

Developing a Water Portfolio

World Water Week

August 2008

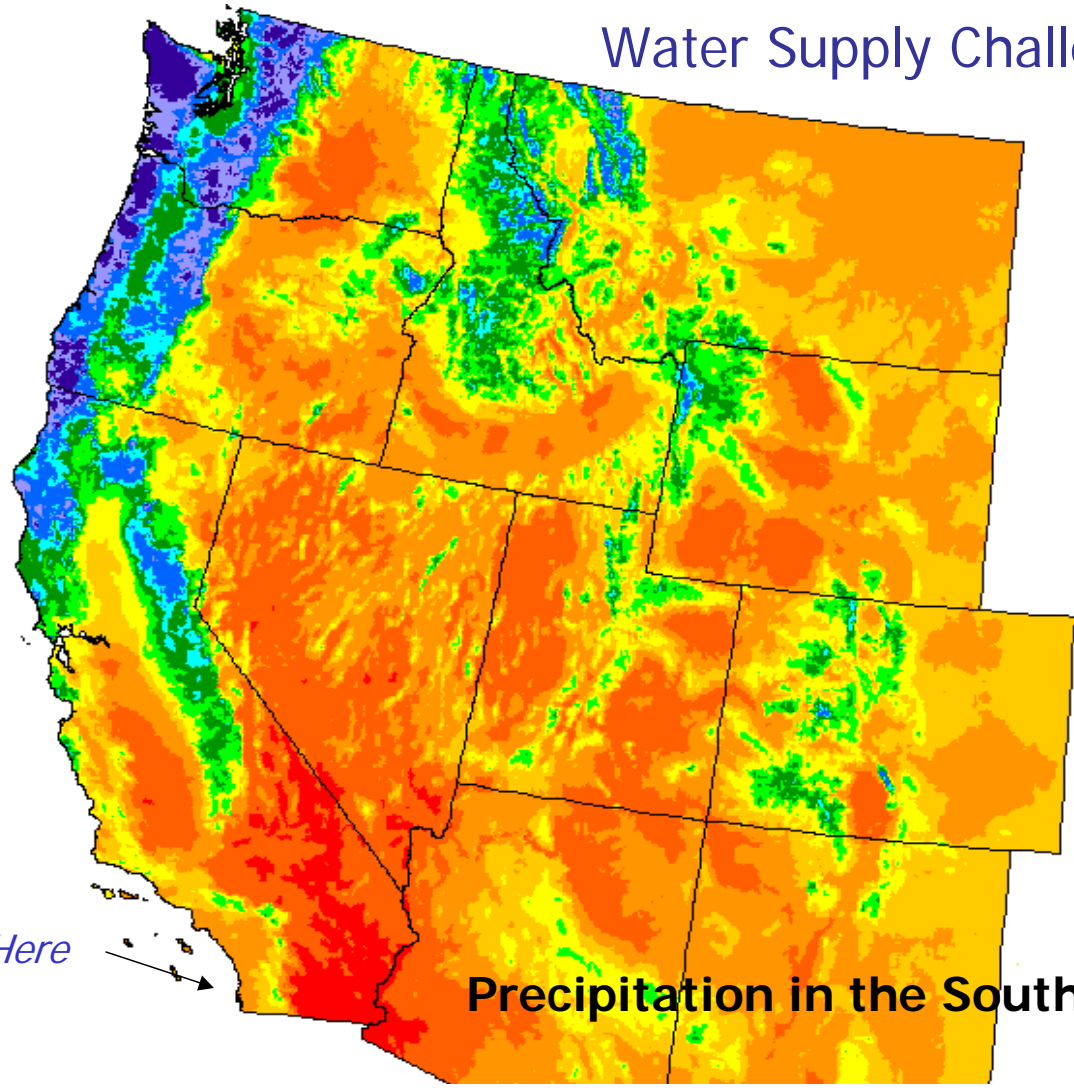


Maureen A. Stapleton

San Diego County Water Authority

USA

Water Supply Challenge



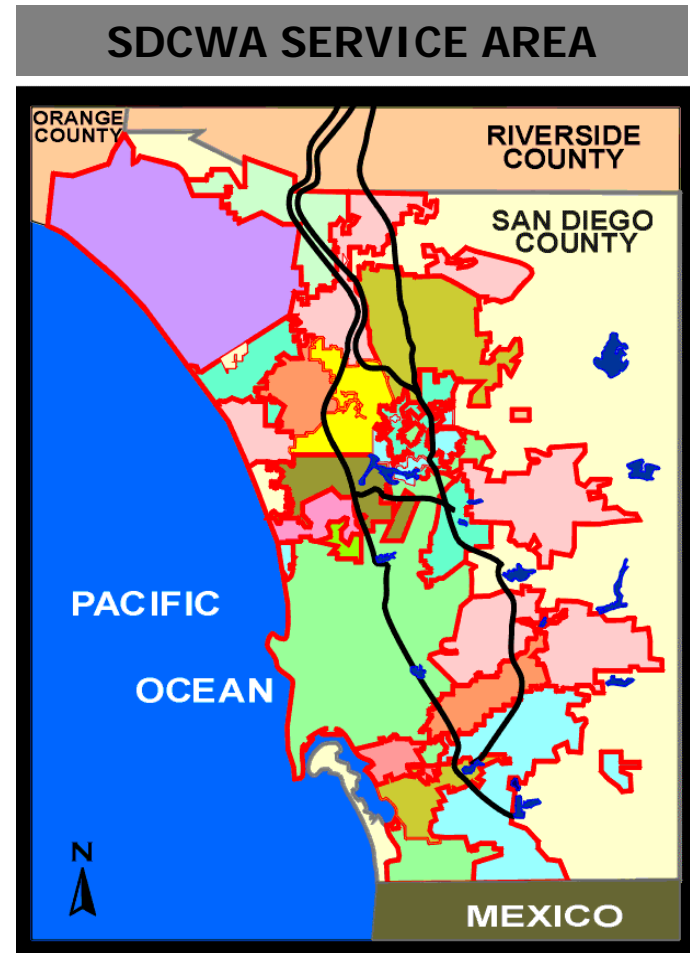
You Are Here



Precipitation in the Southwest

San Diego County Water Authority

- Wholesale water agency created by California State Legislature in 1944
 - 24 member (retail) agencies
 - 35-member board of directors
 - Serves 3+ million people and supports region's \$155 billion economy
- Pipelines & Facilities
 - Nearly 485 km (1 – 3 meters in diameter) of treated and untreated water
 - 380 km³ per day membrane treatment plant
