Pathways to Partnerships: Southern CA’s Urban Story

Colorado River Forum
CSG West
October 19, 2022
Regional water wholesaler serving 26 member agencies in six counties and over 5,200 square miles in Southern California

19 million people live in the area served by Metropolitan

Sources of Water for Southern California

- Los Angeles Aqueduct
- Conservation
- Groundwater Recycling
- Desalination

State Water Project

Colorado River Aqueduct

MWD Service Area

Local Supplies:

Upper Colorado River Basin
2022 SWP Allocation – 5% + HH&S

- Department of Water Resources drops the SWP Allocation from 15% to 5%
  - DWR will provide Human Health and Safety supplies to contractors, if needed
- Potentially record low 3-year average for the Sacramento River runoff.
- Three consecutive extremely low allocations (20%, 5%, 5%)
California Multi-Year Droughts

Record precipitation in October and December 2021 reduced the drought intensity.

Drought Intensity

- None
- Abnormally Dry
- Moderate Drought
- Severe Drought
- Extreme Drought
- Exceptional Drought

Percentage indicates percentage of area under a certain drought intensity.
Large Storage Volumes in Lakes Powell and Mead Has Historically Buffered Flow Variability

Lake Powell Has 15 Years Since 2000 with Inflow Below Historical Median
Historic Low Reservoir Levels

Challenges to imported water supplies due to drought and climate change

- Lake Mead and Lake Powell at historically low elevations
- Colorado River is in long-term drought
- Lake Oroville hit record low levels this year
- 2019-22 are driest three years on record
Colorado River Apportionments

(1931)

3.85 MAF
1. Palo Verde
2. Yuma Project
3. (a) Imperial & Coachella
4. (b) Palo Verde

550 TAF
Metropolitan

Total Basic Apportionment
4.4 MAF
2003 Quantification Settlement Agreement;
collaboration on the Colorado River

IID Water transfer agreements with:

- Metropolitan Water District
- San Diego County Water Authority
- Coachella Valley Water District
The Salton Sea – “Drainage Reservoir” and Environmental Resource

- 360 square miles, up to 52’ deep
- Congressionally designated agricultural sump for IID/CVWD
- Volume of 7.5 MAF with annual inflow of up to 1.3 MAF, no outflow
- Nearly 50% saltier than the ocean
- Repository for agricultural drainage
- Heavily used by migratory waterfowl including endangered species
- >10’ elevation decline since 2003; despite the replacement of conserved water reductions through the delivery of salinity mitigation water
- Without transfers, Sea was estimated to turn hypersaline between 2010 and 2025
- With transfers, Sea is estimated to turn hypersaline 1-9 years earlier
Evolution of Metropolitan’s Agricultural Partnerships

- **1988**
  - IID-MWD Water Conservation Program

- **2005**
  - PVID Fallowing Program

- **2016**
  - Bard Seasonal Fallowing Program

- **2022**
  - Quechan Seasonal Fallowing Pilot Program
IID-Metropolitan Conservation Projects

- Reservoirs
  - 5 additional, doubled storage

- Canal Lining & Lateral Interceptors
  - 270 miles of laterals
  - 34 lateral interceptors
  - Installation of 14 non-leak gates

- Irrigation Management & 12-Hour Delivery
  - 55,000 deliveries per year
  - Delivery measurement and Pump back Systems
  - Installation of drip irrigation systems

- System Automation
  - Main canal automation and Water Control Center
PVID Fallowing Program Overview

• Variable Fallowing Level
  25% - 100% of program lands
  Enrollment of up to 25,947 acres
  Approximately up to 125,000 AF at maximum

• Voluntary sign up
• Stabilizes Farm Economy
• Established Community Improvement Program
Bard Seasonal Fallowing Program

Fallowing Call to Bard WD by October 1\textsuperscript{st} of each year

Fallowing Season
April 1\textsuperscript{st} to July 31\textsuperscript{st} 2020-2026

Requirements:
- At least 10 contiguous irrigable acres
- Have been farmed for at least three of the last five years / previously fallowed

3,000 Acres of farmland seasonally fallowed

Up to 6,000 acre-feet of water made available for urban use

$1.4 Million maximum payments for Bard farmers

3,000 Acres of farmland seasonally fallowed
Quechan Tribe Seasonal Fallowing Pilot Program

2 – Year Pilot Program
Will provide information that could lead to the development of a longer-term fallowing program

- Year Pilot Program

Fallowing Season
April 1st to July 31st 2022-2023

Requirements:
- Have been farmed for at least three of the last five years / previously fallowed
- Must be Quechan tribal land

1,600
Acres of farmland seasonally fallowed

Up to 3,500
acre-feet of water made available for urban use

$1.6 Million
maximum payments for farmers and Quechan Tribe over the pilot period

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Metropolitan Continues to Explore Innovative Agriculture Conservation

- Deficit irrigation
- Incentivizing to lower water use crops
- Tiered rates for our lessees
Demands in Metropolitan’s Service Area

Since 1990, overall water use has declined in Metropolitan’s service area even though the population has grown by more than four million.
# Metropolitan’s Investment in Conservation

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<thead>
<tr>
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<th>Millions Invested</th>
<th>Acre-feet</th>
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<tbody>
<tr>
<td>Conservation</td>
<td>$840</td>
<td>3,482,000</td>
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<tr>
<td>Recycled Water</td>
<td>$528</td>
<td>3,029,000</td>
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<tr>
<td>Groundwater Recovery</td>
<td>$181</td>
<td>1,099,000</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$1.5b</strong></td>
<td><strong>7,610,000</strong></td>
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Investments in Local Projects

Member Agencies invested $$ Billions

Metropolitan invested $1.2 billion in today's dollars through fiscal year 2020/21 on more than 100 projects by its member agencies.

~75% of dollars spent are on Recycled Water

These local projects have produced more than 4.1 million acre-feet, increasing regional water supply reliability.

Local Resources Program Projects

88 Recycling Projects
28 Groundwater Recovery Projects
116 Total Projects
Metropolitan’s ICS Balance

- Store large volumes in wet years
- Withdraw in dry years
- Expected 265,000 AF withdrawal in 2022 under current USBR Forecast

![Bar chart showing ICS Balance from 2006 to 2021](chart.png)
Recent Drought Responses

Drought Contingency Plan (2019)

August 9, 2022
On Average, the River has been ~12 MAF
Pure Water Southern California Program

How it works

① Used water (wastewater) from homes, businesses, and industries in LA County

② Cleaned at Sanitation Districts’ Joint Water Pollution Control Plant

③ Purified at Metropolitan’s advanced water purification facility

④ Conveyed through over 60 miles of pipeline to groundwater basins, industries, or Metropolitan’s drinking water plants

⑤ A new drought-resilient source of water for Southern California
Program Partners

Wastewater Partner
- LOS ANGELES COUNTY SANITATION DISTRICTS
  Converting Waste Into Resources

Groundwater Basin Managers
- WRD
- MainSanGabrielBasin WATERMASTER

Metropolitan Member Agencies

Colorado River Partners
- SOUTHERN NEVADA WATER AUTHORITY
- ARIZONA DEPARTMENT OF WATER RESOURCES
- CAP

Other Key Partners
- SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT
- US Army Corps of Engineers
- SOUTHERN CALIFORNIA EDISON
- Public Works
• Southern Californians have made conservation a way of life – **and now we need to do more**

**Exceeding Our 20% Target Reduction for 2020**
Declining Gallons per Capita per Day Water Use
“We” are the Colorado River