

# This presentation premiered at WaterSmart Innovations

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# Finding the Next Tier of CII Water Efficiency

**Metropolitan Water District  
of  
Southern California**

**Bill McDonnell**

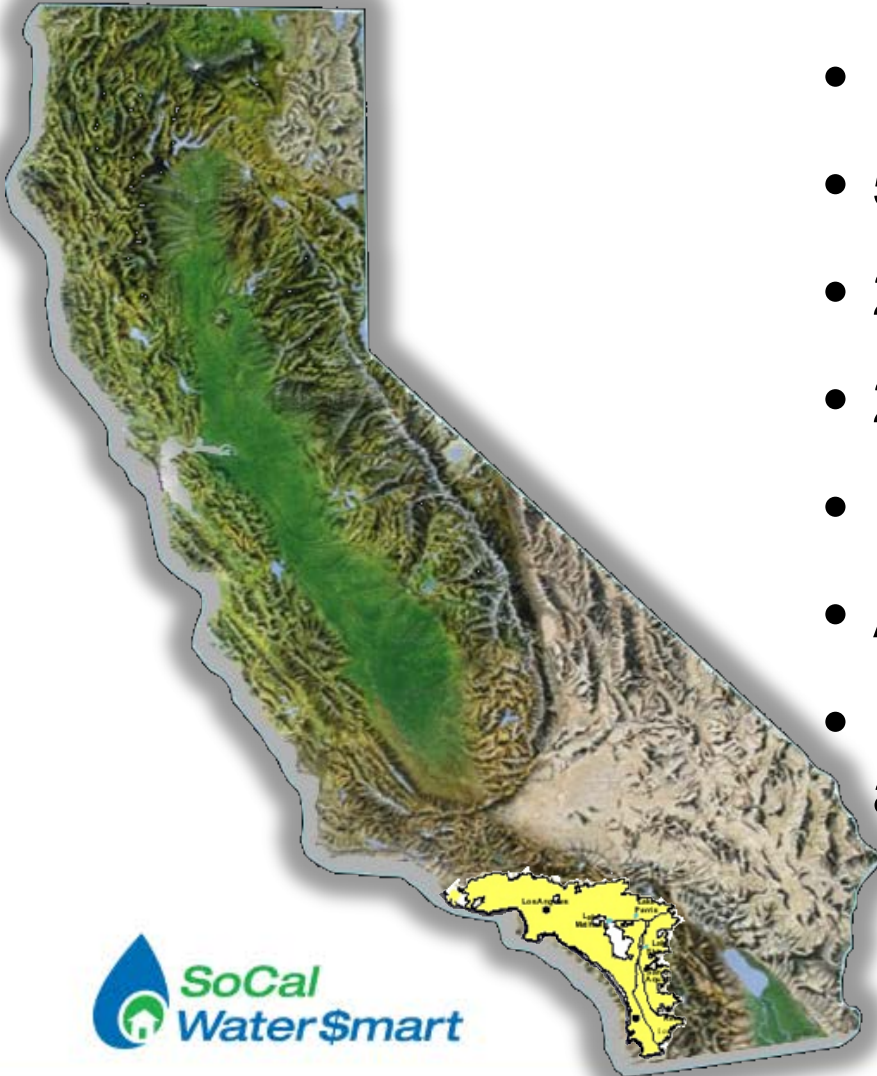
October 3, 2013

Session T-1330



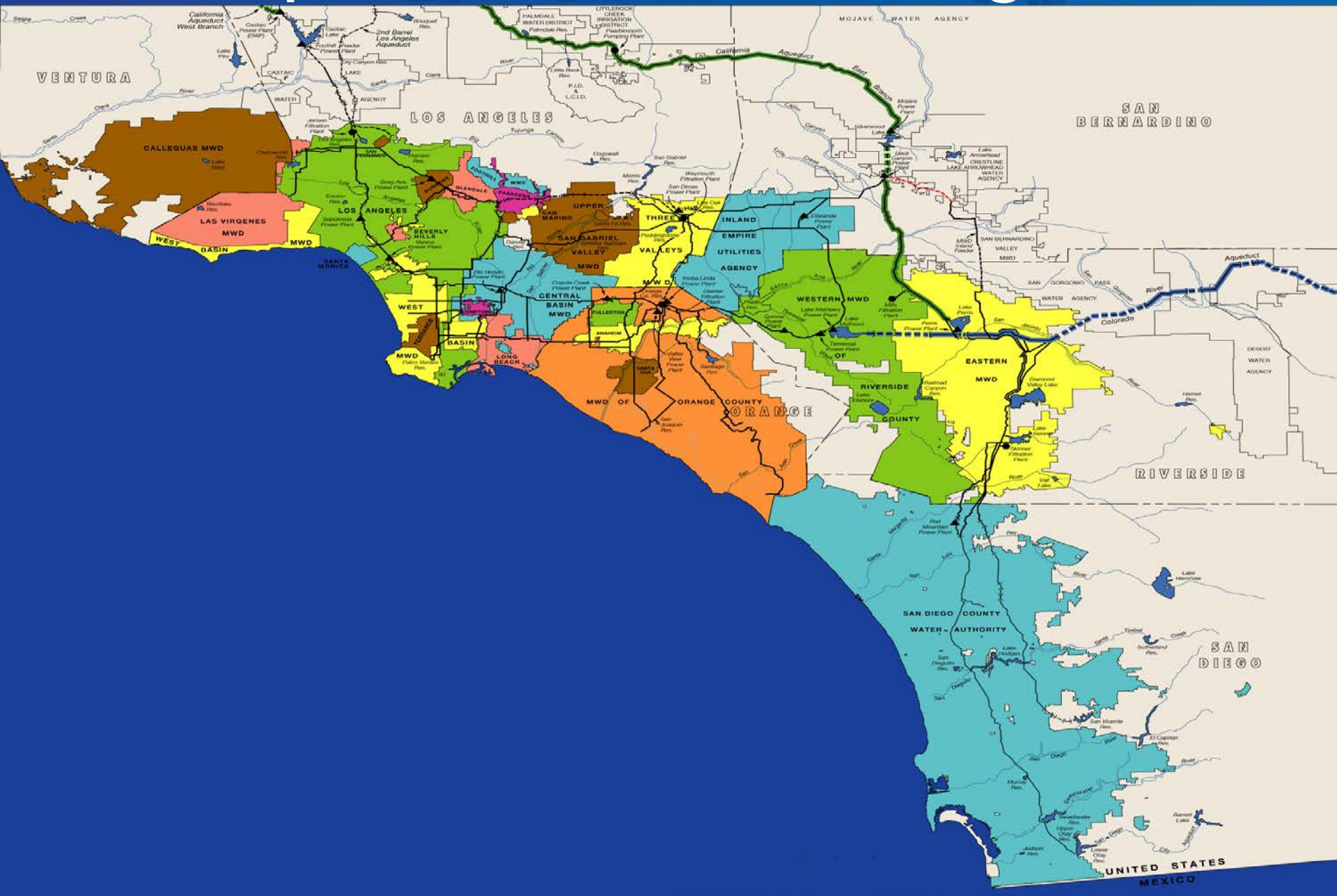
[www.bewaterwise.com](http://www.bewaterwise.com)

# *Metropolitan Water District of Southern California*



- Regional water wholesaler
- Includes 6 counties
- 5,200 square miles
- 26 member agencies
- 250-300 retail water agencies
- 19 million people
- Add about 150,000 people/yr
- Imported water supplies meet about half of retail demands

# Metropolitan's Member Agencies



# MWD Rebate Program



*Residential and Commercial Rebate Programs*

**Select the applicable rebate program below.**



**SoCal Water\$mart  
For Residential Customers**



**SoCal Water\$mart  
For Commercial Customers**

# Plumbing



- High Efficiency Toilets

- Tank or flushometer
- 1.28 gpf or less
- Rebate \$100



- High Efficiency Urinals

- From zero to .25gpf
- Rebate \$200

# Landscape - Controllers and Nozzles



- Weather Based Irrigation Controllers or Central Computer Irrigation Controller
  - Rebate \$25/station
- Rotating Spray Nozzles
  - Rebate \$4 per nozzle
- Large Rotary Nozzles
  - Rebate \$13/set



