



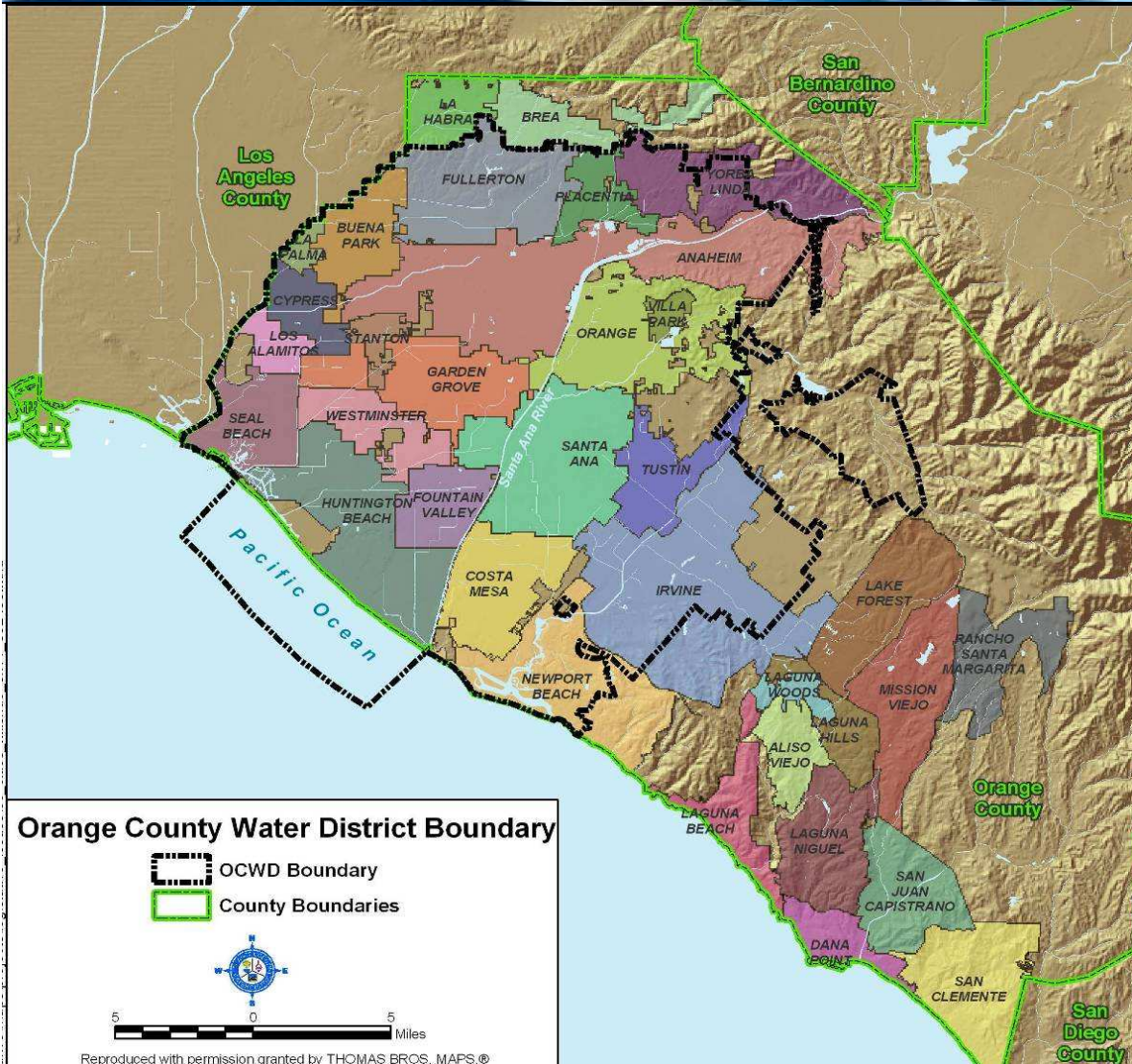
ORANGE COUNTY WATER DISTRICT GROUNDWATER BASIN



