

# This presentation premiered at WaterSmart Innovations

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# **A Tale of Two Cities: A Comparison of Water Use Restrictions enacted by the City of San Diego and the City of Los Angeles**

**San Diego and Los Angeles Compare the Success  
of Water Use Restriction**

*JoEllen Jacoby, RLA*

*Penny Falcon, PE*



# City of San Diego

- Public Utilities Department - services 286,980 meters
- Operates solely on funds from rates and service charges
- Over 1.3 million people
- Covers 342 square miles
- Approximately 240,000 residential accounts and 46,000 commercial accounts



# City of San Diego

- Imports up to 90% of water from Northern California and the Colorado River
- Average annual rainfall = 10"
- Geographically diverse – coastal to inland
- Includes 4 microclimates/CIMIS zones





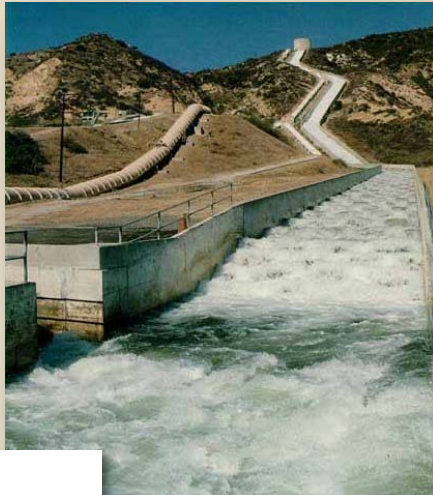
# City of Los Angeles

- Public Utilities Department - services 716,531 connections
- Operates solely on funds from rates and service charges
- Over 4.1 million people
- Covers 465 square miles
- Approximately 595,000 residential accounts and 51,000 commercial accounts



