



# Water Supply Reliability

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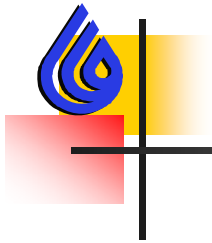
San Diego County Water Authority  
October 2007



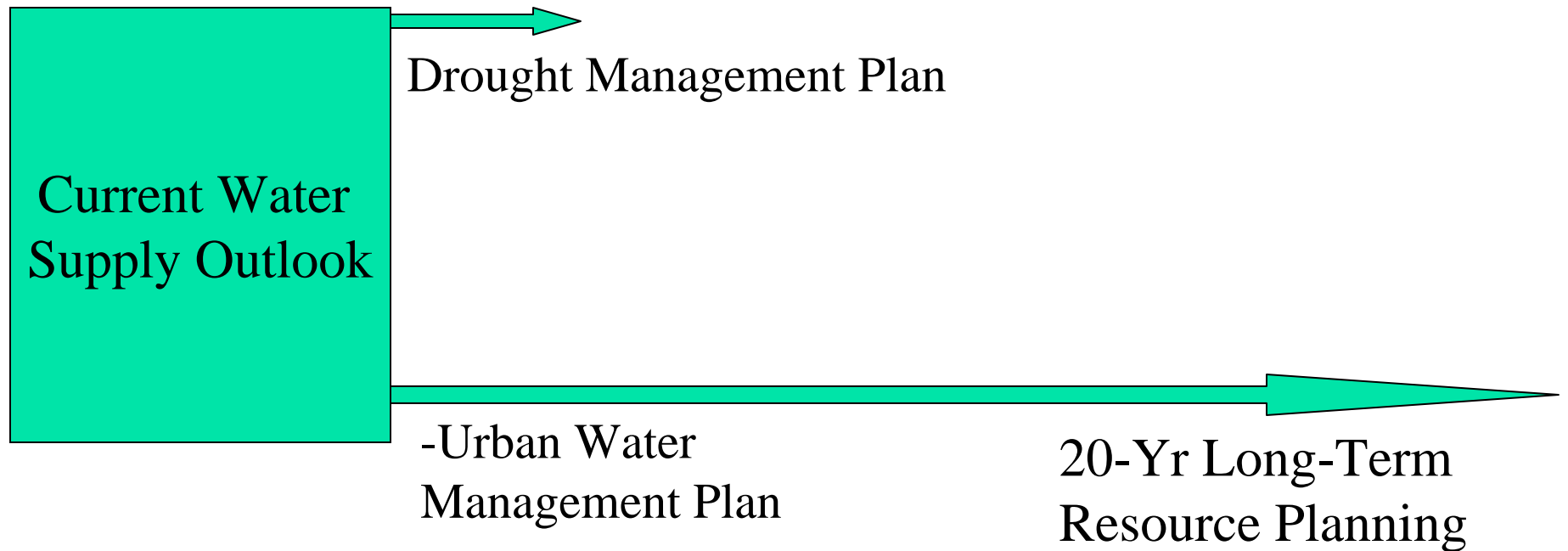
# Agenda

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- 2007 & 2008 Water Conditions
  - Environmental challenges
  - Dry Year/Drought Response
  
- Long-Range Water Supply Planning
  - Relationship to Land Use planning
  - Growth and Water Issues

