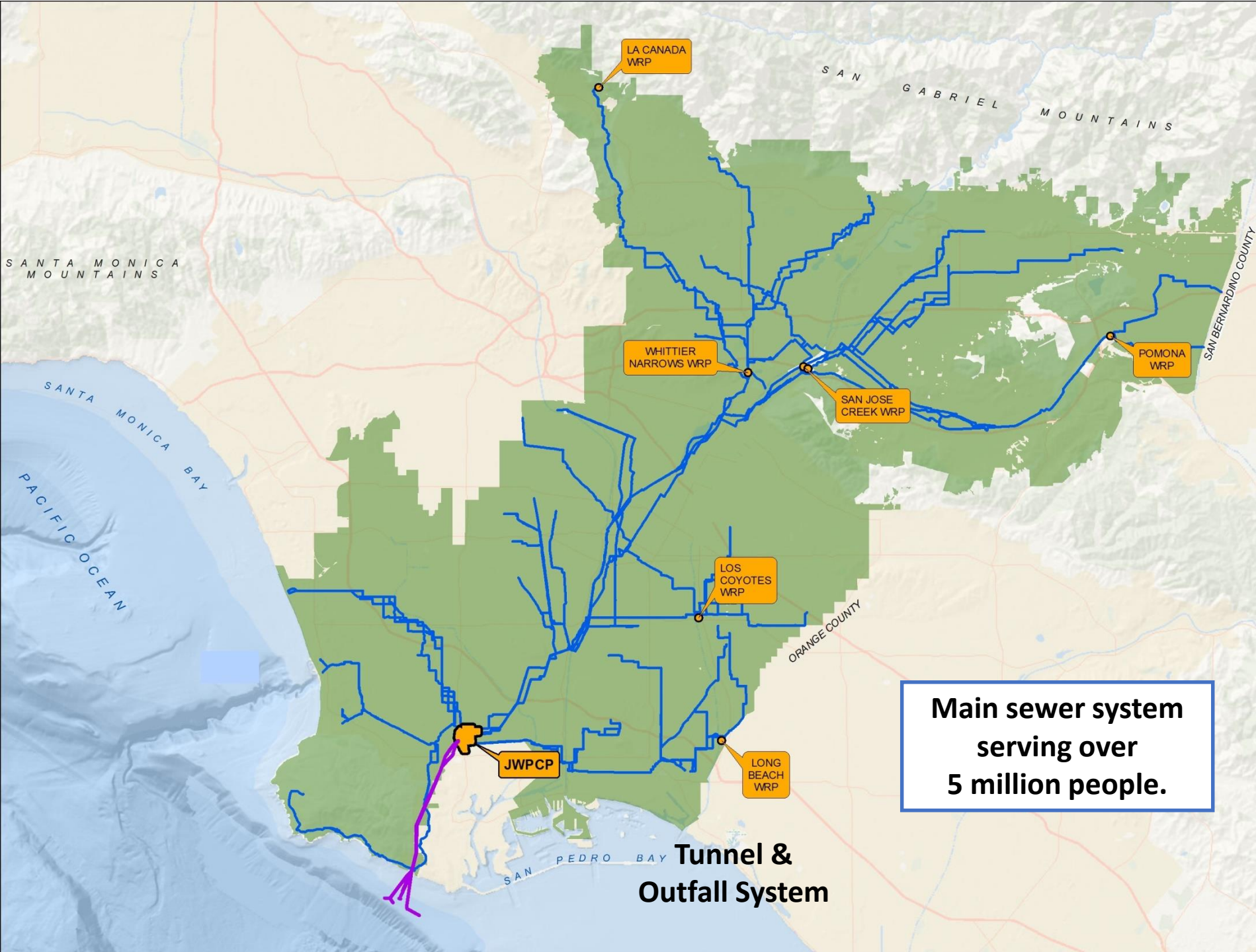
SERVICE AREA

78 cities & unincorporated county
824 square miles

INFRASTRUCTURE

1,400 miles of sewers