Shawn Dewane, Director
Michael R. Markus, P.E., General Manager
Orange County Water District

Assembly Water, Parks & Wildlife Committee
February 1, 2011

Orange County Water District (OCWD)



- OCWD formed in 1933 by an Act of the State Legislature
- Farmers/landowners were over pumping the O.C. groundwater basin
- OCWD was created to manage and protect the groundwater basin
- 229,000 acres (925 km²) in the lower watershed of the Santa Ana River
- Basin provides water for more than 2.4 million people

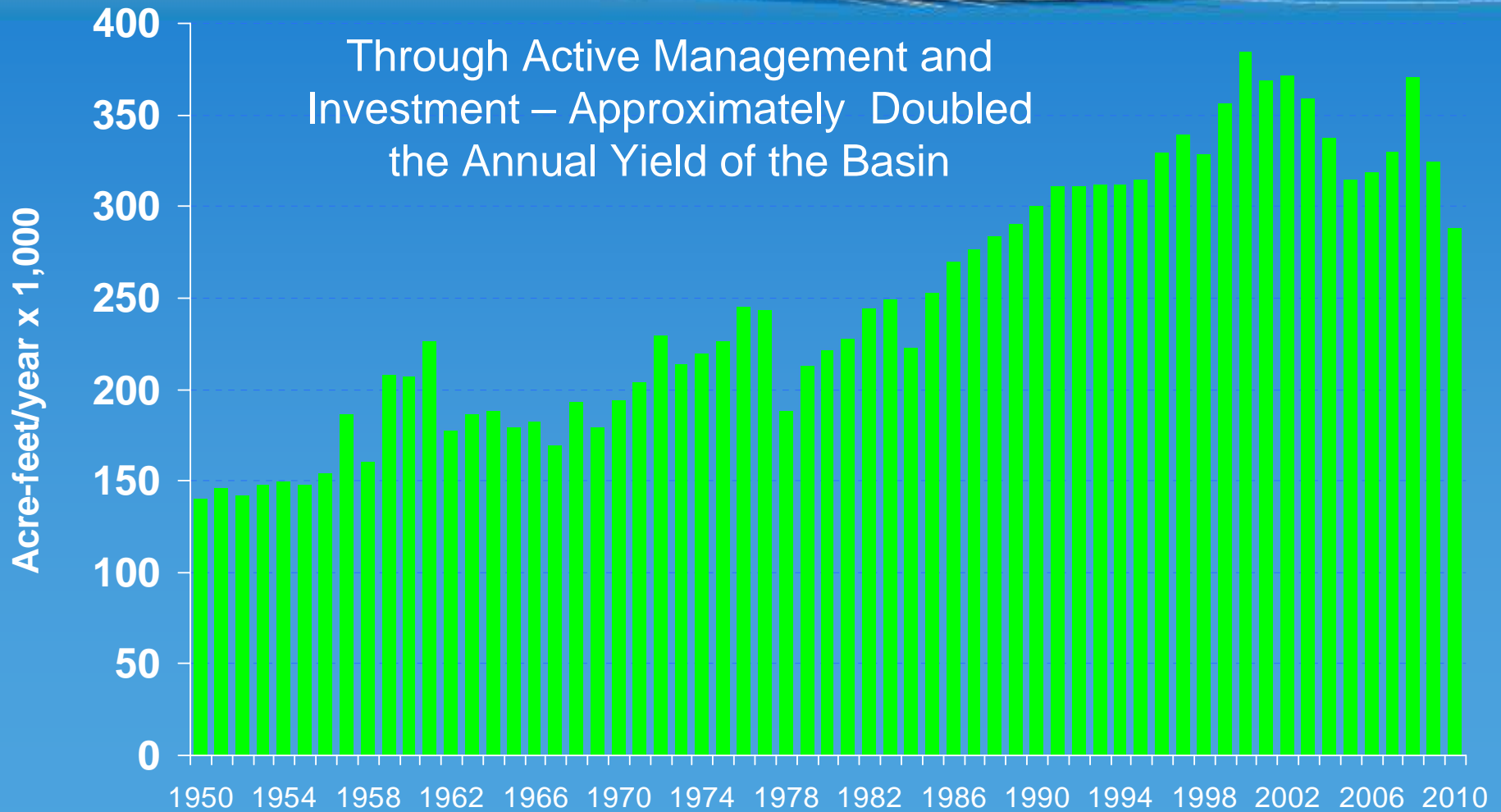
OCWD Information

- **Governed by a 10 member Board of Directors**
- **Non-Adjudication groundwater basin**
 - **Board sets the amount of pumping on an annual basis, depending on basin water levels**
 - **OCWD is the only major non-adjudicated basin in Southern California**
- **Overall philosophy of increasing local water supplies to support growth and reduce need for imported water**