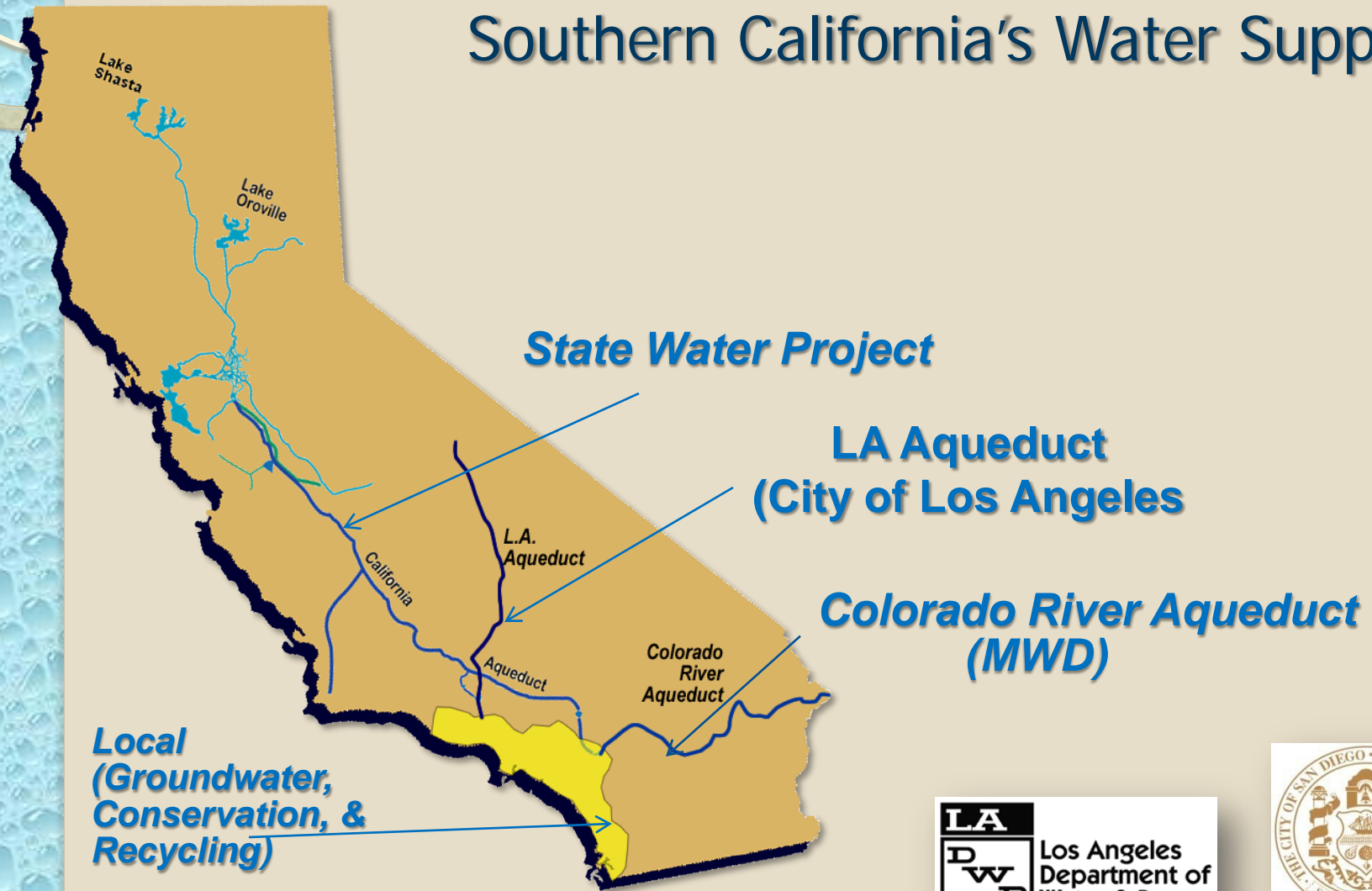
# City of Los Angeles

- Imports up to 52 % of water from Northern California and the Colorado River, 36% LA Aquaduct, 12% Local
- Average annual rainfall = 15"
- Geographically diverse – coastal to inland
- includes 3 microclimates/CIMIS zones



# Sources of Water

## Southern California's Water Supply



**LA Aqueduct  
(City of Los Angeles)**

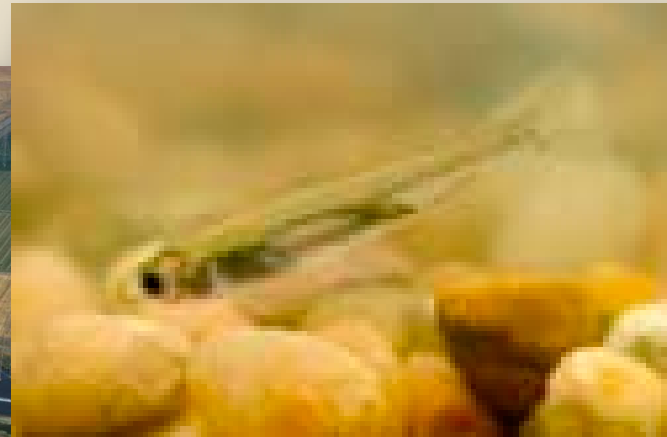
**Colorado River Aqueduct  
(MWD)**





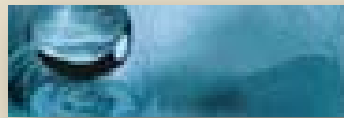
# Status of Water Supply

- 3 Year Drought
- Environmental Restriction on Delta Pumping
- 8 Year Drought and competing cities on the Colorado River





# Progression of Conservation Regulations



## STAGE 1 Water Emergency

- June 2007 – LA City Mayor called for volunteer conservation
- August 2008 – LA revised existing Ordinance and began implementation of Phase I mandatory restrictions
- January 2009 – San Diego revised existing ordinances and began Level I voluntary restrictions
- June 1, 2009 – LA and SD increased mandatory conservation requirements

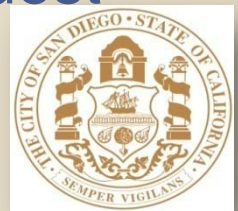
# Emergency Water Regulations: San Diego (highlights)

- Started June 1, 2009
- Irrigation run times –
  - June 1- October 31 - 10 minutes per station before 10 a.m. or after 6 p.m.
  - Nov 1 - May 31 - 7 minutes per station before 10 a.m. or after 4 p.m.
- Three days per week based on address and type of property
- Fountains - must have a recirculating pump and cannot shoot water into the air



# San Diego Water Regulations, continued

- No Excessive runoff / fix all leaks
- Hand watering - allowable on assigned days for trees and shrubs not irrigated by a landscape irrigation system
- Open hose - prohibited except to alleviate immediate safety or sanitation
- Auto washing
  - June 1-Oct 31 - before 10 a.m. & after 6 p.m.
  - Nov 1-May 31 -before 10 a.m. & after 4 p.m.
- Restaurants serve water only on request
- Hotels change towels only upon request



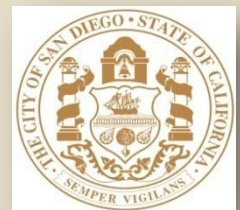


# San Diego Water Regulations, continued



## ➤ Exemptions:

- does not apply to drip, micro-irrigation, stream rotor, rotary heads, hose end sprinklers with timers or valves operated by a weather-based irrigation controller
- irrigation of nursery propagation beds is permitted at any time. Hand water at nurseries allows at any time.





