

# INVESTMENTS IN DROUGHT PROOFING HOW LONG WILL THEY LAST?

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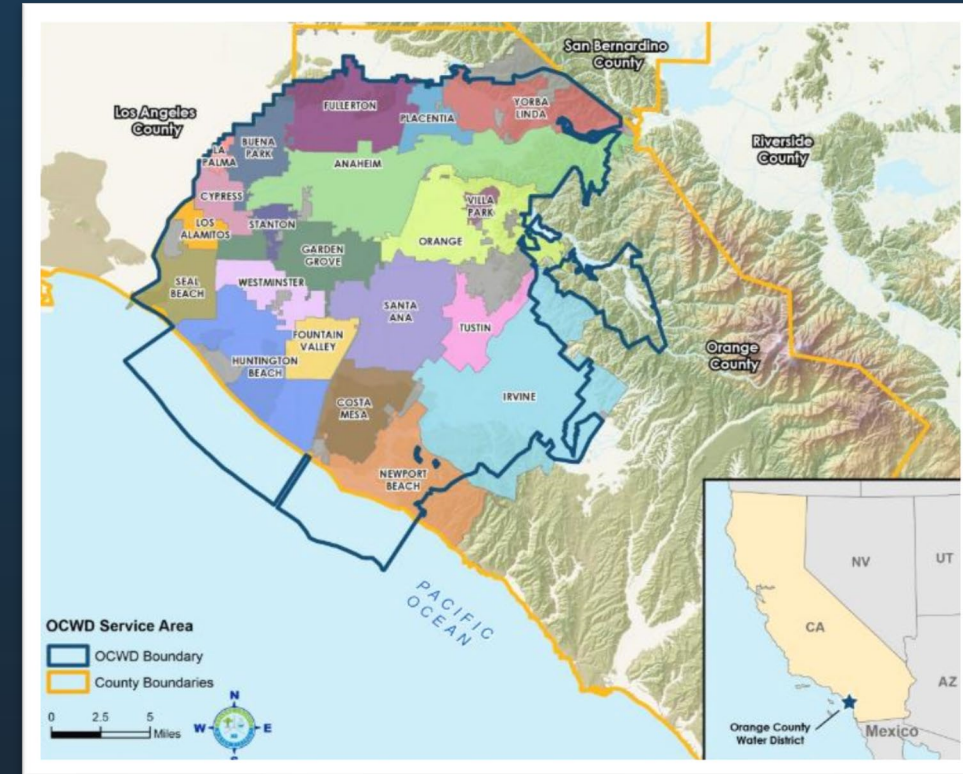
General Manager