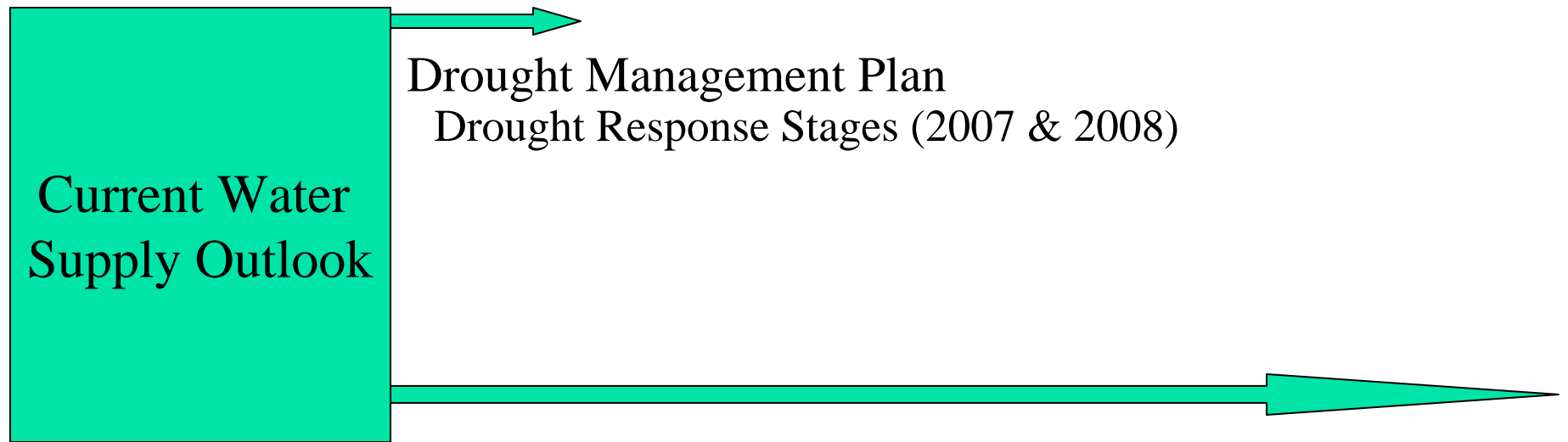


# Single Cause – Separate Responses





# Cyclical Dry Year/Drought





# Drought Headlines from 1991

## 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

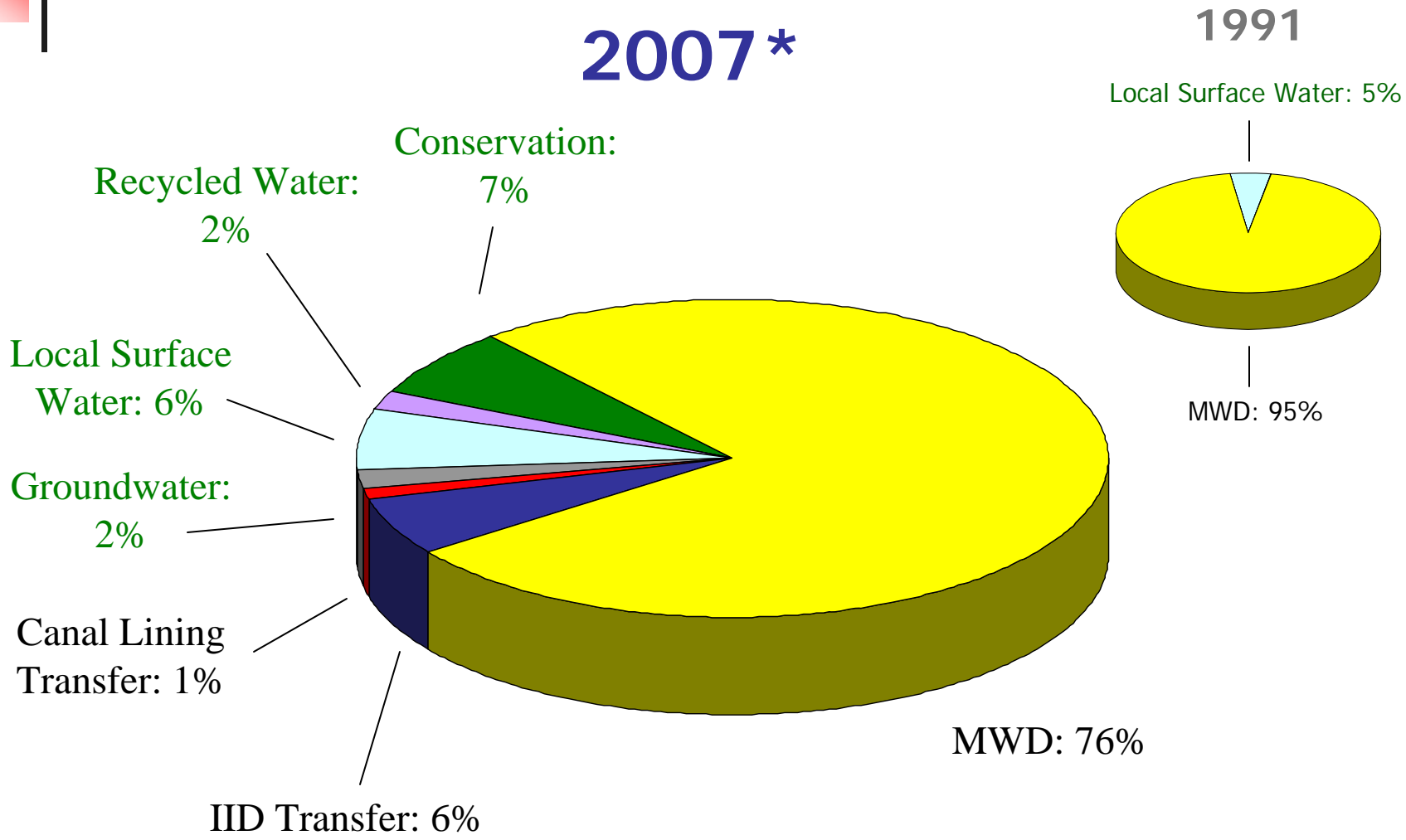
■ **Conservation:** DWP officials weigh legal action as southern neighbor refuses to impose rationing.