# Cooling Tower Controllers

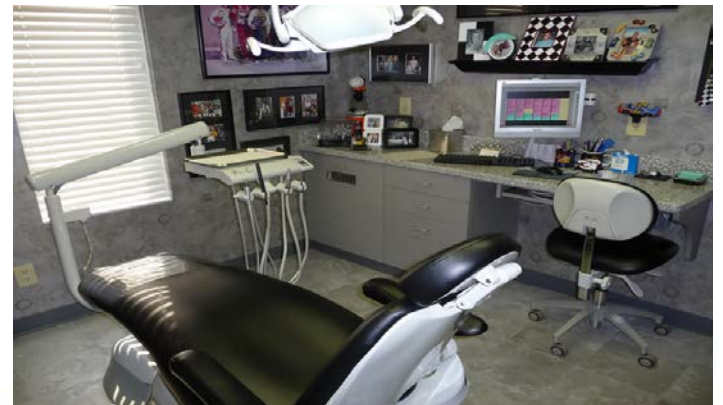


- Conductivity Controllers
  - Rebate \$625
- pH Conductivity Controllers
  - Rebate \$1,750

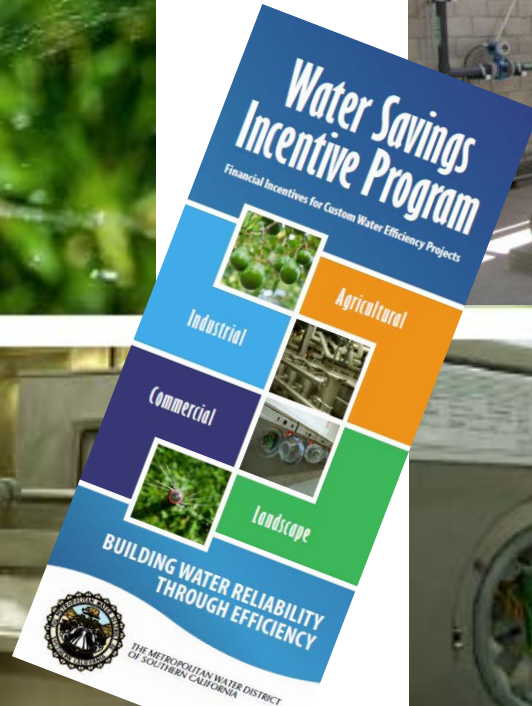


# Food Service/Medical

- Air Cooled Ice Machines
  - Rebate \$1,000 per machine
- Connectionless Food Steamers
  - Rebate \$485/compartment
- Dry Vacuum Pump
  - Rebate \$125 per 1/2 horsepower



# Industrial and Agricultural



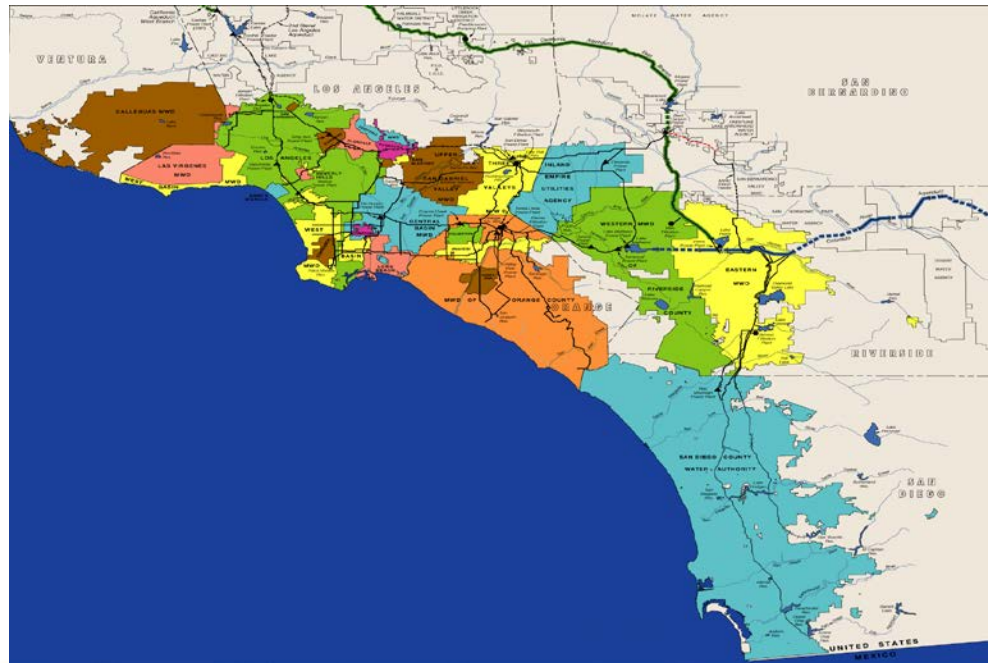
# Looking for New Opportunities

- Decide Research Needed for Next Opportunity



# “Finding the Next Tier of CII Water Efficiency”

- Metropolitan Issues RFP Selects
- Water Conservation Market Study among Commercial Businesses within its Service Area



