

# 2016 Water Cost Comparison Study

Board Meeting

May 3, 2018

 RAFTELIS



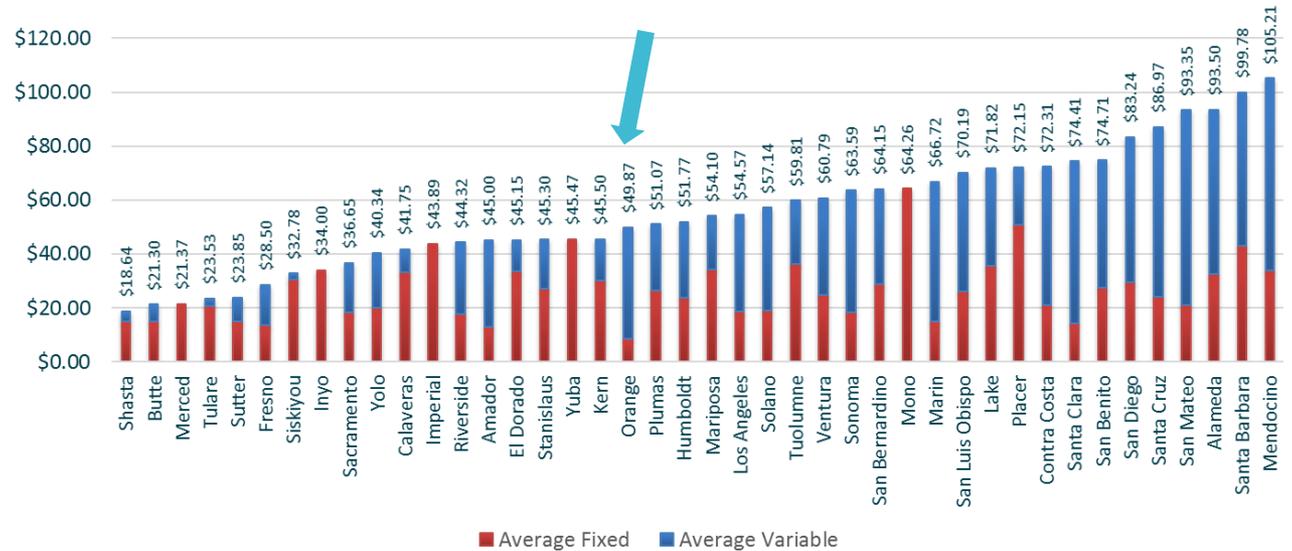
# Objective of the study

To develop a water cost comparison analysis with the intent of identifying a feasible methodology for measuring the operational efficiency of water districts within Orange County