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

## Water: Authority to Vote Today on Mandatory Restrictions



# San Diego's Water Supply Portfolio Diversification Since 1991

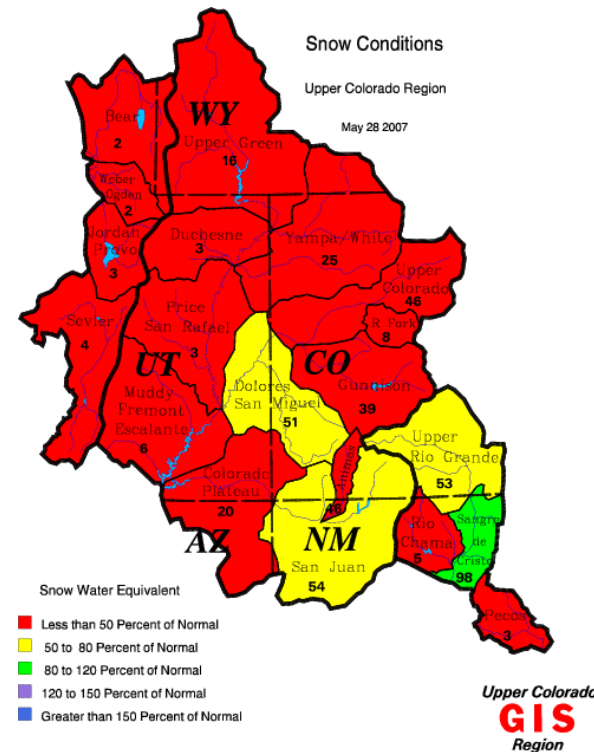


\* Projected for fiscal year ending June 30, 2007.



# Colorado River

- 2007 is 8th year of historic drought
  - 2003: surplus water no longer available
    - 662,000 AF less per year
  - MWD's Colorado River Aqueduct half-full
  - Reservoirs are at <50%
    - 60 MAF when full
    - System will take many years to recover



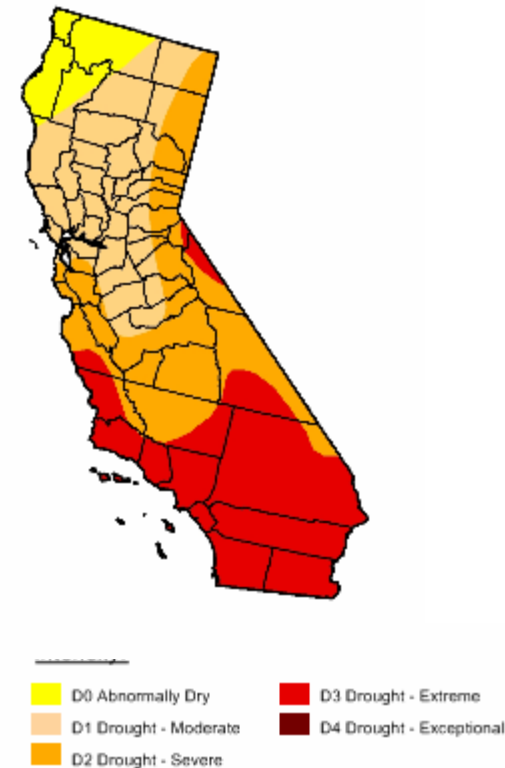
Data Provided by the Natural Resource Conservation Service