# Project Goals

- Identify the types and quantities of businesses
- Understand how these businesses use water
- Estimate the market penetration of specific end uses among these businesses
- Identify and prioritize opportunities for improving water efficiency

# Quantifying Businesses in the Service Area

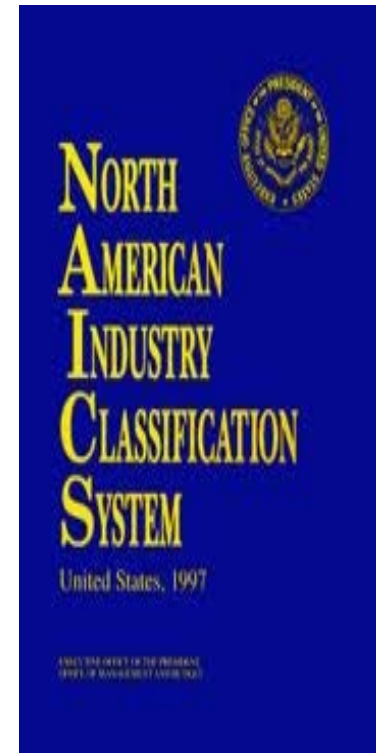
- Start with County Business Patterns (CBP)
- What is CBP
  - PURPOSE: Annually produced tables that provide detailed geographic, industry and other data for U.S. business establishments with paid employees.
  - CONTENT: Data for establishments are presented by geographic area, 6-digit NAICS industry, legal form of organization, and employment size class
  - FREQUENCY: Data reported are for activities occurring during the reference year. County Business Patterns has been published annually since 1964

# Quantifying Businesses in the Service Area

- Start with County Business Patterns (CBP)
  - Number of businesses & employment by NAICS code

## NAICS – North American Industrial Classification System

- What is NAICS
  - standard used by Federal statistical agencies
    - classifying business establishments for collecting, analyzing, and publishing statistical data related to the U.S. business economy
  - frequently used for regulatory, contracting, taxation, and other non-statistical purposes.
    - Example: some state governments offer tax incentives to businesses in specified NAICS industries.



# Quantifying Businesses in the Service Area

- Start with County Business Patterns (CBP)
  - Number of businesses & employment by NAICS code

NAICS – North American Industrial Classification System

- Select CBP data by zip code
- Generate number of businesses & employment by:

- 2-digit NAICS
- 3-digit NAICS
- 6-digit NAICS

62 - Health Care  
621 – Ambulatory Services  
621111 – Physician  
621112 – Mental Health  
621121 – Dentist  
621131 – Chiropractor  
621132 - Optometrist

# First Screening: Estimating & Ranking Water Use

- Matched 3-digit NAICS data with USBR study
- Identified categories with:
  - Significant water use
  - Significant number of establishments
  - Not already targeted by conservation programs (for example, schools, hospitals, golf courses)

# Target Business Types

NAICS	Description
445	Food Stores (retail, excluding liquor stores and convenient stores)
621 & 623	Health Care (ambulatory health care & residential health care, not hospitals)
713	Fitness & Recreation Centers
722	Food Services & Drinking Places
812	Personal Care and Laundry Services

# Second Screening: Literature Review

- By end use and business type
  - Percent of water use
  - Potential savings
  - Estimate saturation of best available technology
  - Estimate unit cost (\$/acre-foot) of savings
  - Estimate remaining conservation potential
  - Estimated Savings from Literature Review

# Third Screening: Verification thru Site Visits

- Target 15 site visits per business type
- List zip codes with selected business types
- Randomly select 15 zip codes for each business
- Convert zip codes into MWD Agency areas
- MWD Agencies identify establishments for visits