11 wastewater treatment plants
Ocean outfall system





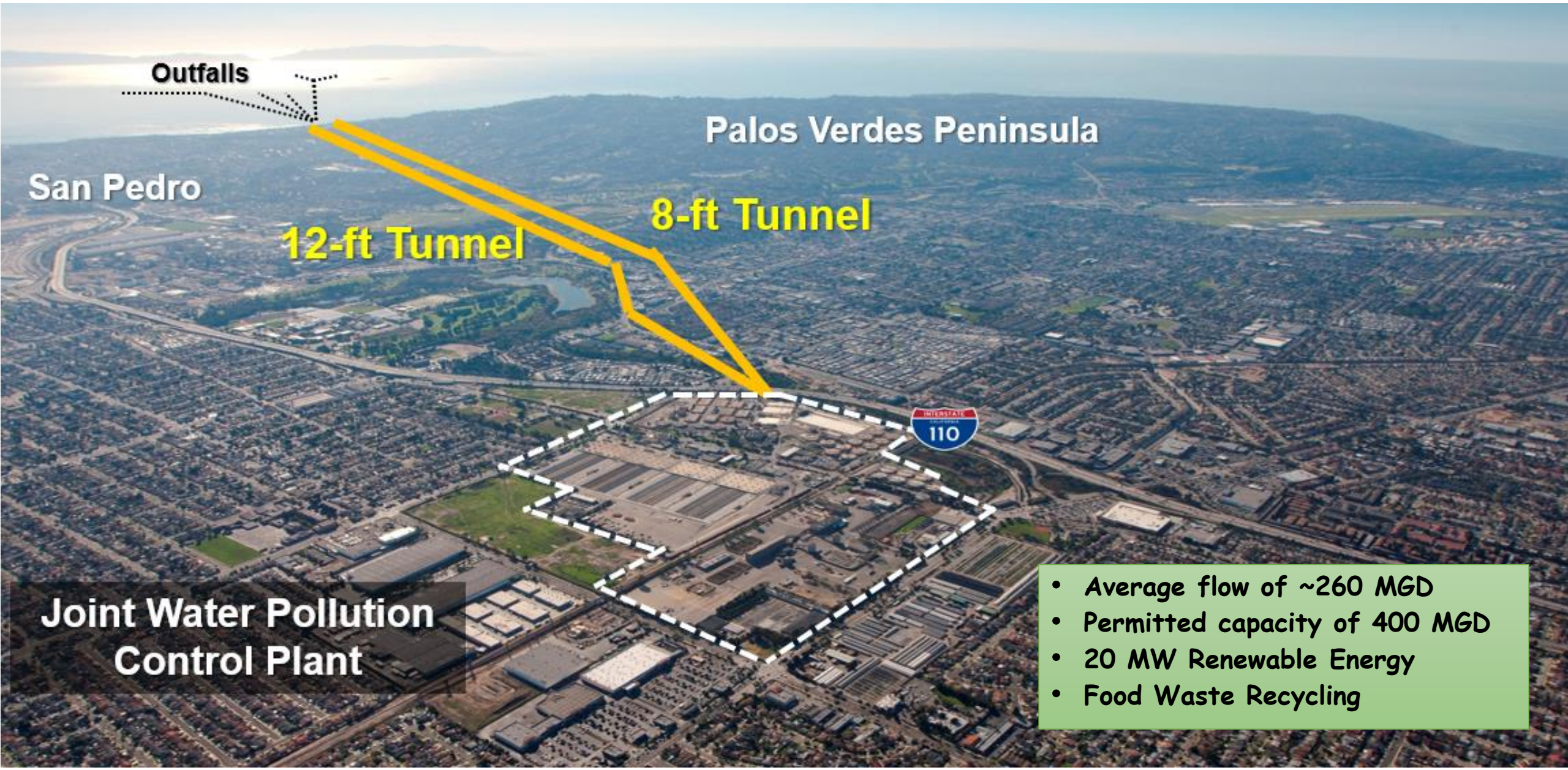
Joint Outfall System

Main sewer system
serving over
5 million people.