# State Water Project & Local Supplies

- 2007 is historic dry year throughout California
- State Water Project challenges
  - Project never completed as planned
  - Only 5.8 maf of storage
    - Less than 1-1/2 years of protection
  - Faces significant environmental, regulatory and judicial challenges
  - Supplies vary widely from year to year

U.S Drought Monitor  
Aug. 21, 2007







# California Snowpack Conditions

Summary By Section			
Section		May 1, 2006	May 1, 2007
NORTH	Number of Stations Reporting	31	32
	Average snow water equivalent	43"	5"
	Percent of April 1 Average	153%	18%
	Percent of normal for this date	215%	25%
CENTRAL	Number of Stations Reporting	46	45
	Average snow water equivalent	40"	8"
	Percent of April 1 Average	133%	25%
	Percent of normal for this date	165%	31%
SOUTH	Number of Stations Reporting	29	31
	Average snow water equivalent	36"	4"
	Percent of April 1 Average	139%	17%
	Percent of normal for this date	177%	22%
Statewide Summary			
	Statewide Average SWEQ	40"	6"
	<b>Statewide Percent of April 1</b>	<b>140%</b>	<b>21%</b>
	<b>Statewide Percent of Normal</b>	<b>181%</b>	<b>27%</b>

5/1/07 & 5/1/06, California Cooperative Snow Surveys; Water Equivalents (Inches)



# Lawsuits, Delta Pumps and Water Supply Reliability



[<----- 2" ----->]

- State and federal court decisions found pumping is jeopardizing Delta smelt
- Court ruling Aug. 31 imposed restrictions on Bay-Delta pumping
- Ruling will remain in effect until new plans to protect smelt are approved (12-18 months)





# What Does This Mean for San Diego County?

- Less imported supplies for 2008
  - Actual supply reduction depends upon:
    - Rain/snow between now and spring 2008
    - How state/federal water projects divide court-mandated reductions
- More reliance on conservation, storage and spot water transfers
- Implementation of multi-faceted drought response plan



# Drought Management Plan

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- Adopted in May of 2006
- Serves as a guide to Drought Response
- Reflects an emphasis on avoiding cutbacks
- Region's water reliability increases over time due to planning & investments in supply and facilities
  - Imperial Valley water transfers and canal lining supplies
  - 10,000 Acre Feet San Vicente carryover storage
  - Seawater Desalination
  - Additional Recycling and Groundwater
  - Outdoor Conservation Efforts



# Key Water Authority Actions to Date

- Activated Drought Management Plan
  - Implementing Stage 1: Voluntary Actions
  - Approaching Stage 2: Supply Enhancement

Water Authority Drought Response Matrix		– Firm Demands	
POTENTIAL SDCWA DROUGHT ACTIONS	STAGES		
	Voluntary	SDCWA Supply Enhancement	Mandatory Cutbacks
Ongoing BMP implementation	X	X	X
Communication strategy	X	X	X
Monitoring supply conditions and storage levels	X	X	X
Call for voluntary conservation	X	X	X
Draw from SDCWA Carryover Storage	X	X	X
Secure transfer option contracts	X	X	X
Buy phase 1 spot transfers (cost at or below Tier 2 rate)		X	X
Call transfer options		X	X
Buy phase 2 spot transfers (cost at or below Tier 2 rate)		X	X
Implement allocation methodology			X
Utilize ESP Supplies			X