# Urinal Fixtures

	Food Stores	Health Care	Recreation	Food Services	Personal Care
Urinal gpf	Average Number of Fixtures by Type				
Urinal 3.5	0.00	0.00	0.27	0.00	0.00
Urinal 2.0	0.13	0.00	0.87	0.07	0.00
Urinal 1.5	0.06	0.00	0.00	0.00	0.00
Urinal 1.0	0.69	0.27	2.33	0.10	0.00
Urinal 0.5	0.00	0.00	0.00	0.00	0.00
Waterless	0.00	0.07	0.53	0.13	0.00
Average #	0.88	0.33	4.00	1.00	0.00

# Urinal Fixtures

	Food Stores	Health Care	Recreation	Food Services	Personal Care
Average GPF	1.18	0.80	1.25	0.93	-
Minimum GPF	0.5	0.5	0.5	0.5	-
Potential Reduction GPF	0.68	0.30	0.75	0.43	-
Potential Reduction %	58%	38%	60%	46%	-
1.0 Market Saturation	79%	80%	58%	80%	-
0.5 Market Saturation	0%	20%	13%	13%	-

# Toilet Fixtures

	Food Stores	Health Care	Recreation	Food Services	Personal Care
Toilet Types	Average Number of Fixtures by Type				
Flushometer 5.0 (Blowout)	0.00	0.00	0.20	0.00	0.00
Flushometer 3.5	1.06	0.87	5.27	0.07	0.07
Gravity 3.5	0.06	5.33	0.07	0.40	0.27
Flushometer 1.6	2.69	11.60	6.87	0.40	0.00
Pressure Assist 1.6	0.06	0.00	0.47	0.60	0.00
Gravity 1.6	0.50	19.80	0.60	0.80	0.73
Flushometer 1.28	0.00	0.13	0.13	0.13	0.00
Flushometer dual	0.00	0.00	0.00	0.00	0.00
Pressure Assist 1.28	0.00	0.00	0.00	0.00	0.07
Gravity 1.28	0.06	1.13	0.13	0.13	0.07
Gravity Dual	0.00	0.00	0.00	0.20	0.00
Average #	4.4	38.9	13.7	2.5	1.2

# Toilet Fixtures

	Food Stores	Health Care	Recreation	Food Services	Personal Care
Average GPF	2.74	2.22	2.85	1.94	2.09
Minimum GPF	1.28	1.28	1.28	1.28	1.28
Potential Reduction GPF	1.46	0.94	1.57	0.66	0.81
Potential Reduction %	53%	42%	55%	34%	39%
1.6 Market Saturation	73%	81%	58%	71%	61%
1.28 Market Saturation	1.4%	3.3%	1.9%	18.4%	11.1%

# Most Potential Savings

## Recreational facilities

- Toilets
- Urinals
- Showers
- Sinks



## Food stores

- Cooling towers
- Pre-rinse spray valves



# What To Do With All This Information?



**We want to pump you up!!!!**

# Pilot Fitness Center Program

- MWD selected fitness centers for pilot
- What type of new program:
  - Direct install?
  - Target marketing but standard rebate?
  - Higher Rebate?
    - Toilets
    - Urinals
    - Showers
    - Sinks



# Pilot Fitness Center Program

- Did not select direct install
  - Issues of liability, cost of procuring equipment
- Did not select direct marketing with existing rebates
  - Would not have enough impact



# Pilot Fitness Center Program

- Selected higher rebates
  - Justified through higher savings
  - Administered through existing Rebate Program
  - What items to rebate?
    - Toilets – yes already in our program
    - Urinals – yes already in our program
    - Showers – no as studies say customers are “picky”
    - Sink aerators – no as item too small to rebate on



# Pilot Fitness Center Program

- High efficiency toilets
  - Savings est. at 60,000 gpy men
  - Savings est. at 120,000 gpy women
  - Rebate went from \$100 to \$300
- High efficiency urinals
  - Savings est. at 270,000 gpy
  - Rebate went from \$200 to \$500



# Conclusions

- Results of Fitness Center Program?
- Your own “Next Tier of CII Water Efficiency”
  - Analyze your customer base
  - Narrow down the scope
  - Go into the field to see real world
  - Find target market your not reaching
  - Design program for your needs
    - Around existing program
    - or totally new program



# Contact Information



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