

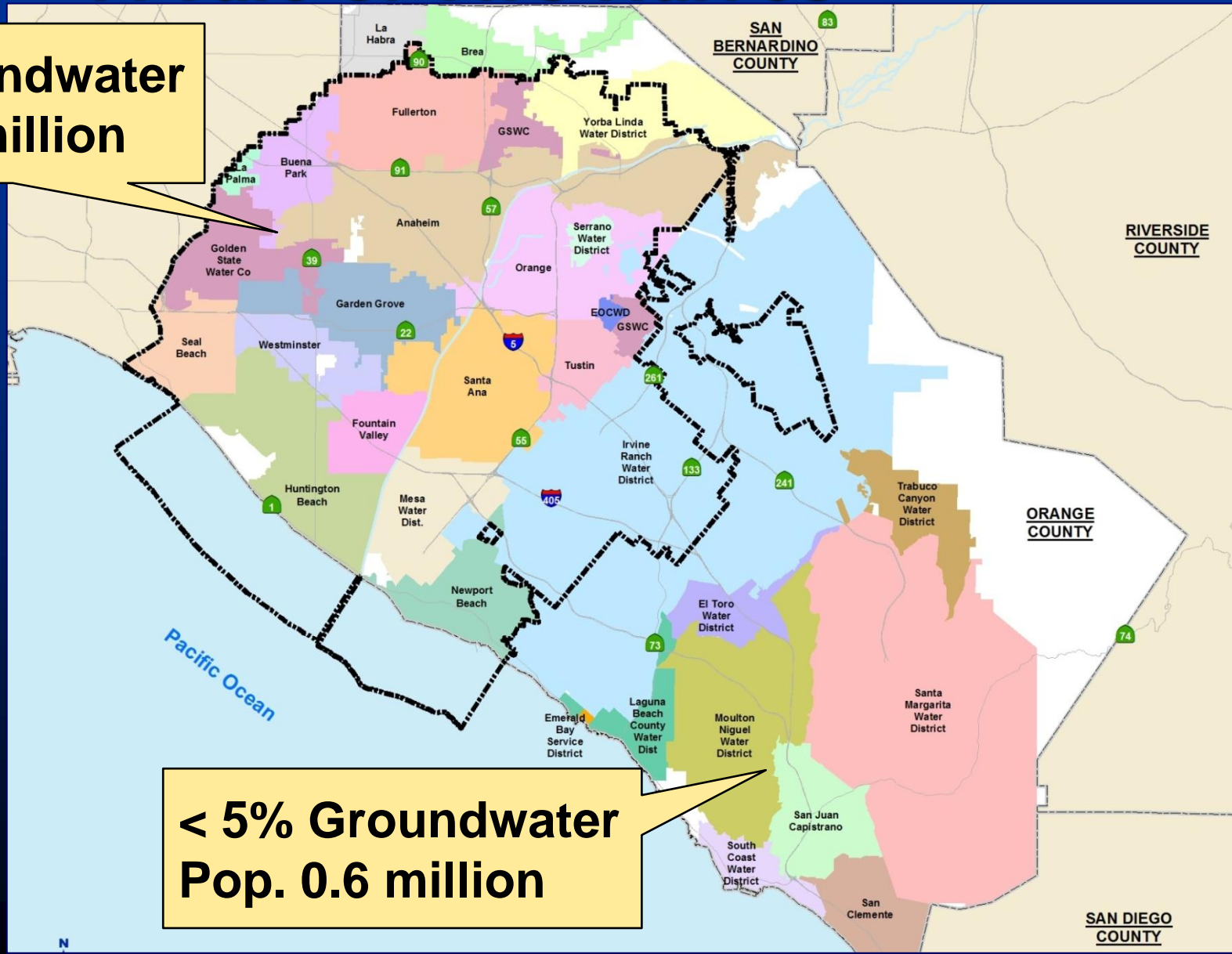
# *Successes and Challenges in Storing Groundwater Orange County Water District*