Tunnel &
Outfall System



Joint Water Pollution Control Plant



San Pedro

Palos Verdes Peninsula

12-ft Tunnel

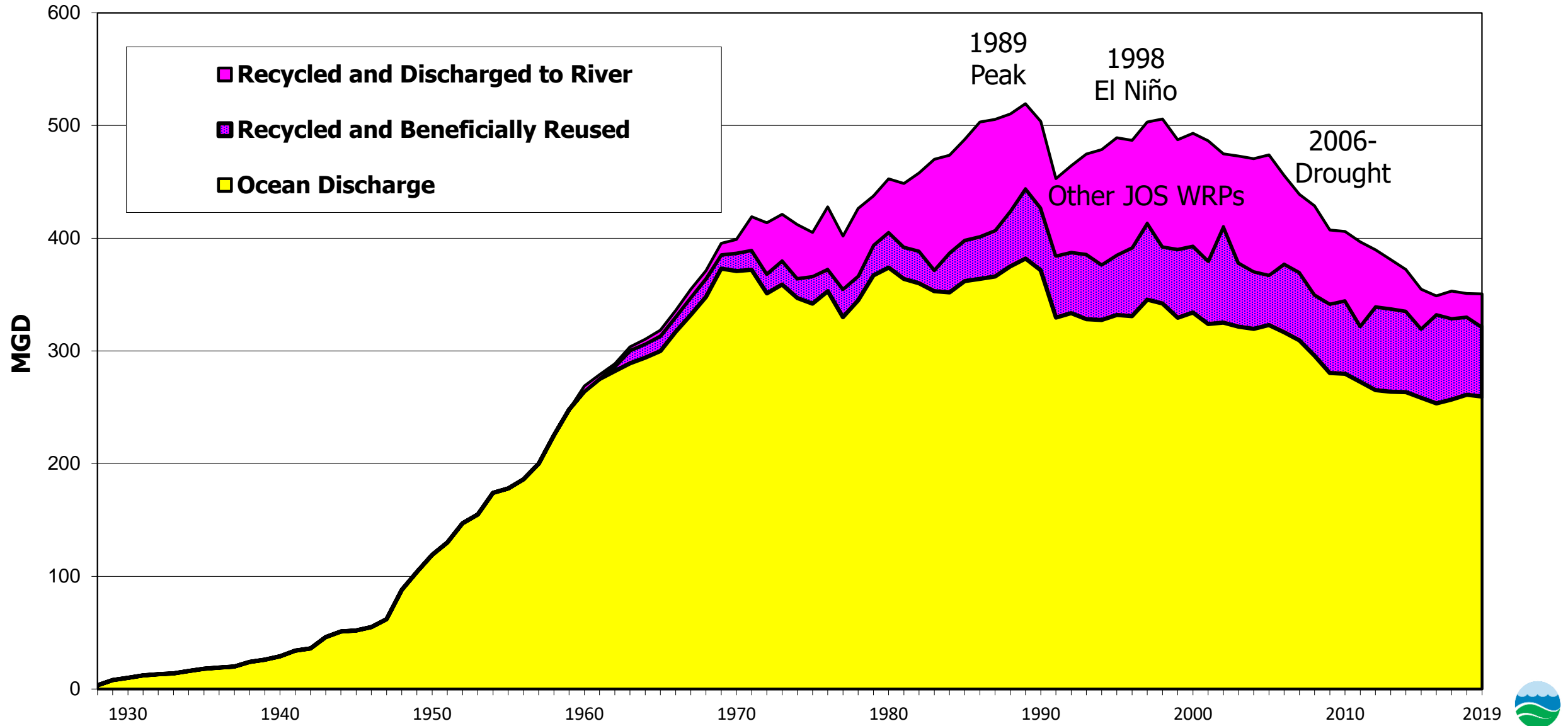
8-ft Tunnel



Joint Water Pollution
Control Plant

- Average flow of ~260 MGD
- Permitted capacity of 400 MGD
- 20 MW Renewable Energy
- Food Waste Recycling