# Water rates comparison 2015

Average Monthly Water Charges Comparison by Counties - 2015

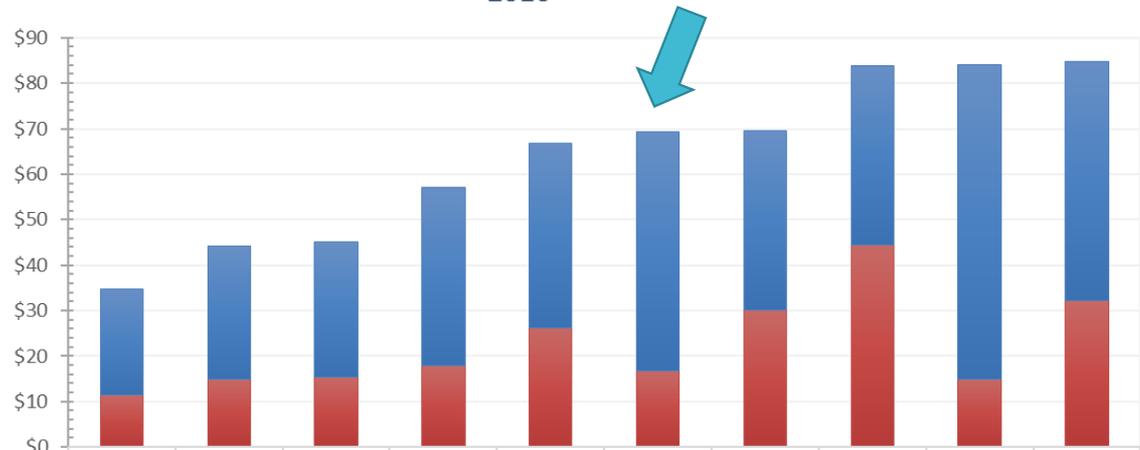


Data Source: 2015 California-Nevada Water and Wastewater Rate Survey, p11

# Sample water rates comparison 2016



Sample Water Rates - 3/4" SFR Customer 15 hcf Usage  
2016



	MNWD	SMWD	IRWD	ETWD	YLWD	Mesa Water	TCWD	SCWD	LBCWD	SWD
% Commodity	67%	66%	66%	69%	61%	76%	57%	47%	82%	62%
% Fixed	33%	34%	34%	31%	39%	24%	43%	53%	18%	38%
Total	\$34.79	\$44.29	\$45.22	\$57.09	\$66.79	\$69.40	\$69.59	\$83.91	\$84.09	\$84.71
■ Commodity	\$23.40	\$29.40	\$29.77	\$39.12	\$40.50	\$52.65	\$39.39	\$39.50	\$69.15	\$52.50
■ Fixed	\$11.39	\$14.89	\$15.45	\$17.97	\$26.29	\$16.75	\$30.20	\$44.41	\$14.94	\$32.21

**Data Source:** RFC Rate Survey

# Using water rates to measure operational efficiency



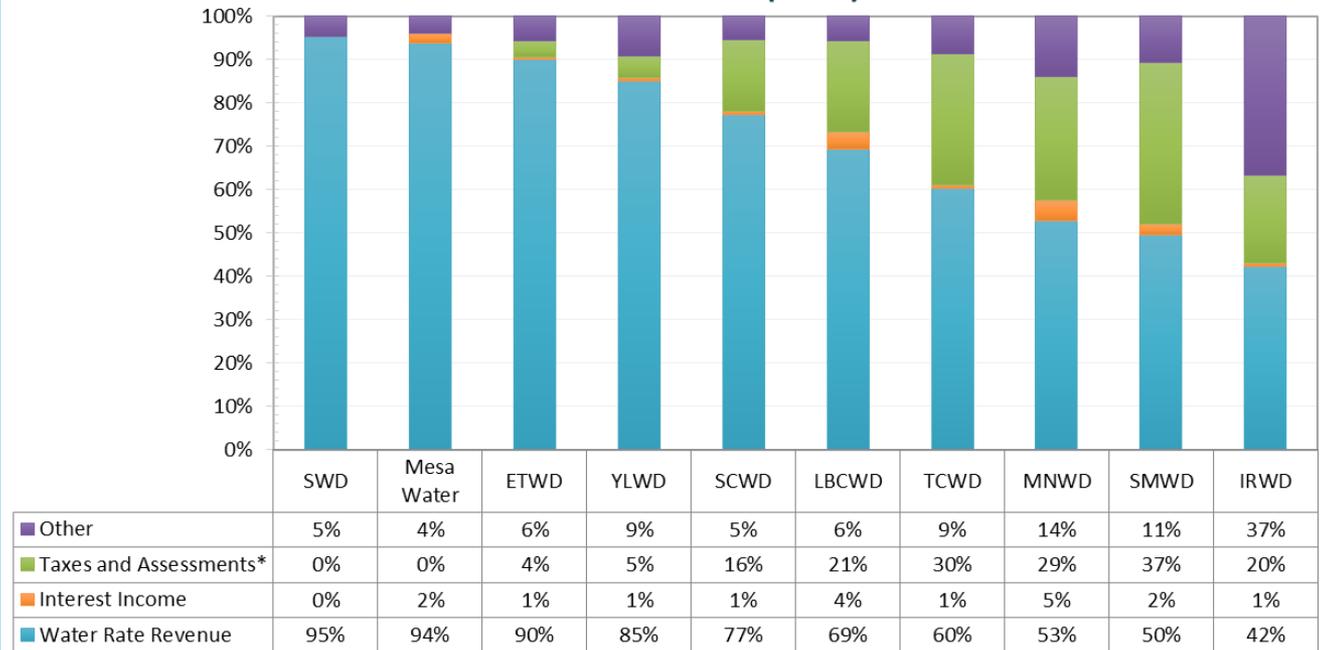
## Challenges:

- Size of agency, geographic location, overall demand, etc.
- Non Rate Revenues  
*Many agencies receive non-rate revenues, i.e. property tax, which offset water costs and affects water rates*

# OC Water Districts' Sources of Income Comparison (2016)



OC Water Districts' Sources of Income Comparison (2016)