**Roy Herndon**  
**Chief Hydrogeologist**

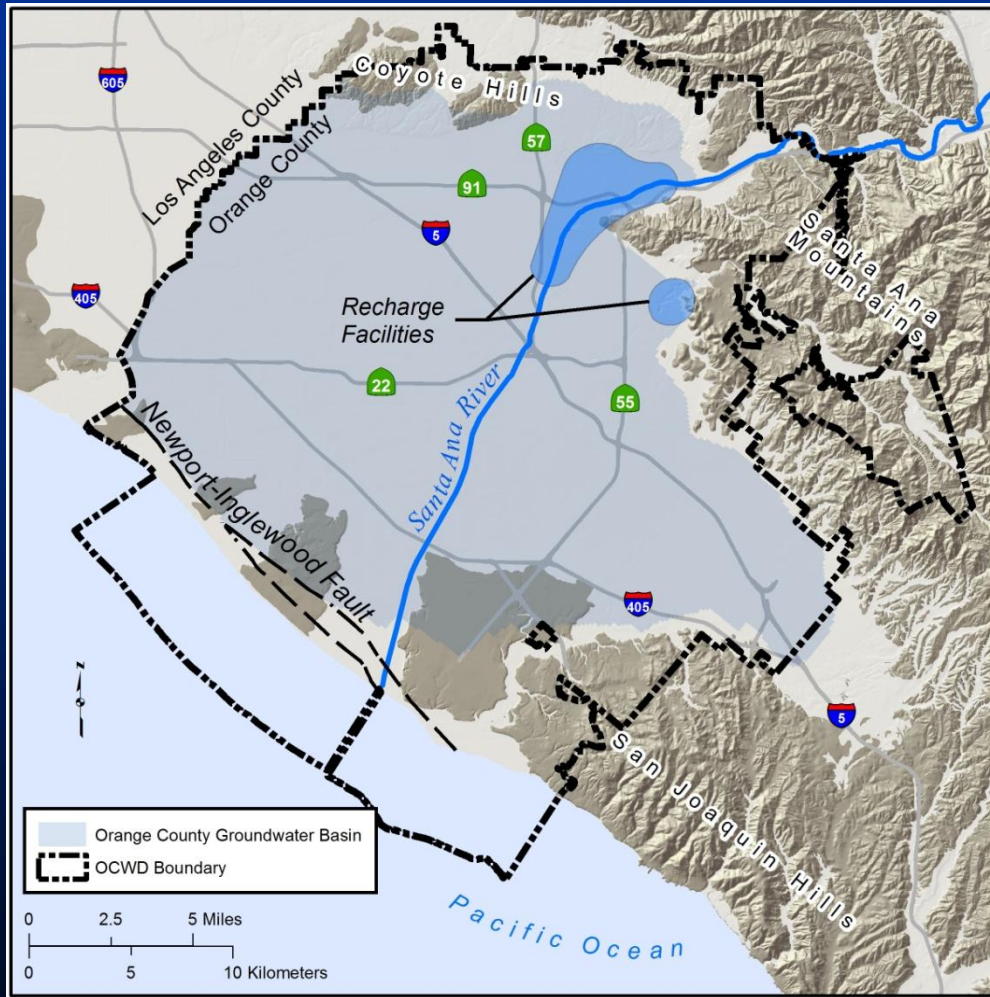
# Orange County's Water Supply: A Tale of Two Halves