Recycled Water Available

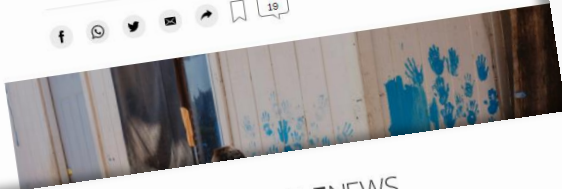


Living with Droughts

The New York Times

CALIFORNIA TODAY

Why California's Water Crisis Is So Difficult to Solve



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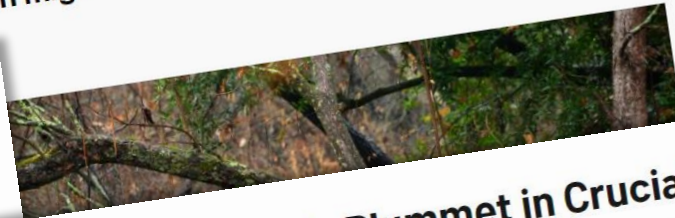
North Complex Profiles

Map: CA coronavirus tiers

Orland Amazon distribution facility

NEWS WEATHER

January rain might not be enough to improve drought impacts in 2021



MOST POPULAR

- 1 Party of seven: Child celebrates quadrup
- 2 Letter: Watch the ex all been duped

Los Angeles Times

California drought prompts first-ever 'zero water allocation'



CORONAVIRUS AND PANDEMIC

Prison officials ignored warnings before inmate transfer that led to virus outbreak, watchdog says

How experts will hunt for COVID origins in China

Riverside opens mass COVID-19 vaccination in one of state's most-infected regions

Lingering Colorado River Drought Could Lead to Water Shortages

Unprecedented water rationing could begin in mid-2020, the government warns

By John Fialka, E&E News on September 6, 2018

E&E NEWS
ENVIRONMENT



The elevation of Lake Mead could drop by more than 20 feet by mid-2020. Credit: Alicia Burtnett U.S. Geological Survey

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BEHAVIOR & SOCIETY
Scientists Need to Be Kind

January 5

Groundwater Levels Plummet in Crucial LA County Basins

By Patrick Healy • Published September 17, 2014 • Updated on September 18, 2014 at 8:00 am



GOODBYE GROUNDWATER
RIGHT NOW

Southern California's severe drought is depriving groundwater wells of the rainwater they so desperately need, putting resources for some 4 million people. Patrick Healy reports for the NBC4 News at 6 p.m. on Wednesday, Sept. 17, 2014.

California and National Drought Summary for January 26, 2021, 10 Day Weather Outlook, and California Drought Statistics

○ Last Updated: Thursday, 28 January 2021 05:41
○ Published: Thursday, 28 January 2021 05:41



U.S. Drought Monitor
California



January 26, 2021
(Released Thursday, Jan. 28, 2021)
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	95.20	75.74	39.46	3
Last Week 01-19-2021	0.00	100.00	95.20	78.12	39.46	
3 Months Ago 10-27-2020	15.40	84.60	67.54	35.61	12.74	
Start of Calendar Year 12-29-2020	0.00	100.00	95.17	74.34	33.75	
Start of Water Year 09-29-2020	15.35	84.65	67.65	35.62	12.74	
One Year Ago 01-28-2020	65.72	34.28	0.00	0.00	0.00	