# San Diego Water Regulations, continued



Exemptions, cont.

- Non-commercial vegetable gardens, fruit trees and potted plants are exempt from days of the week but must be watered during allowable times, depending on time of year



# San Diego Water Regulations, continued

## Variances:

- Watering days insufficient to run system;
- Major conflict with watering days;
- Watering days do not allow for plant establishment
- Brush management



- Fire prevention;
- Required by permit
- A proposed watering schedule will produce greater conservation than the mandatory schedule.



# Emergency Water Regulations: Los Angeles

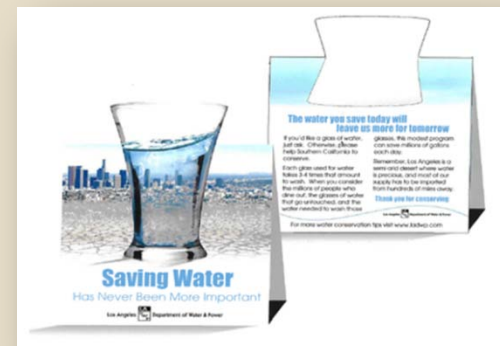
- Started June 1, 2009
- Irrigation run times –
  - Before 9 a.m. or after 4 p.m.
  - Non-Conserving Nozzles - 10 minutes per station
  - Conserving Nozzles - 30 minutes per station
- Two days per week – Monday & Thursday
- Hand watering - allowable any day before 9 a.m. and after 4 p.m. but must have self-closing water shut-off device





# Los Angeles Water Regulations, continued

- Cleaning paved surfaces with hose - prohibited
- Open hoses, leaks, and runoff - prohibited
- Fountains must have a recirculating pump
- Auto washing
  - only allowed with hand-held hose with positive shut-off nozzle
  - new commercial car washes must have recirculating system
- Hotels change towels only upon request
- Restaurants cannot serve drinking water unless requested by customer





# Los Angeles Water Regulations, continued

## ➤ Exemptions:

- Drip or micro-irrigation
- Community gardens, nursery and commercial growers' products
- Golf Course greens and tees and professional sport fields may irrigate in order to maintain play areas and accommodate event schedules
- Firefighting, dust control, and process water
- Public Health and Safety
- Recycled Water and Gray Water



# Los Angeles Water Regulations, continued

- Variances:
  - Watering days insufficient to run system
  - Physical disability
  - Watering days do not allow for plant establishment
  - Brush management for fire prevention
- Alternative Means of Compliance
  - Large Landscape Areas and Sport Fields
  - Key: Must reduce additional 5%



# Los Angeles: Revisions to regulations

- Summer 2009 experienced increase in major pipe leaks (“blowouts”)
- August 2010 amendments to reduce the magnitude of pressure fluctuations in the water system:
  - Change 2 days/week to 3 days/week watering
  - Merge Phase II and III
  - Add odd-numbered and even-numbered street address watering schedule





# Comparison of regulations





# Water Conservation Programs to Assist Customers

- Rebates/Incentives
  - WBICs
  - Nozzles
  - Turf Removal Program
  - Water Brooms
- Outreach Campaign
  - Media Blitz – PSA, TV, newspaper
  - Surveys & Letters to top users
  - Bill inserts
- Cal-Friendly Landscape Classes
- Targeted large turf customers through premiere account managers and created Golf Industry Water Conservation Task Force





# Enforcement of Regulations

## ➤ San Diego

- Staff: 10 total 2 additional customer service representatives, 4 additional field representatives (plus 1 existing), 1 supervisor, 3 code enforcement officers. Staff has currently decreased by 1
- Staff per capita: .0000076

## ➤ Los Angeles

- Staff: 17 total staff – 15 field representatives, 1 customer service representative, and 1 field supervisor
- Staff per capita: .0000041





# Enforcement Methods

## ➤ San Diego:

- Proactive patrol, hotline and email
- Letter, second complaint, witness violation, direct contact, code enforcement notice of violation, increasing fines