**70% Groundwater  
Pop. 2.4 million**



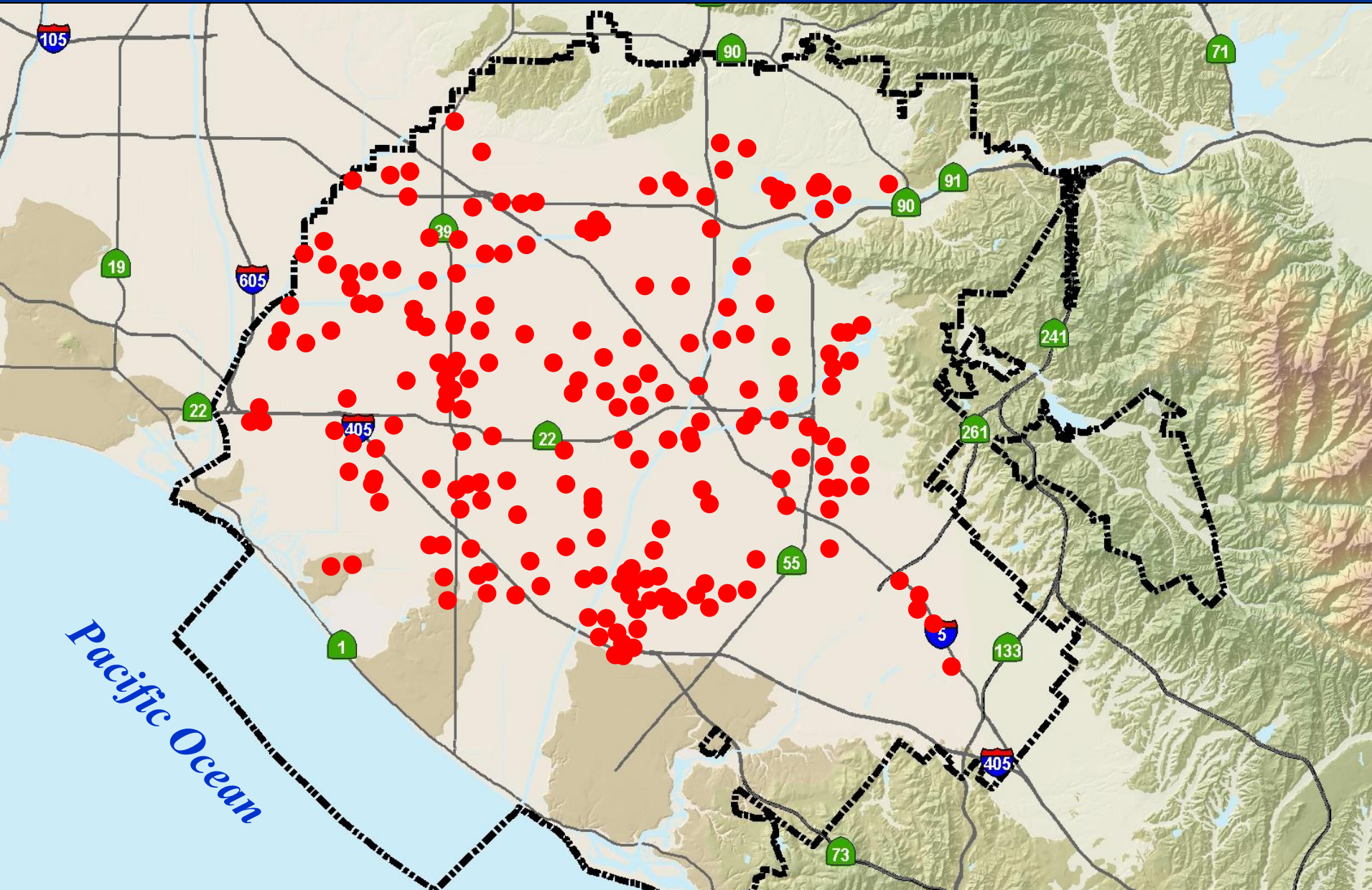
**< 5% Groundwater  
Pop. 0.6 million**

# Who is Orange Co. Water District?



- Formed in 1933 by legislative act
- Manage groundwater basin under North OC
- Replenish aquifers
- Control seawater intrusion
- Protect & improve water quality