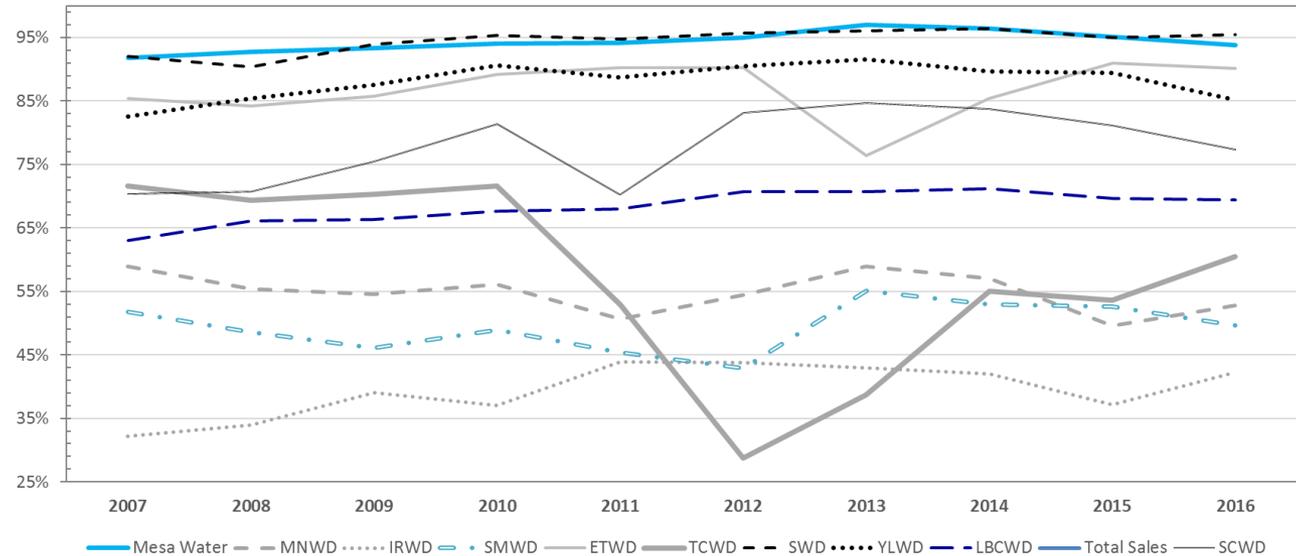


**Data Source:** California State Controller's Office, Special Districts Water Enterprise - Revenues, Expenses and Changes in Fund Equity

# Share of sales in total revenues 2007-2016



Share of Total Sales in Revenues



**Data Source:** California State Controller's Office, Special Districts Water Enterprise - Revenues, Expenses and Changes in Fund Equity

# Total expenditure per capita



## Total Expenditure Per Capita:

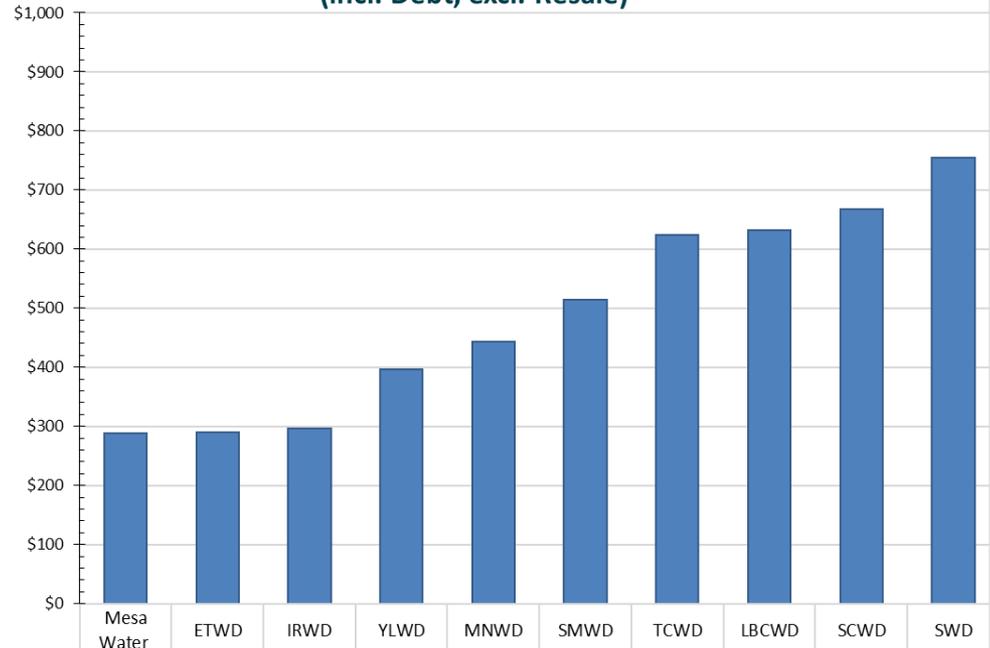
### Proxy to Measure Efficiency

- Total expenditures for special districts are gathered by the CA State Controller's *Special Districts Annual Report*
- Population service area is available from the last MWDOC and 2015 Urban Water Management Plan by water district