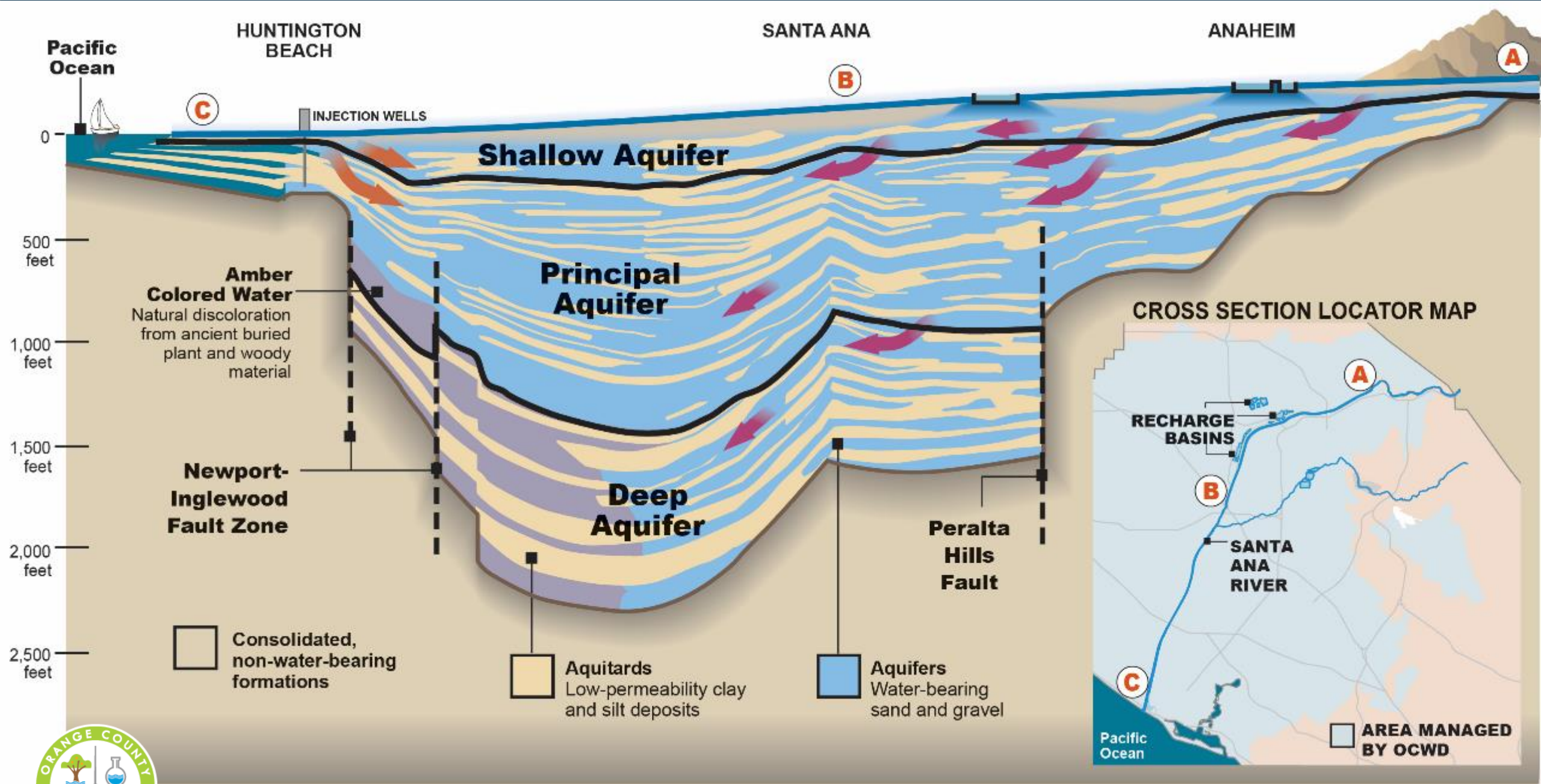
July 28, 2021



# ORANGE COUNTY WATER DISTRICT (OCWD)

- Formed in 1933 by California Legislature
  - Manage the OC Groundwater Basin
  - Protect rights to Santa Ana River water
- Provide groundwater
  - 19 municipal and special water districts
  - 2.5 million customers in north & central OC
- Basin supplies 77% of the water supply for north & central OC