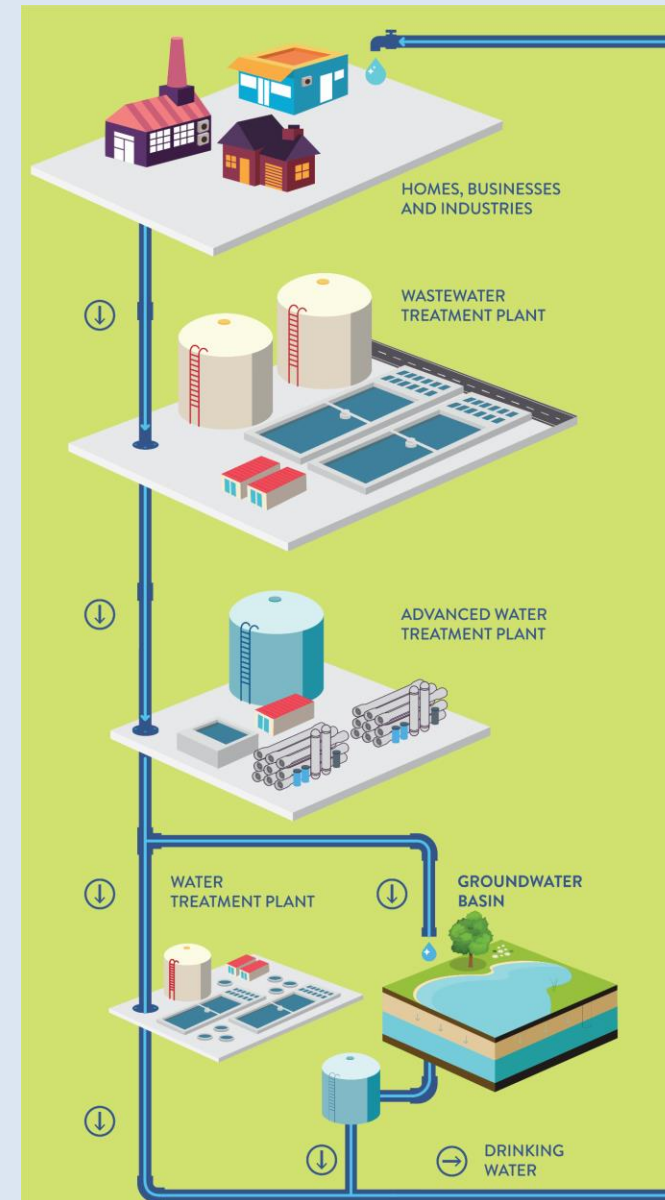
Intensity:
None
D0 Abnormally Dry
D1 Moderate Drought
D2 Severe
D3 Extreme
D4 Exceptional

New Advanced Water Treatment Plant Site



REGIONAL RECYCLED WATER PROGRAM

- Development of a new regional water source
 - Replenish groundwater basins
 - Provide water to industries
 - Connect to Metropolitan's water treatment plants
- First in-region water supply developed by Metropolitan



REGIONAL RECYCLED WATER PROGRAM

In numbers



Up to 150 million
gallons per day or
168,000 acre-feet
per year



Enough water
for over 500,000
homes



One of the
largest programs
of its kind in
world



PROGRAM BENEFITS



Earthquake

Prepares the Southland for the event of a catastrophic earthquake by increasing local water supplies.



Drought

Produces a drought-proof source of water, readily available rain or shine.



Groundwater

Replenishes groundwater basins, which provide 30% of Southern CA's water supply and have seen levels drop to historic lows in recent years.



Economy

Helps meet needs of region's growing economy and population at a cost comparable to other local water resources.