# Expenditure comparison per capita 2016



**FY 2016 Comparisons for Total Expenditures Per Capita (incl. Debt, excl. Resale)**



	Mesa Water	ETWD	IRWD	YLWD	MNWD	SMWD	TCWD	LBCWD	SCWD	SWD
2015 Population	107,588	48,797	381,463	75,773	170,326	156,176	12,712	19,225	35,004	6,464
2016 Expenditures Per Capita + (Debt)-(Resale)	\$288	\$289	\$297	\$397	\$443	\$514	\$624	\$632	\$667	\$755

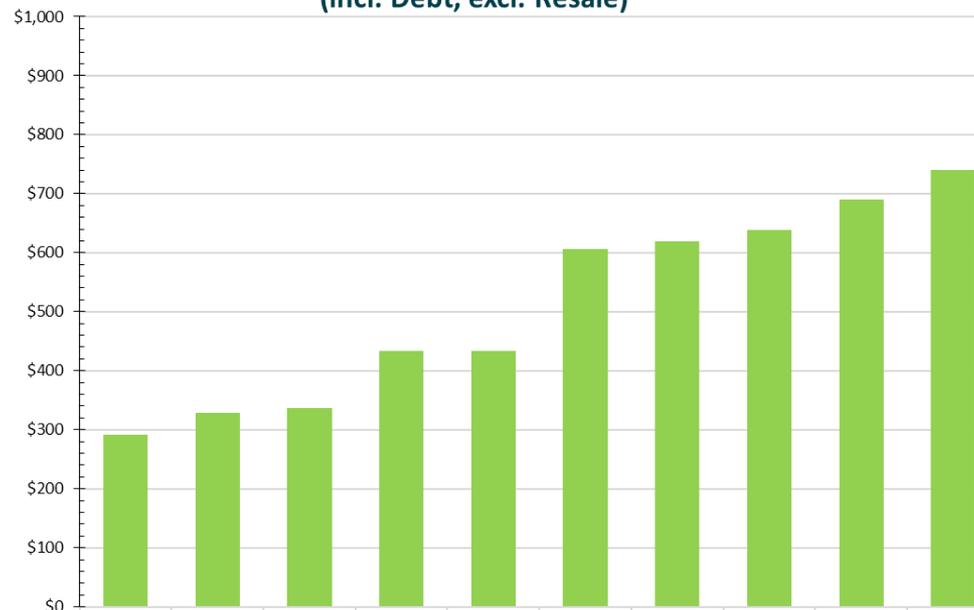
**Data Sources:**

California State Controller's Office, Special Districts Water Enterprise - Revenues, Expenses and Changes in Fund Equity  
 California State Controller's Office, Special Districts Long-term Debt Database  
 Population from Orange County Water Suppliers - respective agencies' 2015 UWMP

# Expenditure comparison per capita 2015



**FY 2015 Comparisons for Total Expenditures Per Capita (incl. Debt, excl. Resale)**



	Mesa Water	IRWD	ETWD	MNWD	YLWD	SCWD	SMWD	LBCWD	TCWD	SWD
2012 Population	105,164	348,443	48,183	167,000	72,574	34,462	151,411	18,924	12,519	6,370
2015 Expenditures Per Capita + (Debt)-(Resale)	\$290	\$326	\$335	\$431	\$432	\$605	\$618	\$637	\$688	\$738

**Data Sources:**

California State Controller's Office, Special Districts Water Enterprise - Revenues, Expenses and Changes in Fund Equity  
 California State Controller's Office, Special Districts Long-term Debt Database  
 Population from Orange County Water Suppliers - Water Rates & Financial Information (Updated as of Aug 2013)

# Expenditure comparison 2016 vs 2015



FY 2015/2016 Comparisons for Total Expenditures Per Capita (Incl. Debt, excl. Resale)