OC Groundwater Basin



# Orange County Groundwater Basin

Pacific Ocean

Treated Wastewater

Wastewater



2.5 Million Water Users

MWD Direct



75% of water demands

North & Central Orange County ↑ 25% of water demands

South Orange County ↓ 90% of water demands



10% of water demands

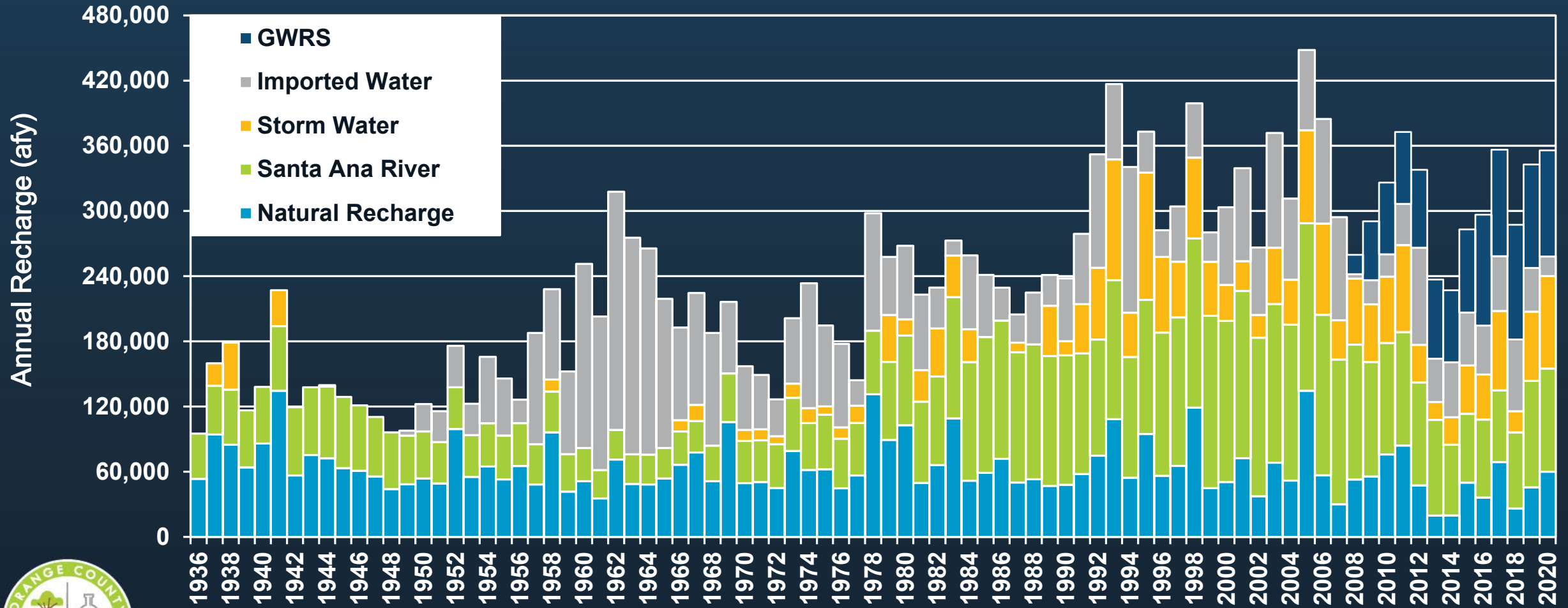


Local Groundwater Basin & Recycled Water for Irrigation

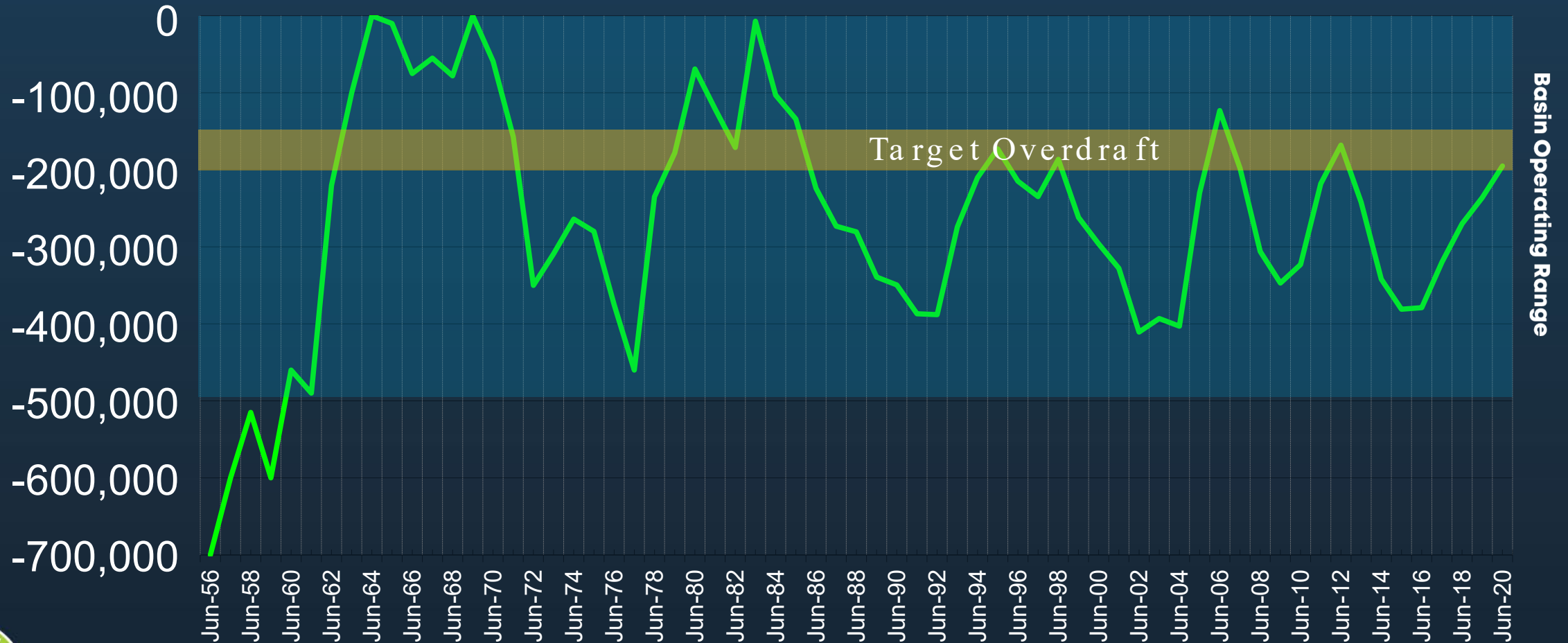
600,000 Water Users

Northern California Water  
Colorado River Water

# SOURCES OF WATER FOR THE BASIN



# OCWD BASIN ACCUMULATED OVERDRAFT



# THE GROUNDWATER REPLENISHMENT SYSTEM

- 100 million gallon per day (MGD)
- Purifies sewer water that otherwise would be discharged to the ocean
- Drinking water quality
- Replenishes the Groundwater Basin with 103,000 afy of water-enough water for nearly 850,000 people
- Operational since January 2008 (70 MGD), expanded May 2015 (30 MGD), final expansion under construction and will be complete in 2023 (30 MGD)
- Largest potable reuse project in the world



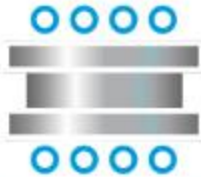


**G | W | R | S**  
GROUNDWATER REPLENISHMENT SYSTEM



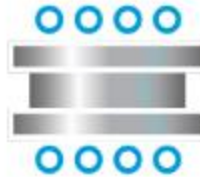
### Microfiltration (MF)

**Highly Treated Wastewater**



**Backwash Sent to OCSD**

### Reverse Osmosis (RO)



**Brine Sent to OCSD**

### Ultraviolet Light (UV) with Hydrogen Peroxide



**Seawater Barrier**  
(36 well sites)



**Recharge Basins in Anaheim**



# PROJECT FUNDING



- Original Project Cost: \$481 million
  - Split equally between OCWD and OCSD
  - Received \$92 million in state and federal grants
- Initial Expansion Project Cost \$142 million
  - Received \$1 million in state grants
- Final Expansion Project Cost: \$270 million
  - Received \$135 million in WIFIA loan (1.03%) & \$9 million in grant funding
- Costs comparable to imported water
- All 3 projects received State Revolving Fund (SRF) loans
- Costs \$630 per acre-ft (\$850 per acre-ft w/o grants)



# LONG LASTING BENEFITS OF GWRS

- Creates a new local water supply
- Reuses a wasted resource
- Increases water supply reliability
- Costs less than water from the Colorado River and the State Water Project
- Uses one-half the energy it takes to import water and one-third the energy to desalinate seawater
- Improves quality of water in the basin





GWRS Aerial View

# QUESTIONS?

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