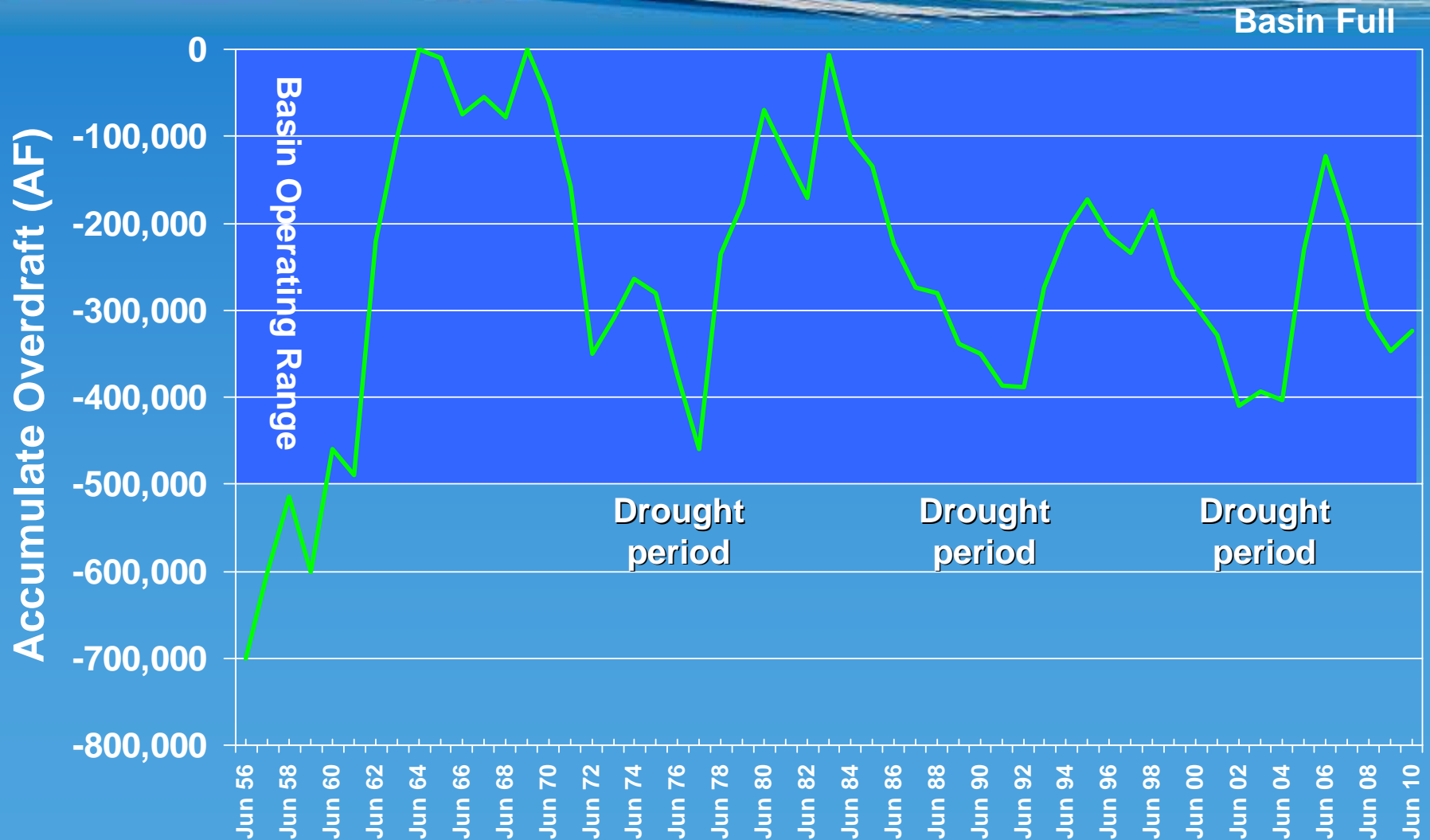
Supply Side Management

- **Seek and develop programs/projects to allow increased annual groundwater pumping**
 - **Purchase surplus imported water when available**
 - **Developed Recycled Water - \$481 million Groundwater Replenishment System producing 72,000 acre-feet per year**
 - **New Recharge Projects to recharge the groundwater basin**
 - **Increase the capture of Santa Ana River (SAR) water**
 - **Actively manage the basin**