 - 31,000 km³ reservoir
 - Pending 110 meter dam raise – additional 185,000 km³ storage
- Rainfall
 - Average – 330mm
 - 2007 & 2008 – 80mm per year



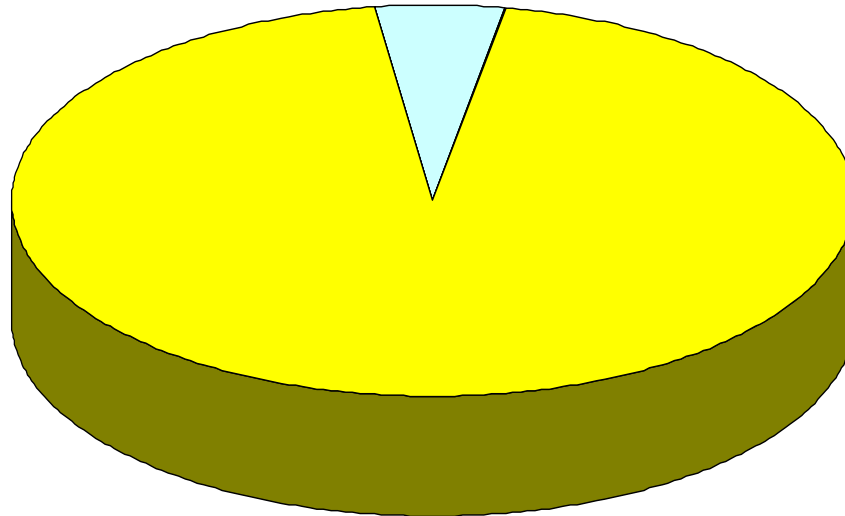
Sources of Imported Water Supplies



San Diego County's Water Supply Portfolio

1991

Local Surface
Water - 5%



Imported Water- 95%

Drought Headlines from 1990-91

State to Shut Off Water Delivery to Southland

By VIRGINIA ELLIS and TED ROHRLICH
TIMES STAFF WRITERS

SACRAMENTO — Gov. Pete Wilson on Monday announced new and unprecedented cutbacks of state water deliveries so drastic that Southern California will be cut off from this traditional source of water by mid-March.