# 2008 Water Demand & Supplies

	<u>DRY</u>	<u>NORMAL</u>
• <b>Authority Demand</b>	<b>700,000</b>	<b>700,000</b>
• MWD Supplies	455,000	560,000
• Local Supplies	68,500	68,500
• Imperial Transfer	71,500	71,500
• Authority Storage	20,000	20,000
• 20-Gallon Challenge (voluntary conservation)	<u>56,000</u>	<u>56,000</u>
<b>Surplus/Deficit</b>	<b>(29,000)</b>	<b>56,000</b>
<b>Spot Water Transfers</b>	<u><b>30,000</b></u>	-
<b>Surplus</b>	<b>1,000</b>	<b>56,000</b>



# The '20-Gallon Challenge'

- Regional theme for voluntary conservation
  - Part of Drought Management Plan
  - Asks everyone to save 20 gallons per person, per day
  - Emphasizes specific water-saving tips at [www.sdcwa.org](http://www.sdcwa.org)
  - Goal: Keep as much water as possible in storage for 2008
  - Developed in cooperation with water agencies in the region
  - Business community involved and supportive



SDCWA Board Chair Fern Steiner speaks at June 28 news conference announcing 20-Gallon Challenge.





# The '20-Gallon Challenge'

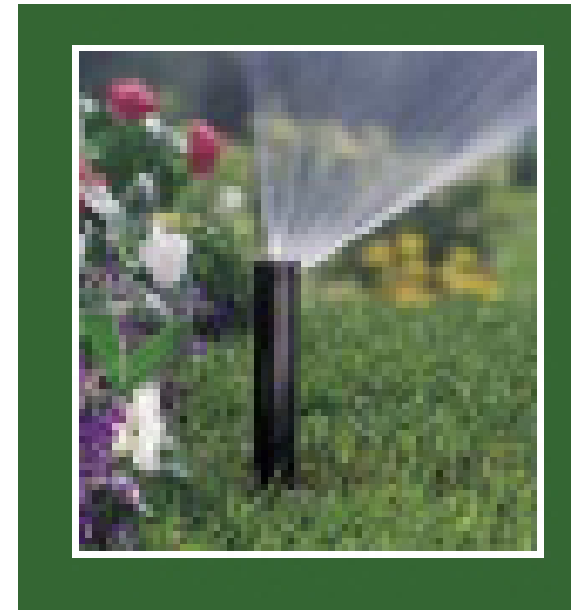
- Help promote the 20-Gallon Challenge
  - Share information with businesses & their employees
    - Via email, newsletter or handouts at workplace
    - Refer to website for conservation tips
  - Share information with communities

The image shows two overlapping screenshots. The top one is the SDGE website's 'Residential Services' page, featuring a navigation menu, a 'Save Energy and Money with SDG&E Rebates and Services' section, and a 'Go Green. Save Green.' logo. The bottom screenshot is an email titled 'Chamber Update' from Ruben Barrales, President & CEO of the San Diego Regional Chamber of Commerce. The email discusses the '20-Gallon Challenge' campaign, mentioning Governor Arnold Schwarzenegger's visit and the Chamber's support for water conservation efforts.