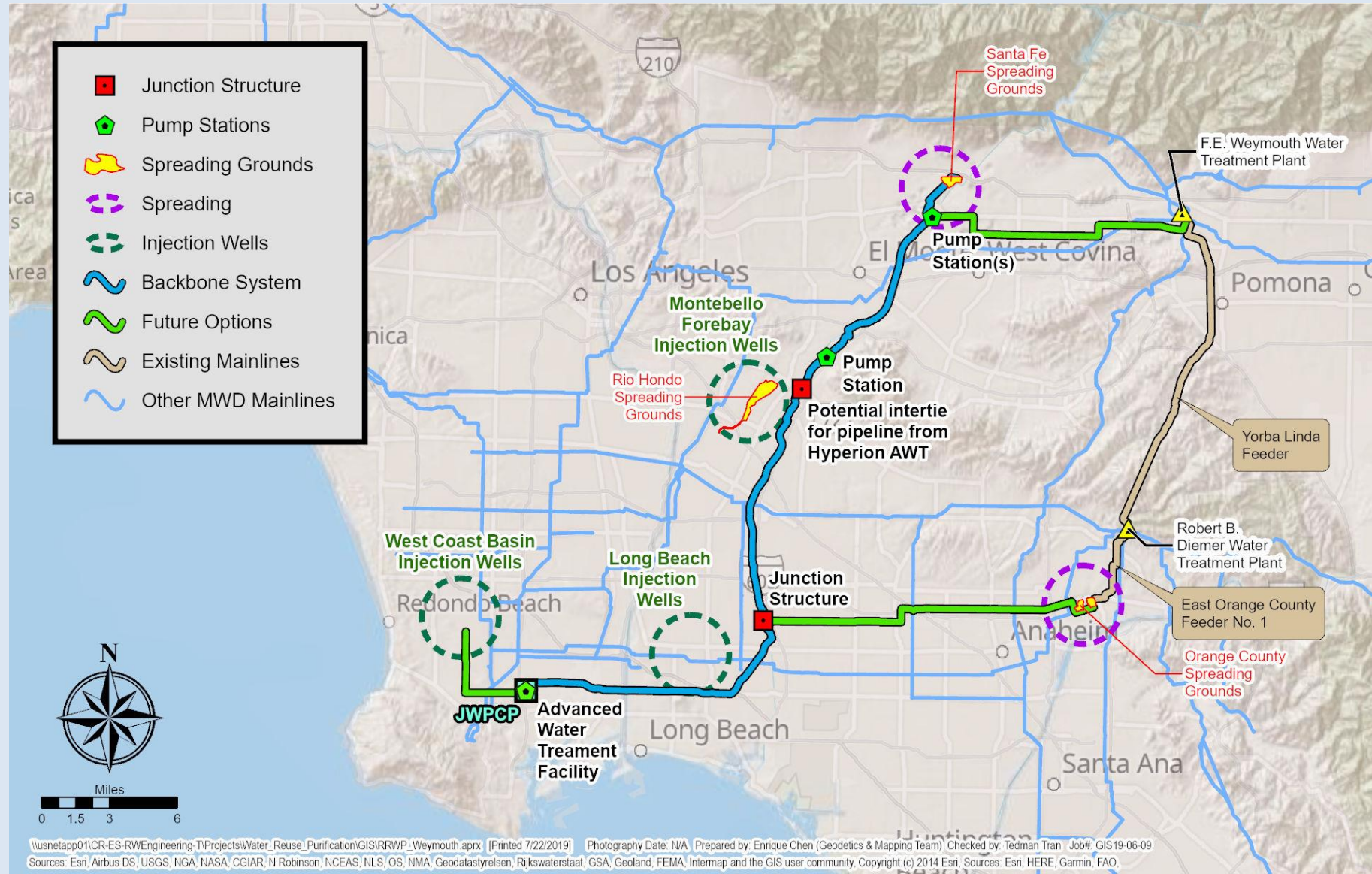
Wastewater

Uses region's largest untapped source of wastewater, currently sent to the ocean.