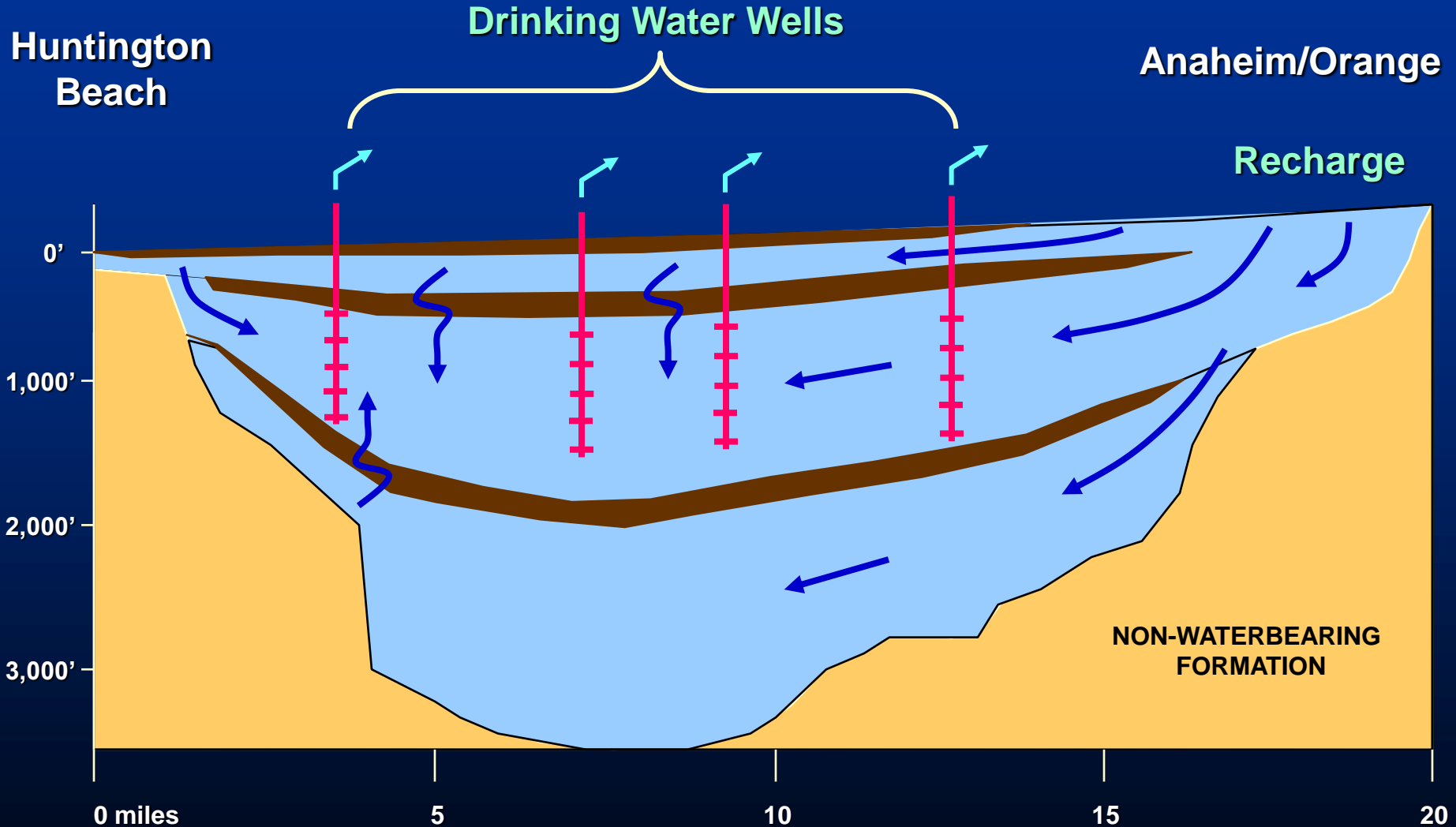
**Groundwater is pumped from 200 wells owned by cities and other water agencies.**