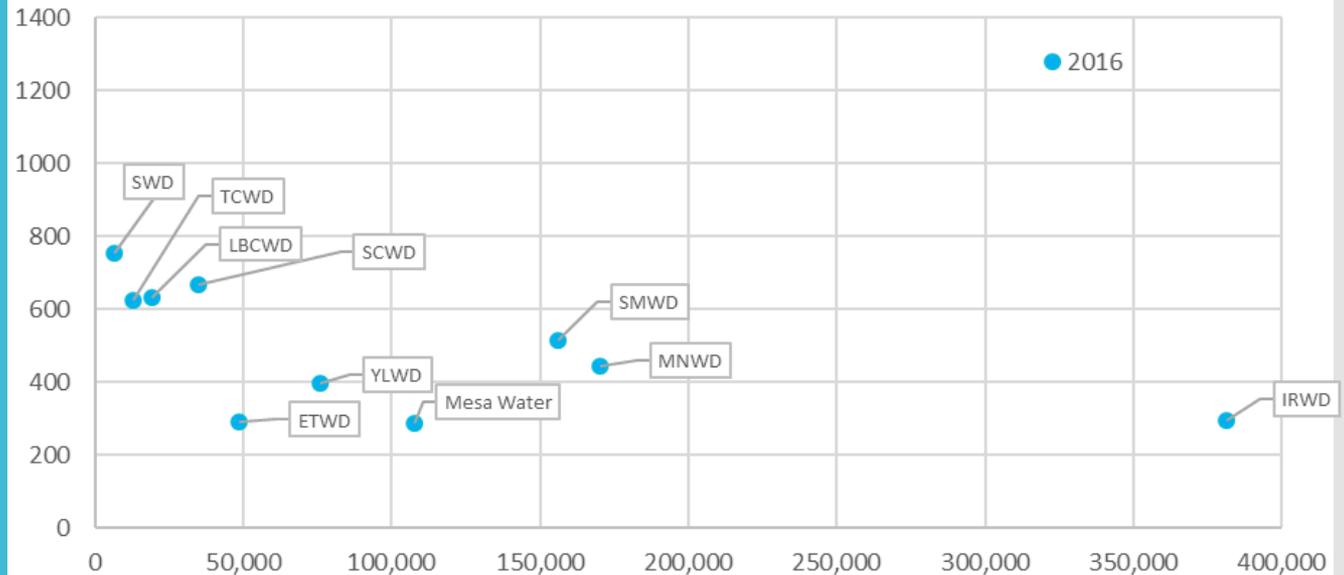
**Data Sources:**

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 California State Controller's Office, Special Districts Long-term Debt Database  
 Population from Orange County Water Suppliers - Water Rates & Financial Information (Updated as of Aug 2013) and respective agencies' 2015 UWMP

# Population and total expenditure 2016



## Population and Total Expenditures Per Capita



**Data Sources:**

California State Controller's Office, Special Districts Water Enterprise - Revenues, Expenses and Changes in Fund Equity

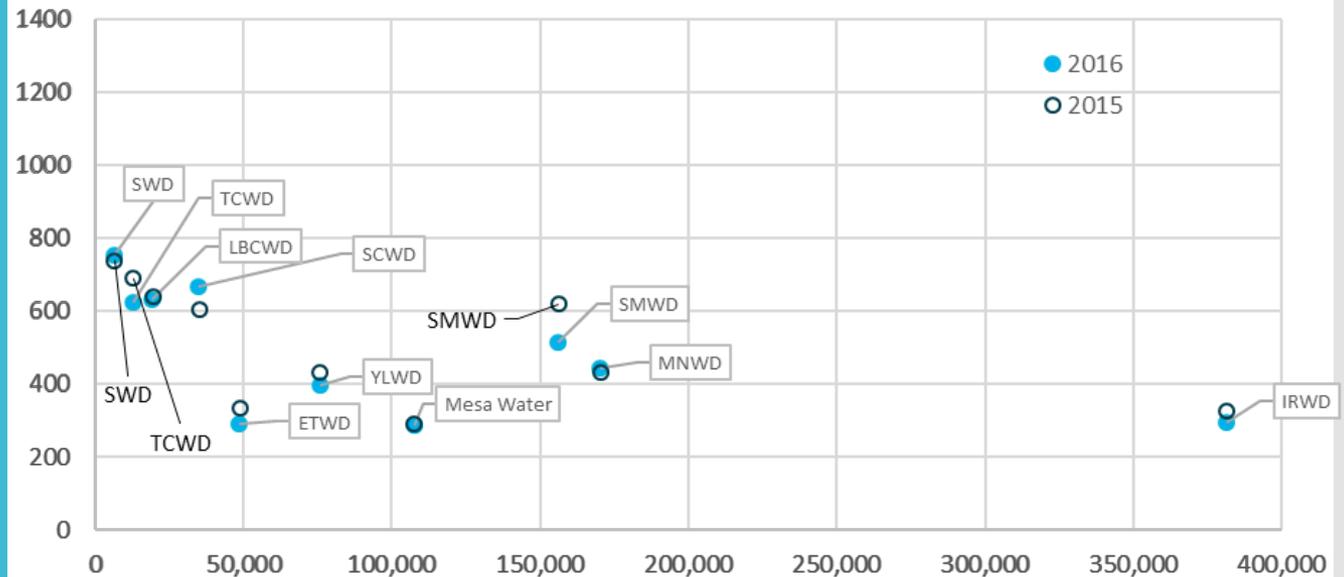
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Population from Orange County Water Suppliers - respective agencies' 2015 UWMP