REGIONAL RECYCLED WATER PROGRAM

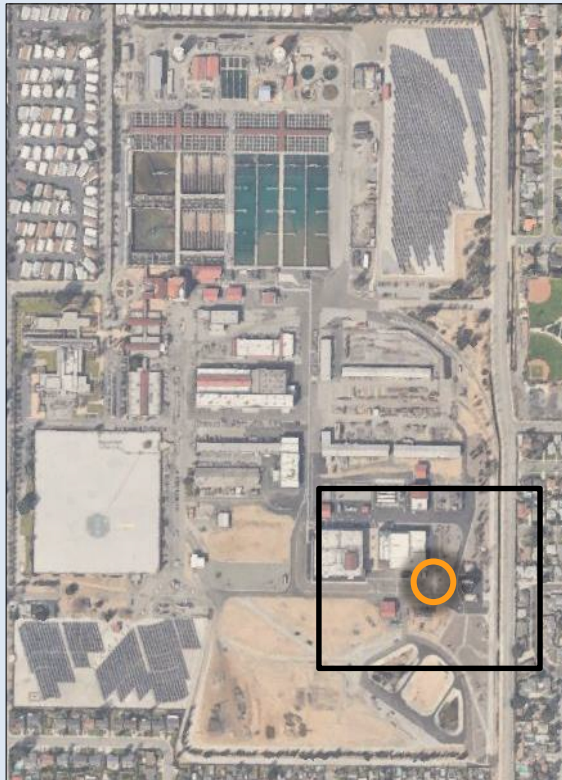
Potential Full-Scale Program



BLENDING WATER SUPPLIES AT WEYMOUTH

Raw Water Augmentation

Weymouth Aerial
Location Map



PROGRAM PARTNERS

Wastewater Partner

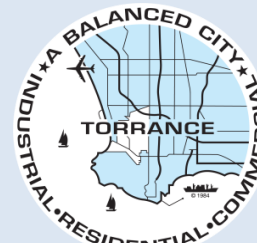


**LOS ANGELES COUNTY
SANITATION DISTRICTS**
Converting Waste Into Resources

Groundwater Basin Managers



Metropolitan Member Agencies



Colorado River Partners



**SOUTHERN NEVADA
WATER AUTHORITY**



Other Key Partners



**US Army Corps
of Engineers**



**SOUTHERN CALIFORNIA
EDISON**
Energy for What's Ahead



Public Works
LOS ANGELES COUNTY

PROGRAM COLLABORATION

LOIs and MOUs developed

- Water Replenishment District
- City of Long Beach
- City of Torrance

- Main San Gabriel Watermaster
- Three Valleys MWD
- Upper San Gabriel Valley MWD

Up to
80,000
TAFY

60-80 TAFY

● Full-Scale Advanced
Water Treatment Plant*

○ Replenishment via
spreading grounds

○ Replenishment via
injection wells

- LA County
Public Works
- LADWP

Metropolitan's Diemer
Water Treatment Plant

- Southern Nevada Water
Authority
- Central AZ Project/AZ
Dept. of Water Resources