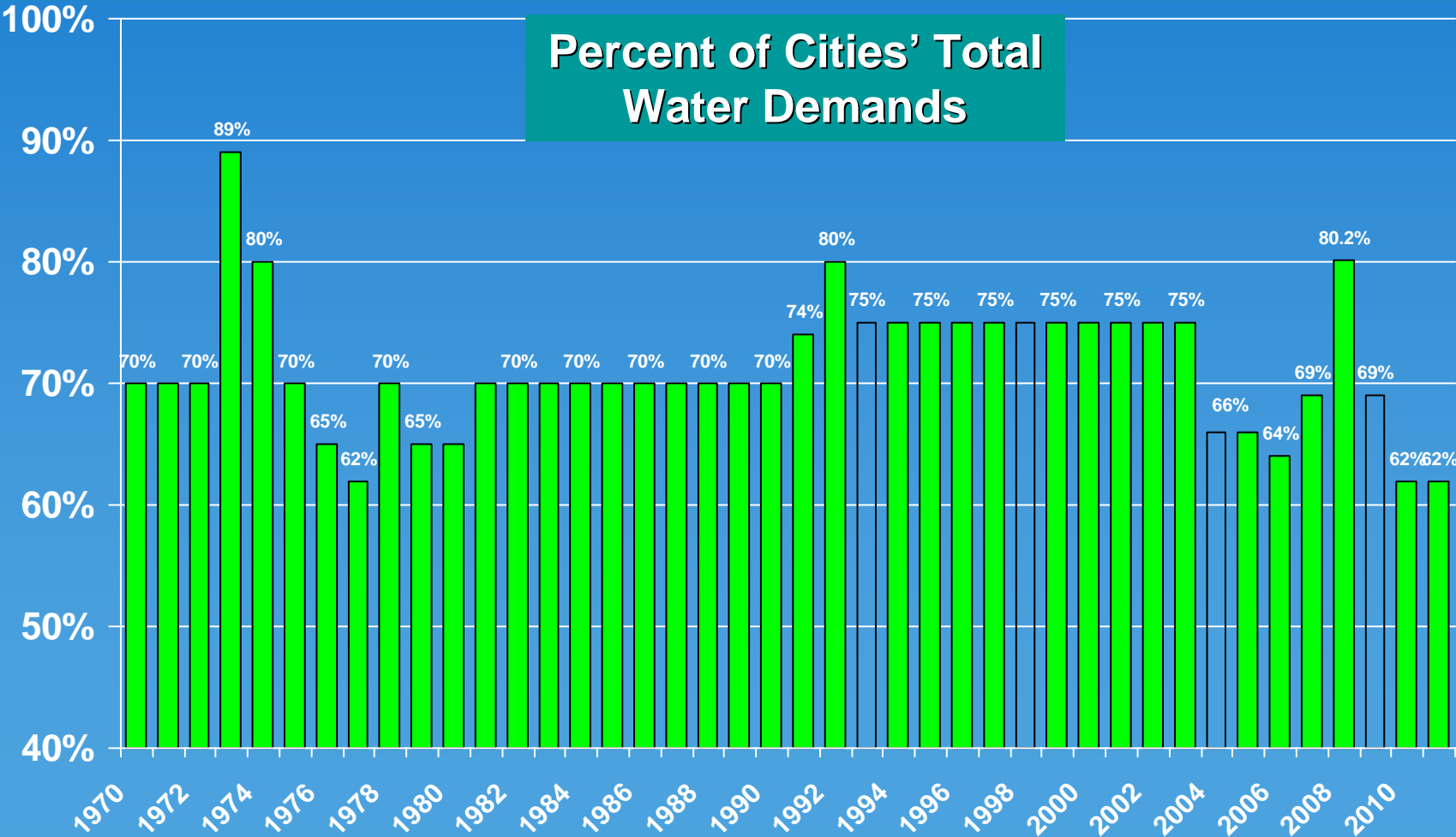
Groundwater Pumping History



Manage Annual Pumping

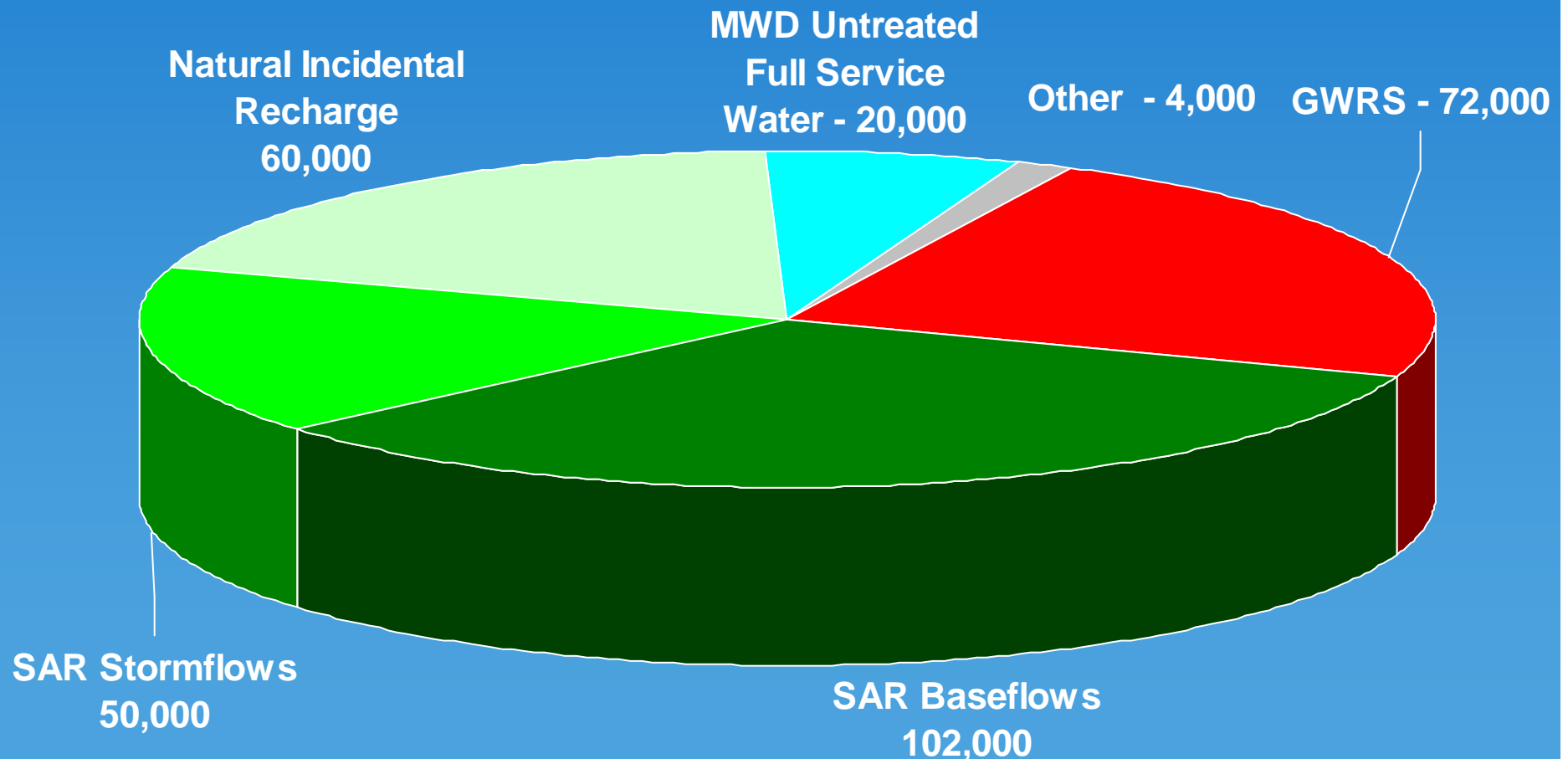


Historical Basin Production Percentage (BPP)