Wilson said that heightened drought conditions had forced the state to notify cities and industry

Limits on tap water use urged by staff

By Steve LaRue
Staff Writer

The staff of the San Diego County Water Authority (CWA) will continue to recommend a blanket ban of tap water on private lawns and golf course roughs and fairways despite intense opposition by landscaping contractors and others at a hearing last week.

50% Water-Delivery Cut Will Be Blow to San Diego

■ **Drought:** Metropolitan Water District directors also vote a 90% cut in allocation for agricultural users.

Water Dependence Bodes a Dry San Diego Future

■ **Drought:** A twisted history of water politics has left the county at the vulnerable end of the supply pipeline.

S.D. Faces 31% Cut in Imported Water Supply

By JENIFER WARREN
TIMES STAFF WRITER

Faced with record-low rainfall and no prospects for relief, the Metropolitan Water District declared a water emergency on Tuesday and cut by 31% the amount of water it delivers to 27 agencies from Ventura to San Diego.

Grim water outlook is getting even worse

By Steve LaRue
Staff Writer

SACRAMENTO — Southern Californians are likely to be ordered to cut back their water consumption by an unprecedented 30 percent this

Companies cringe at 50 percent cut in water

Firms offer conservation plans to mayor; some say cutbacks could cripple growth

L.A. Ready to Battle San Diego Over Water

■ **Conservation:** DWP officials weigh legal action as southern neighbor refuses to impose rationing.

State Water Project cuts off water to farms; urban slash expected

Water: Authority to Vote Today on Mandatory Restrictions

Community Outcry: 'No More Water Shortages!'

Comprehensive Action Plan

- Diversify Region's Water Supply Portfolio

- Aggressive Conservation Programs
- Development of Local Supplies
 - Reclamation
 - Brackish groundwater recovery
 - Desalination
- Secure additional imported supplies from new sources