LA County
Sanitation Districts

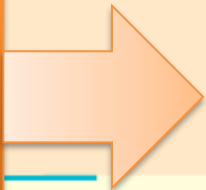
Central
Basin

Main San
Gabriel Basin

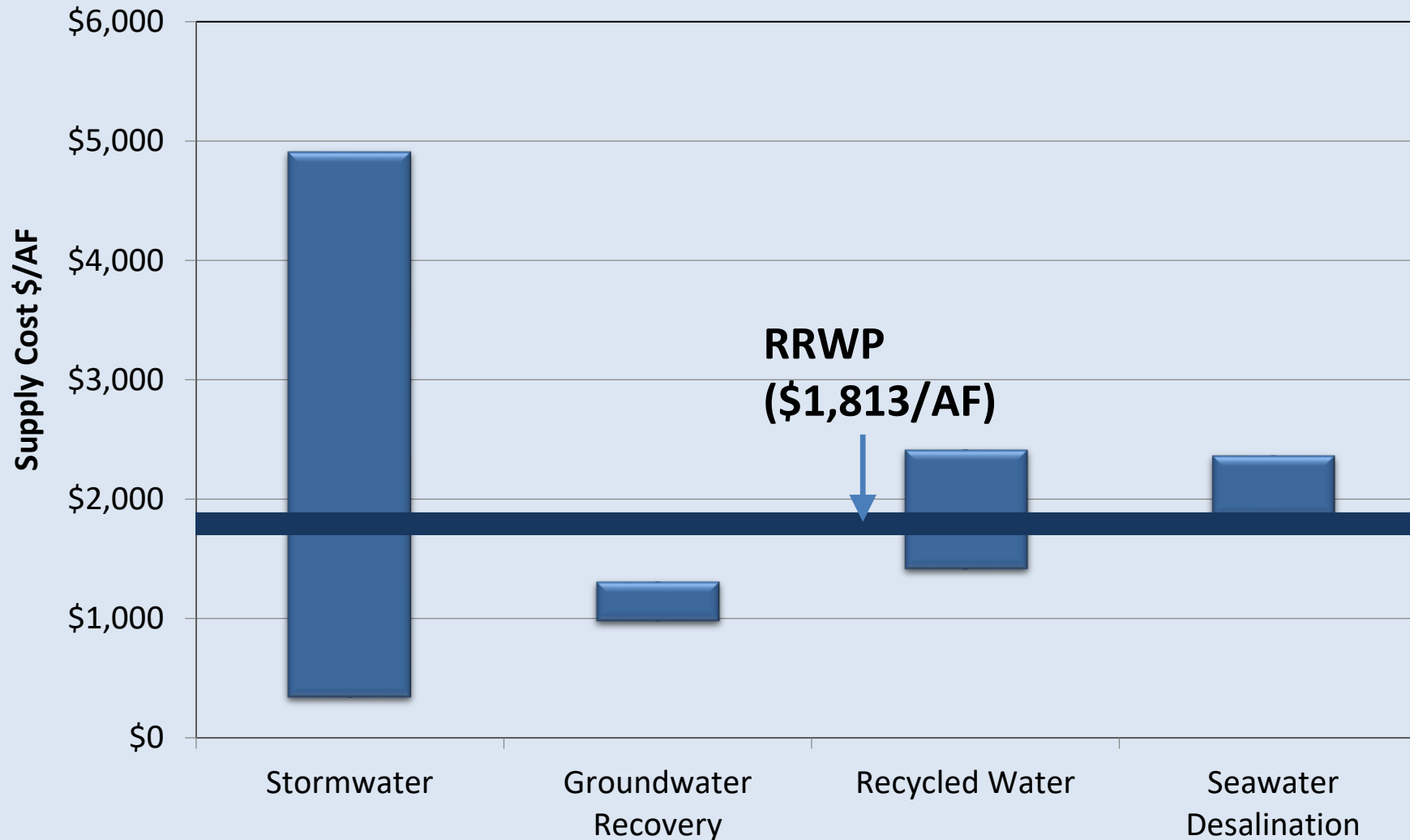
West
Coast
Basin

Orange
County
Basin

Metropolitan's Weymouth
Water Treatment Plant



ESTIMATED PROGRAM COSTS



- Total capital cost of \$3.4 billion
- Annual O&M cost of \$129 million
- Unit cost of approximately \$1,800/AF
- Approximately 42,000 jobs created



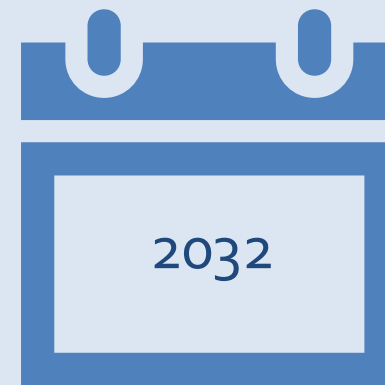
PROGRAM SCHEDULE



Environmental
Planning



Design and
Construction



Start-up and
Operations



ABOUT THE ADVANCED PURIFICATION CENTER

- Tests an innovative purification process
- Obtain regulatory approval of process
- Provides data for full-scale facility
- Conduct research to further water reuse
- Gain public support



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<http://bit.ly/RRWPtour>





Regional Recycled Water

Advanced Purification Center

A NEW SOURCE OF WATER FOR SOUTHERN CALIFORNIA

Water is too precious to use just once. So the Metropolitan Water District of Southern California is making a major investment in a potential water recycling project that will reuse water currently sent to the ocean.

www.mwdh2o.com/RRWP