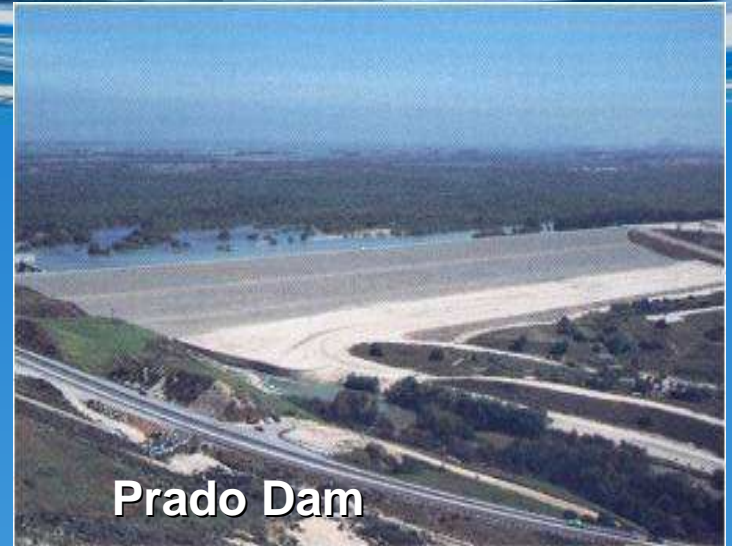
Typical OCWD Water Supply Sources to Recharge the Groundwater Basin

(308,000 Acre-feet/Year)



Operational Recharge Facilities

- District has an agreement with the ACOE to seasonally store stormwater behind Prado Dam
- Captured SAR base flows consist of wastewater discharged in the Upper Watershed