# Population and total expenditure 2016



## Population and Total Expenditures Per Capita



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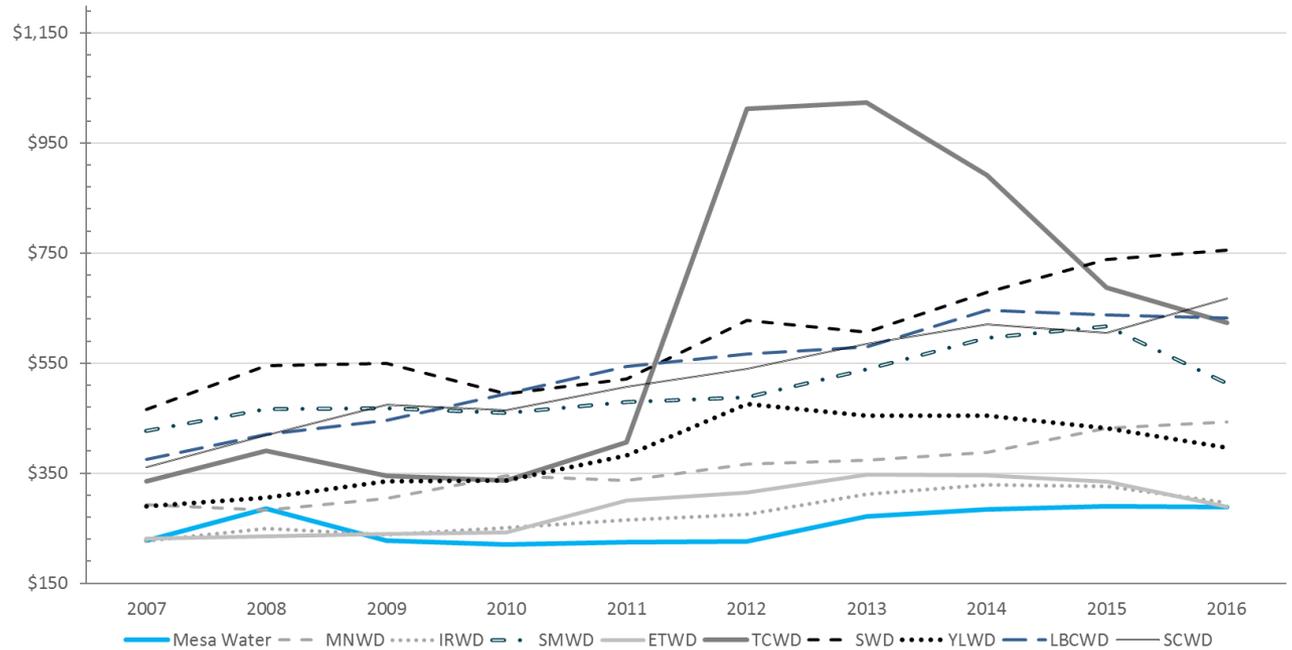
California State Controller's Office, Special Districts Long-term Debt Database

Population from Orange County Water Suppliers - respective agencies' 2015 UWMP

# Total expenditures per capita 2007-2016



Total Expenditures per Capita (Incl. Debt, excl. Resale)



2007-2016	MNWD	IRWD	SMWD	ETWD	TCWD	SWD	YLWD	LBCWD	SCWD	Mesa Water
% change	52%	31%	21%	25%	86%	62%	37%	69%	85%	<b>27%</b>
\$ change	\$151	\$70	\$87	\$58	\$288	\$290	\$107	\$257	\$328	<b>\$60</b>