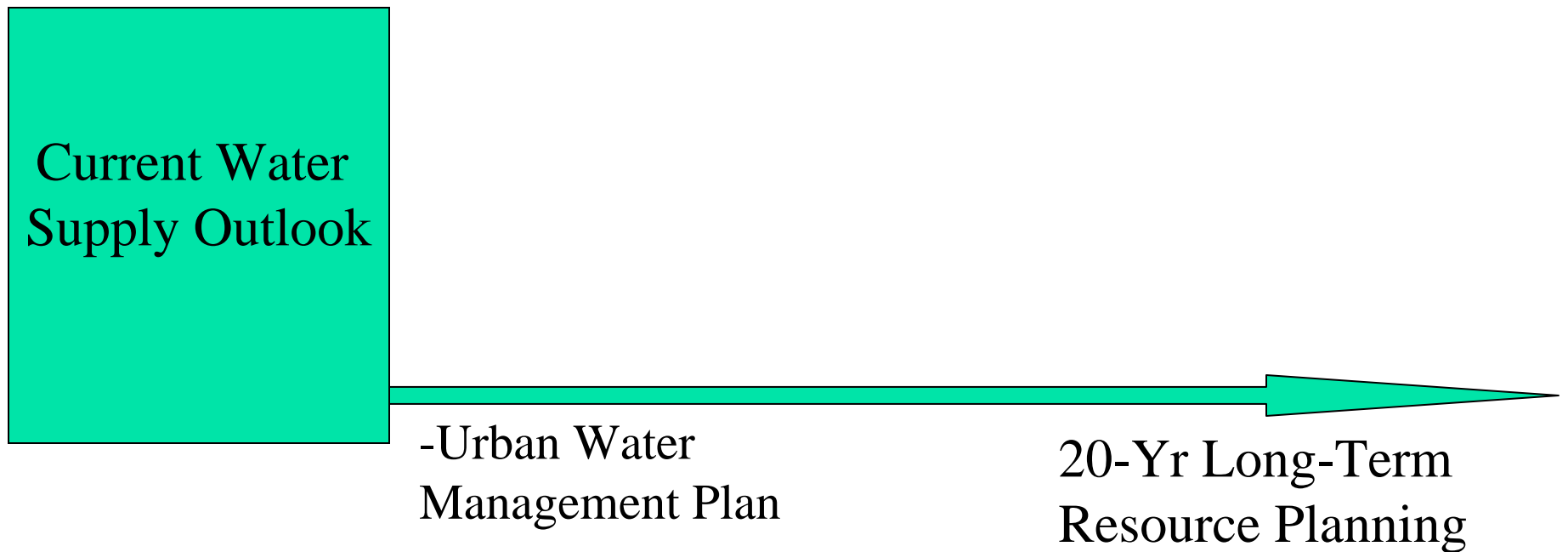
# Commercial, Industrial & Institutional Conservation Programs

- Artificial Turf Replacement – form is on our website at: [www.sdcwa.org](http://www.sdcwa.org)
- Free Landscape Audits
- Smart Landscape Grant up to \$2,500/acre (Maximum \$5,000)
- Smart Controller Vouchers
- Device Voucher Program
- Water Efficiency Audits





# Land Use & Long Term Water Planning





# California Senate Bills 610 and 221

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- California law adopted in 2002
- Stronger linkage between water availability and land-use approval
- SB 610: Water assessment prepared as part of state environmental compliance for large developments (500 units or equivalent)
- SB 221: Verification of sufficient supply is condition of tentative map approval
- Documentation must demonstrate 20-year water supply sufficient to meet needs of proposed project and existing and planned future uses
  - Doesn't mean 100% reliable 100% of time
  - Shortage contingency plan required



# Supply Development

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- Colorado River Quantification Settlement Agreement
  - 277,700 AF/yr by 2021
  - Imperial Irrigation District Water Transfer
  - Canal lining projects
- Conservation
  - Will double to 94,000 AF/yr in 2020
  - Increased emphasis on outdoor conservation
- Groundwater
  - More than triple to 52,600 AF/yr in 2020
- Recycled water
  - Triple to 52,300 AF/yr in 2020
- Seawater desalination
  - Projected 56,000 AF/yr by 2020

The logo features a stylized blue water drop with a white outline, positioned above a horizontal line. To the left of the line is a vertical bar with a yellow-to-red gradient. The text 'Water Facilities' is written in a blue, sans-serif font to the right of the line.

# Water Facilities

- Capital Improvement Program
  - 76 Construction projects to meet region's needs through 2030
  - \$3.4 billion budget
- Projects
  - Olivenhain Dam & Reservoir
  - Lake Hodges
  - San Vicente Dam Raise & Pipeline
  - Canal Lining Projects
  - Twin Oaks Water Treatment Plant
  - Pipeline Replacement/Relining
  - New Transmission Pipelines
  - Emergency Storage Project
  - Hydropower Projects: 45 MW
- Investing \$617 million over next 2 years