Prado Dam



Santa Ana River Facilities

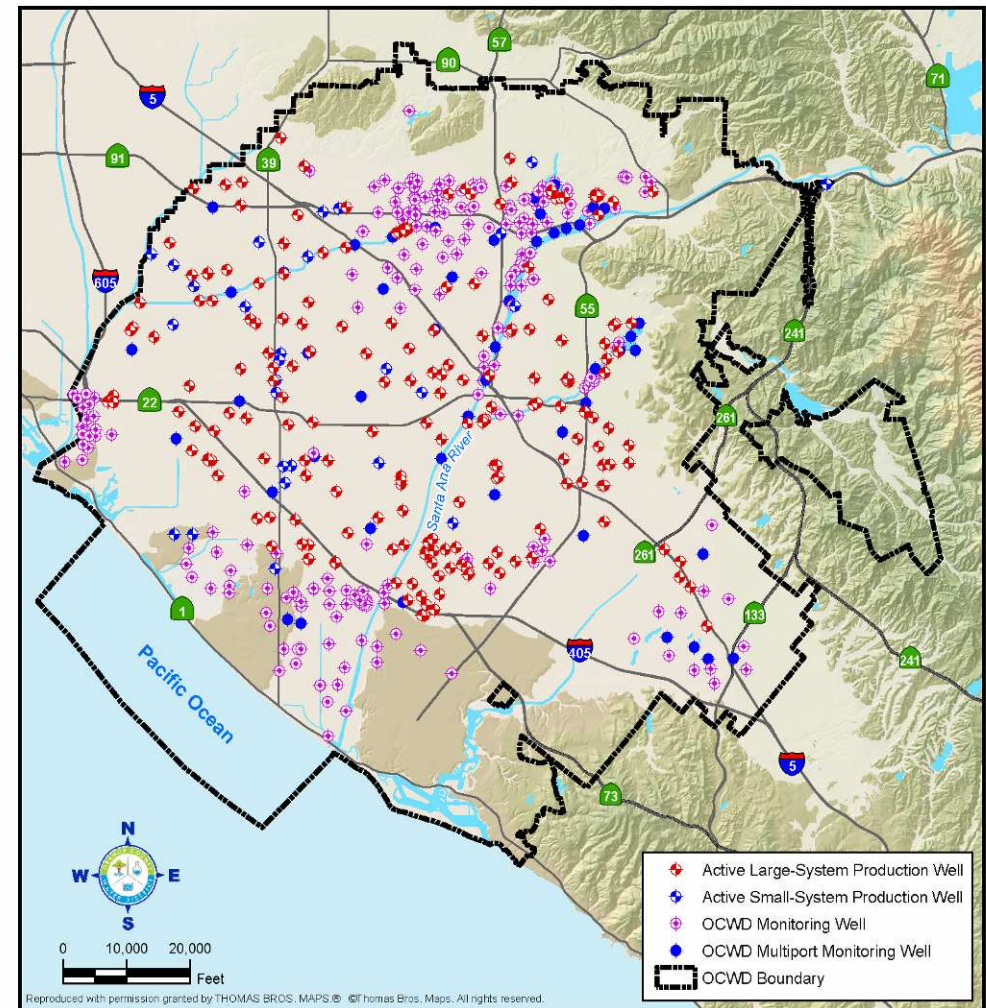
Conjunctive Use of Groundwater Basins



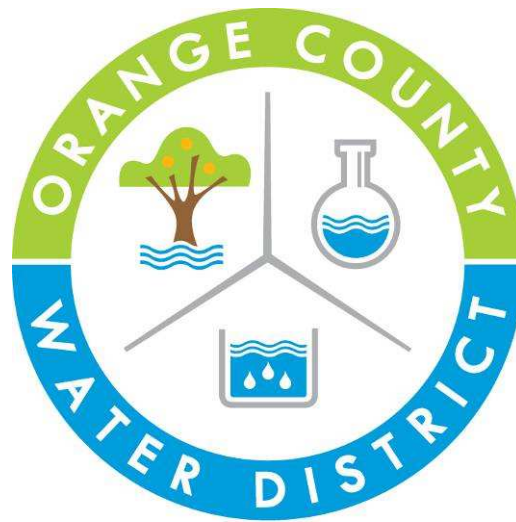
- **Conjunctive use coordinates management of surface water and groundwater supplies to maximize water resources**
 - **When the Metropolitan Water District of Southern California (MWD) has excess water they will sell it to groundwater basins at a discounted rate**
 - **OCWD and MWD have a program whereby MWD can store up to 66,000 af in the basin and remove it when they need it**

Extensive System of Groundwater Basin Monitoring Wells

- Sample over 500 wells
 - Water level
 - Water quality
- Annually run 300,000 tests from over 15,000 samples
 - Volatile Organics
 - Metals
 - Nitrates
 - Perchlorate
 - Chromium 6



Questions?



SINCE 1933