## ➤ Los Angeles:

- Patrol city and respond to reports of water wasting
- Direct contact to educate public and provide materials
- Written warnings and notices of violations
- Increasing fines for repeat violations

# Typical Customer Violations

- Watering on wrong days
- Watering during restricted hours
- Excessive Runoff



# Number /Type of Referral Calls

## San Diego June 2009-July 2010

### Investigations by Problem Description and Status

	<u>Closed</u>	<u>Pending</u>	<u>Total</u>
Broken Sprinkler Head(s)	224	2	226
Excessive Irrigation	1112	20	1132
Leak Observed	333	10	343
Variance Request	116	0	116
Washing paved areas with open end hose	185	5	190
Washing vehicles(incorrect time/open end hose)	114	2	116
Water run-off	842	13	855
Watering incorrect time of day	182	2	184
Watering in excess of allowable time	60	0	60
Watering on wrong day or more than 3 times a week	2373	16	2389
Miscellaneous	364	22	386
<b>Total</b>	<b>5905</b>	<b>92</b>	<b>5997</b>





# Number of Referral Calls

Los Angeles July 2009-June 2010

Investigations by Problem Description and Status

Activities Actions Taken

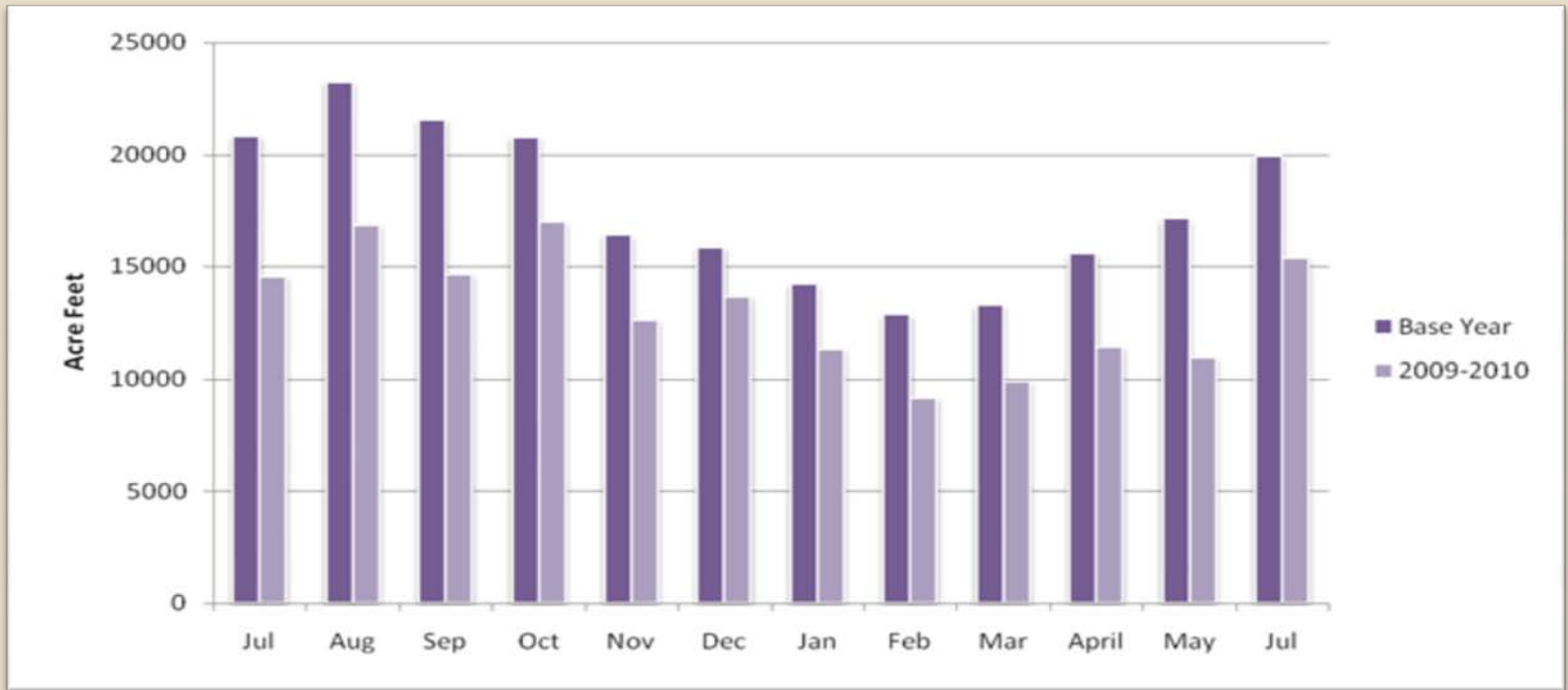
		<u>Warning</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Level 4</u>	<u>Level 5</u>
Unrepaired Water Leak	1044	287	24	5	5	4
Washing paved areas with open end hose	1503	279	15			
Washing vehicles(incorrect time/open end hose)	108	10				
Water run-off	550	42	3			
Watering incorrect time of day	2120	1199	33	5	1	1
Watering in excess of allowable time	183	14				
Watering on non-watering day	5104	1208	42	0		
Miscellaneous	<u>37</u>	1				
<b>Total</b>	<b>10649</b>	<b>3040</b>	<b>117</b>	<b>10</b>	<b>6</b>	<b>5</b>