# The value of water and water conservation

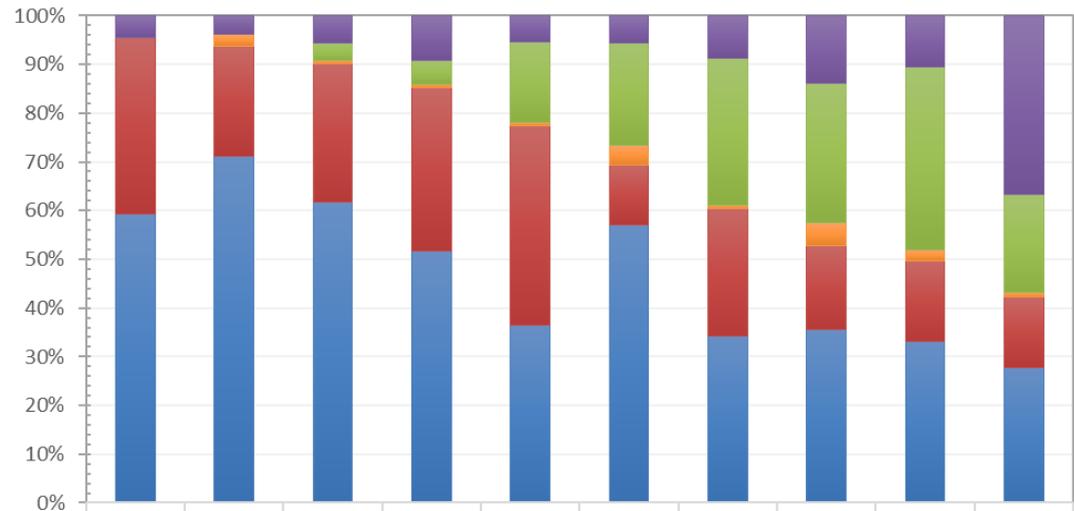
Higher percentages of revenue from commodity rates are more likely to educate customers on the value of water and promote conservation.



# The value of water and water conservation



### Comparison of Revenue Sources 2016



	SWD	Mesa Water	ETWD	YLWD	SCWD	LBCWD	TCWD	MNWD	SMWD	IRWD
Other	5%	4%	6%	9%	5%	6%	9%	14%	11%	37%
Taxes and Assessments*	0%	0%	4%	5%	16%	21%	30%	29%	37%	20%
Interest Income	0%	2%	1%	1%	1%	4%	1%	5%	2%	1%
Fixed Rate Revenue	36%	23%	28%	34%	41%	12%	26%	17%	17%	14%
Commodity Rate Revenue	59%	71%	62%	52%	36%	57%	34%	36%	33%	28%

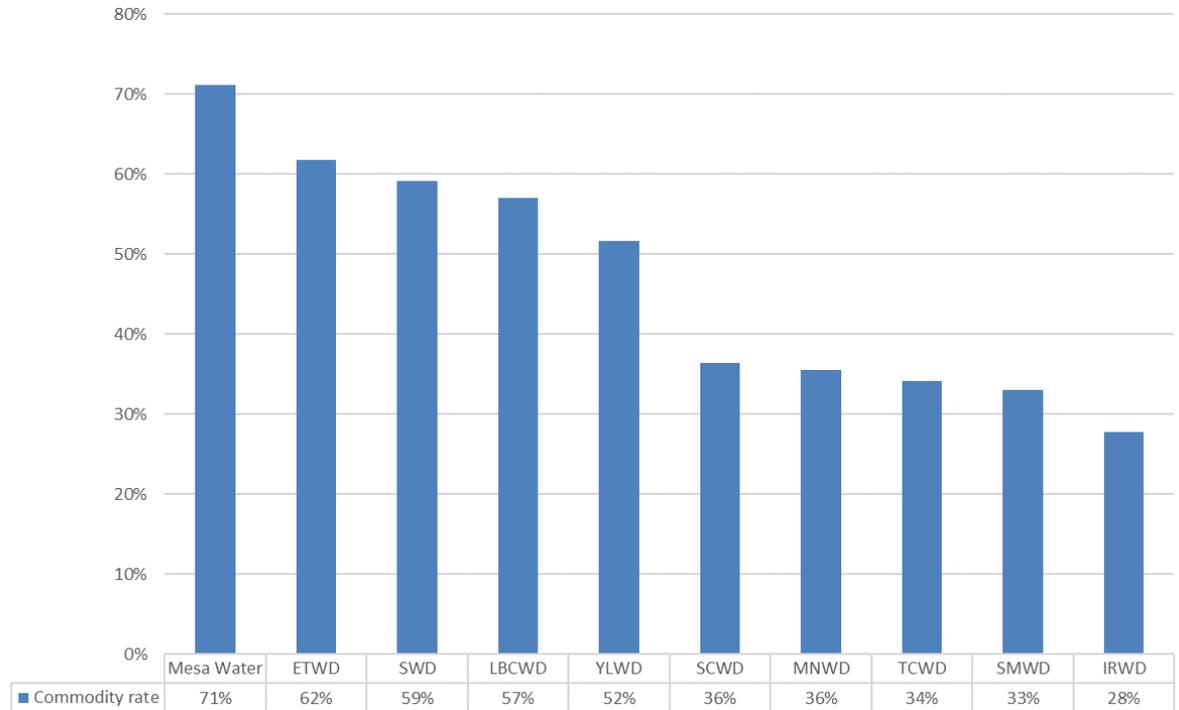
**Data Sources:**

California State Controller's Office, Special Districts Water Enterprise - Revenues, Expenses and Changes in Fund Equity  
Commodity/Fixed rate revenue shares – RFC Rate Survey 2015