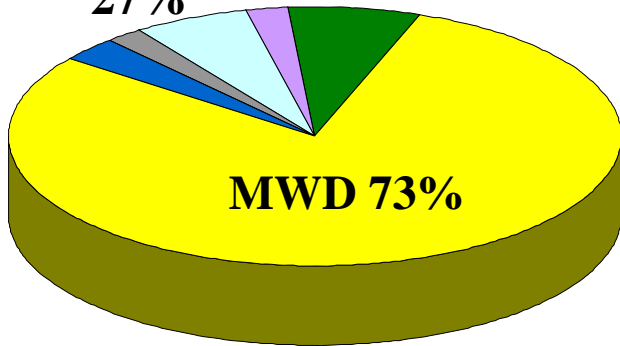
Olivenhain Reservoir

# Managing Risk Through Diversification Supply Portfolio



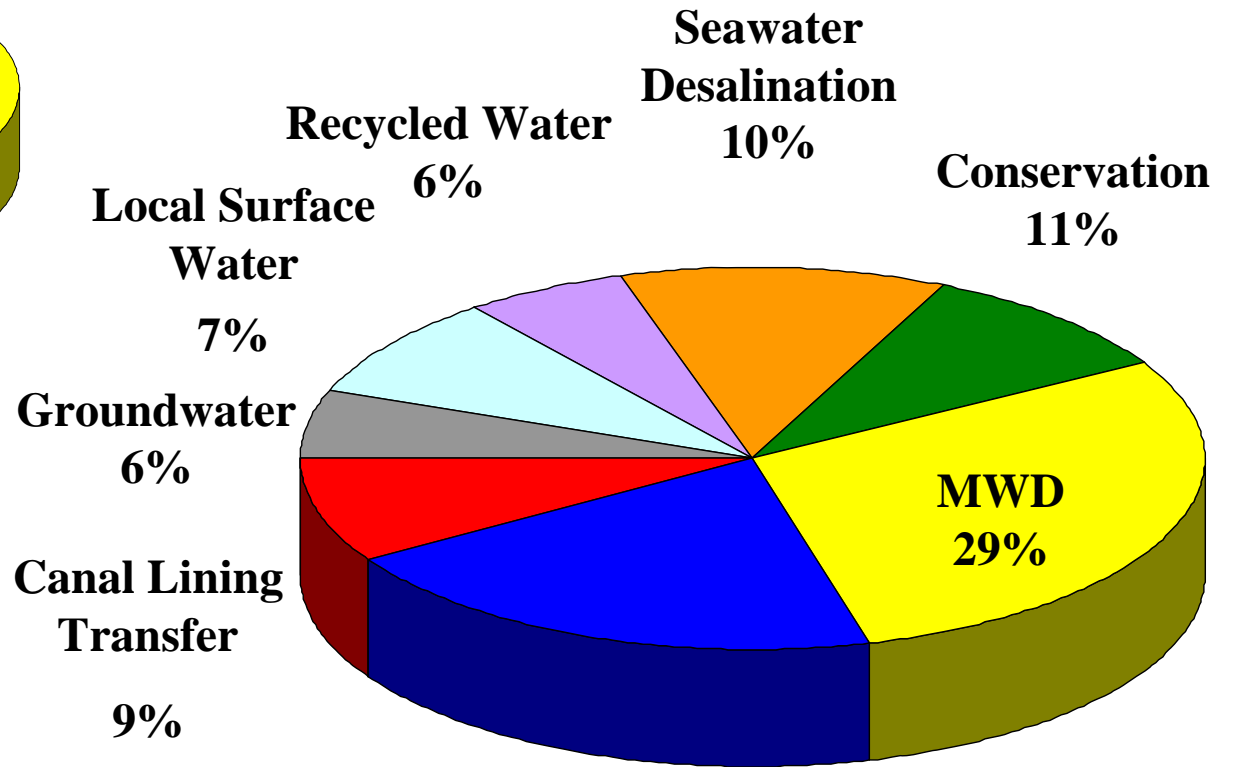
Local Supplies

27%



MWD 73%

**2006**



Recycled Water 6%

Seawater Desalination 10%

Conservation 11%

Local Surface Water 7%

Groundwater 6%

Canal Lining Transfer 9%

MWD 29%

IID Transfer

22%

**2020**



# Summary

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- Short-Term Drought Response
  - Thoughtful and measured steps needed
  - Additional action being developed in anticipation of moving into the next stage of drought
  - Success of voluntary conservation necessary under any foreseeable water supply condition
  - Potential of mandatory measures under very dry weather if voluntary conservation unsuccessful
- Long-Term Resource Planning
  - Information, policy and planning will occur over an extended period
  - Development standards for water use are expected to be implemented in the future.