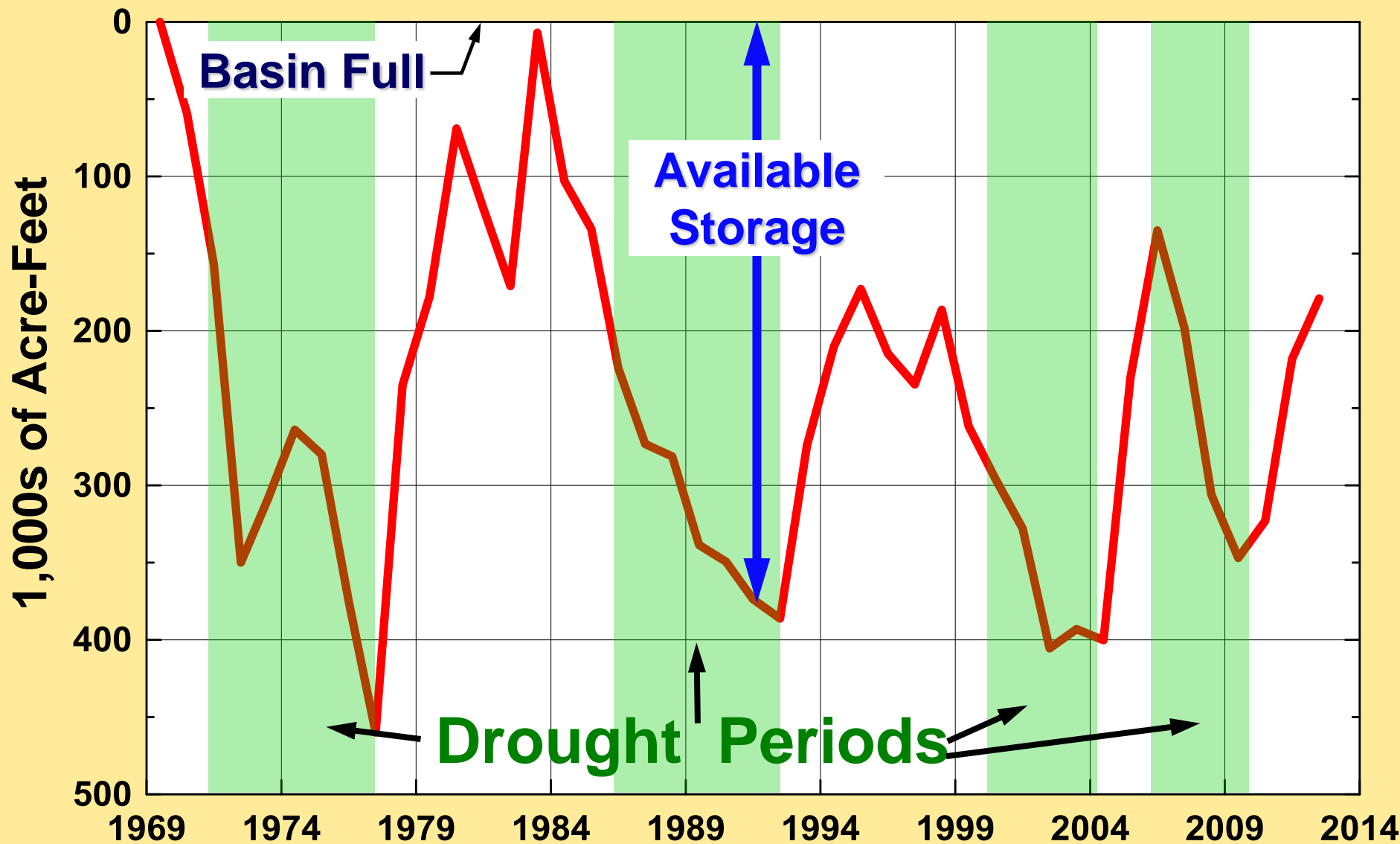
**OCWD replenishes the aquifer using its recharge facilities along the Santa Ana River in Anaheim.**



# Groundwater Basin Schematic



The basin is an underground reservoir to store and withdraw water during surplus and drought.