Colorado River Quantification Settlement Agreement

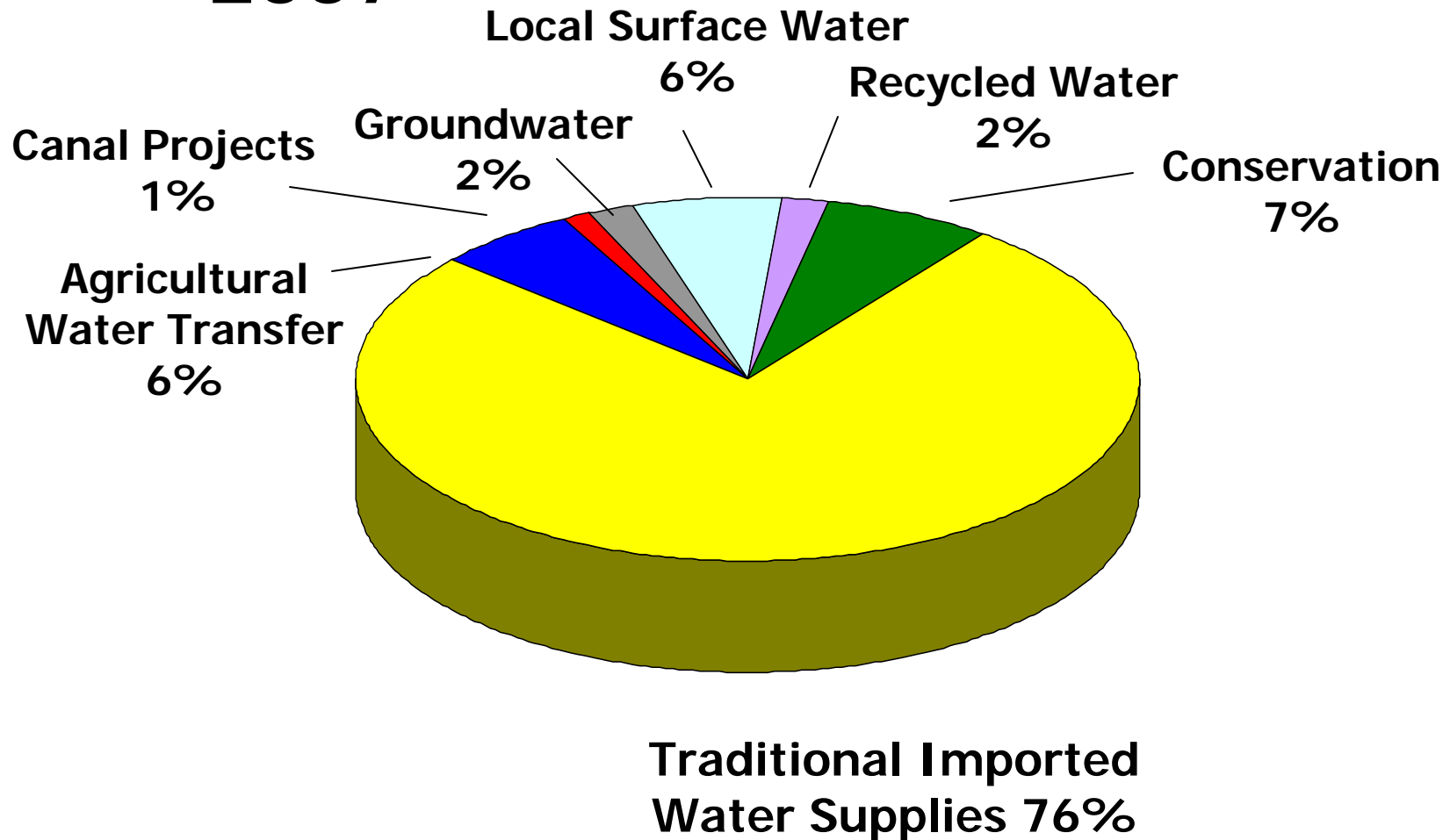
- Largest & longest agricultural to urban water transfer in the United States
- Executed October 2003
- Major diversification of San Diego supply: 342,000 km³ per year by 2018
 - On-farm & in-system conservation in agricultural district
 - 246,000 km³ per year for 45 -75 years
 - Replacement of earthen-lined with concrete-lined canals
 - 96,000 km³ per year for 110 years



Coachella Canal Project

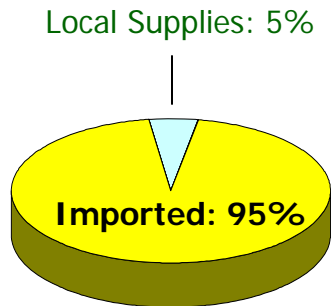
Improving Reliability through Diversification