Los Angeles  
Department of  
Water & Power

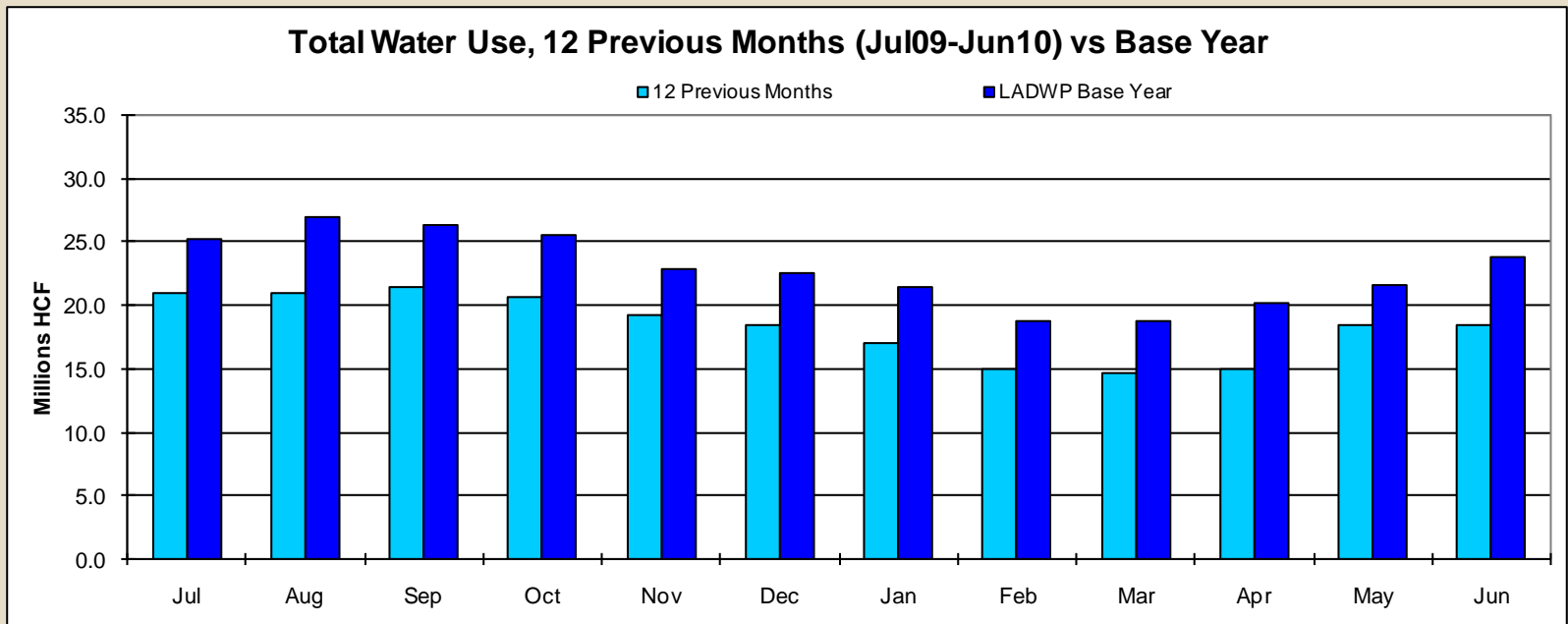
# Water Savings

San Diego water savings FY 10 vs base year



# Water Savings

Los Angeles water savings by month compared to FY06-07





# Things that could be improved:

## ➤ Changes to the ordinance:

- Fountains
- Car washing
- Climate zone sensitive time restriction
- Time and day restrictions vs budget



# Could this become a permanent policy?





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