# OCWD's sources of recharge water:

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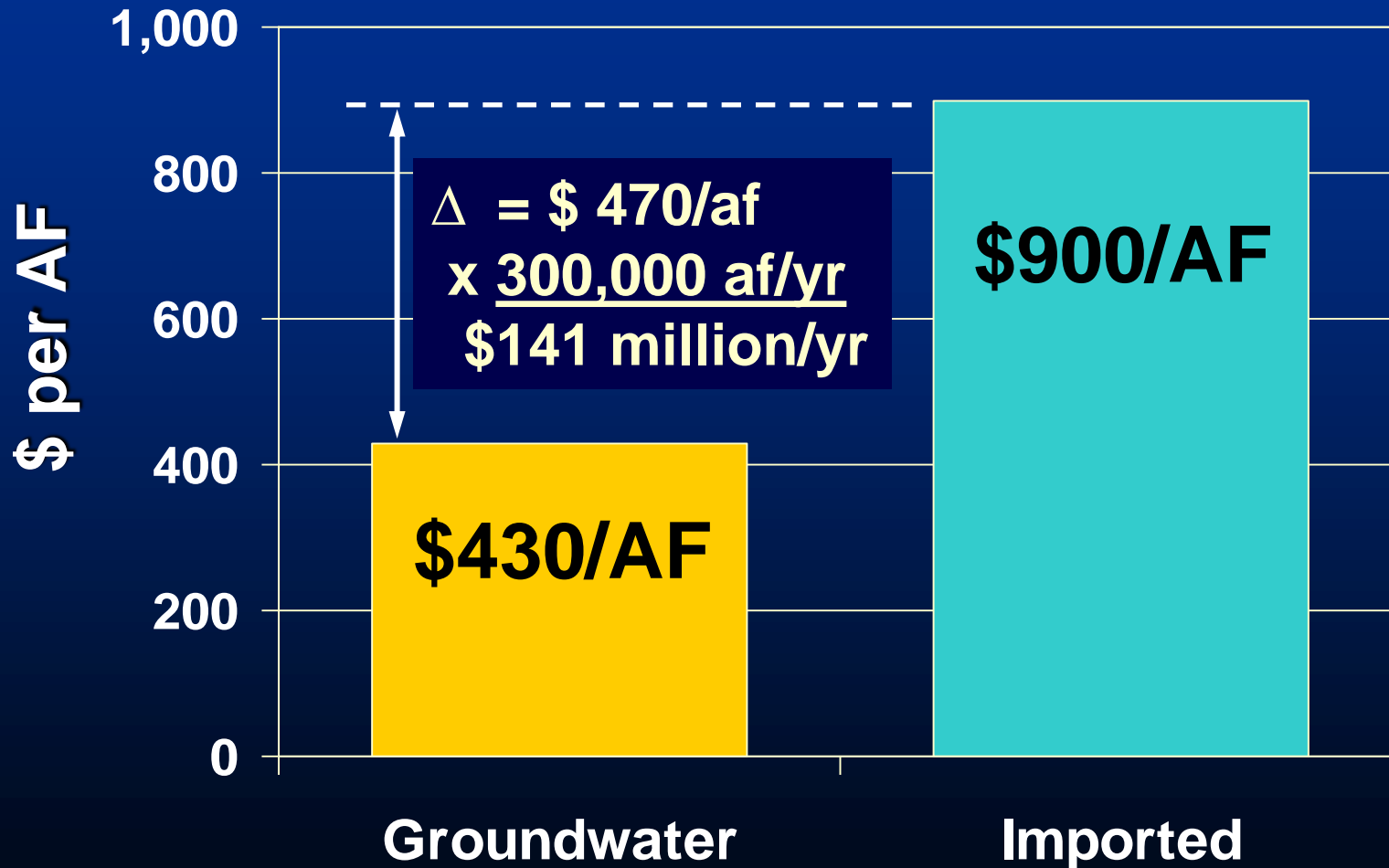
- **River storm flows**
- **River base flows (largely treated effluent from Riverside and San Bern. counties)**
- **Imported water (decreasing supply)**
- **Recycled water (increasing supply)**



# **Major investments were necessary for a successful groundwater storage program.**

- **1,100 acres of infiltration basins (200,000 afy)**
- **\$480 million for the Groundwater Replenishment System (70,000 afy)**
- **Seawater intrusion barriers (30,000 afy)**
- **500+ monitoring well network**
- **Storm water storage agreement with Army Corps**
- **Comprehensive reporting of production, recharge, and water level data**
- **Highly skilled and dedicated staff**

# The economic value of OC's sustainable groundwater supply is \$141 million per year.



# Groundwater Replenishment System