2007

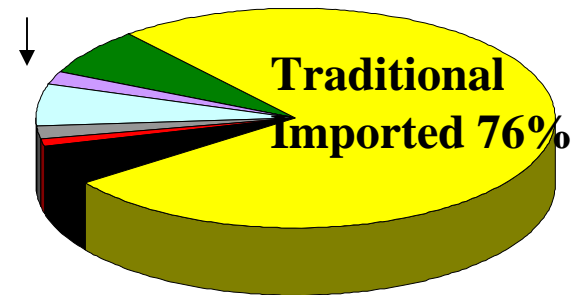


Long-Term Development of San Diego County's Water Supply Portfolio

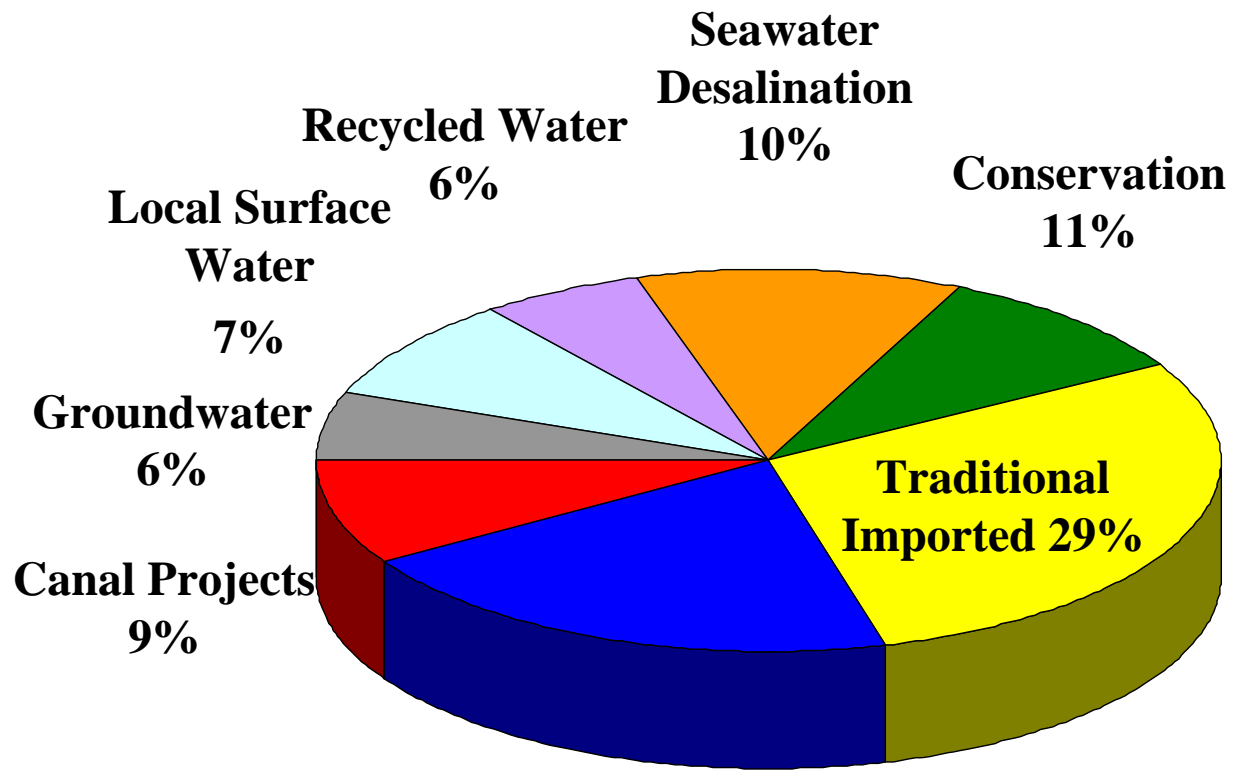
1991



Local & Transfer Supplies 24%



2007



Agricultural Transfer 22%

2020

The Hydrologic Past and the Uncertain Future

- Significant changes in Colorado River hydrology
 - 2000 – negotiated surplus criteria policies.
 - 2007 was 8th year of historic drought with current reservoirs at <50% capacity
- Challenges in the California Bay Delta:
 - 1998 – historic snowpack and extensive flooding
 - 2008 - 2nd driest March on record with 55% runoff and reservoirs at 40% of capacity



Delta Smelt

The “Super Fish”

- Small in size, big in impact
- Able to reduce water flowing to 25 million people
- State and federal courts found Delta pumping jeopardized Delta smelt & longfin smelt
- 2007 – Largest court-ordered pumping & delivery restrictions in history. Loss of 984,000 km³
- Governor declares statewide water emergency in June 2008



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The New Reality – Colorado River Reservoirs



State Water Project Reservoir— February 2005



State Water Project Reservoir – June 2008



Keys to Future Water Resources Planning

- Accept that the improbable happens
- Agencies must plan for a range of possibilities, including extreme events
- Adaptive planning is essential in this era of uncertainties – flexibility is key
- Partnerships are essential to developing sustainable solutions
- Focus on expanding the size of the entire pie, not just your piece of the pie
- No single/simple answer to solve complex problems. Need multiple tools

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