# The value of water and water conservation



Comparisons of Revenue from Commodity Rates (% Total Revenues)  
2016



**Data Sources:**

California State Controller's Office, Special Districts Water Enterprise - Revenues, Expenses and Changes in Fund Equity  
Commodity/Fixed rate revenue shares – RFC Rate Survey 2015



# Q&A

# Raftelis' Rate Survey Sources



			Website
1	<i>El Toro Water District</i>	<i>ETWD</i>	<a href="http://etwd.com/">http://etwd.com/</a>
2	<i>Irvine Ranch Water District</i>	<i>IRWD</i>	<a href="http://www.irwd.com/">http://www.irwd.com/</a>
3	<i>Laguna Beach County Water District</i>	<i>LBCWD</i>	<a href="http://www.lbcwd.org/">http://www.lbcwd.org/</a>
4	<i>Mesa Consolidated Water District</i>	<i>Mesa Water</i>	<a href="https://www.mesawater.org/">https://www.mesawater.org/</a>
5	<i>Moulton-Niguel Water District</i>	<i>MNWD</i>	<a href="https://www.mnwd.com/">https://www.mnwd.com/</a>
6	<i>Santa Margarita Water District</i>	<i>SMWD</i>	<a href="http://www.smwd.com/">http://www.smwd.com/</a>
7	<i>Serrano Irrigation District</i>	<i>SWD</i>	<a href="http://www.serranowater.org/">http://www.serranowater.org/</a>
8	<i>South Coast Water District</i>	<i>SCWD</i>	<a href="https://www.scwd.org/">https://www.scwd.org/</a>
9	<i>Trabuco Canyon Water District</i>	<i>TCWD</i>	<a href="http://www.tcwd.ca.gov/home">http://www.tcwd.ca.gov/home</a>
10	<i>Yorba Linda Water District</i>	<i>YLWD</i>	<a href="https://www.ylwd.com/">https://www.ylwd.com/</a>
11	<i>CIMIS Stations</i>		<a href="http://www.cimis.water.ca.gov/Stations.aspx">http://www.cimis.water.ca.gov/Stations.aspx</a>

# Raftelis' Rate Survey Assumptions

ETWD - Rates effective Jul/2015; Water Budget PPH=4, GPD=55, DOS=30, WF =4.3, DF =0.5, ETAF =0.8, LA=4000  
IRWD - Rates effective Jul/2015; Water Budget PPH=4, GPD=50, DOS=30, WF =4.3, DF =0, ETAF =0.75, LA=1300  
LBCWD - Rates effective Nov/2015; Water Budget PPH=3, GPD=60, DOS=60, WF =4.3, DF =0.7, ETAF =0.8, LA=4000  
Mesa Water - Rates effective Jan/2016; Unifrom Rate  
MNWD - Rates effective Jan/2016; Water Budget PPH=4, GPD=60, DOS=30, WF =4.3, DF =0, ETAF =0.7, LA=4000  
SMWD - Rates effective Jan/2016; Water Budget PPH=4, GPD=55, DOS=30, WF =4.3, DF =0, ETAF =0.8, LA=4000  
SWD - Rates effective Aug/2015; Unifrom Rate  
SCWD - Rates effective Jul/2016; Inclining Block , Peak demand charge included  
TCWD - Rates effective Jan/2016; Inclining Block , Temp. revenue adjustment charge and Reliability charge included  
YLWD - Rates effective Oct/2015; Unifrom Rate

## Abbreviations

**PPH:** Persons Per Household  
**GPD:** Gallons Per Day  
**DOS:** Days of Service  
**ETo:** Evapotranspiration (inches of water)  
**DF:** Drought Factor  
**ETAF:** Evapotranspiration Adjustment Factor  
**LA:** Landscape Area (sqf)



# Raftelis' Population Survey



Water District	Population	Source
Mesa Water	107,588	UWMP - 2015
IRWD	381,463	UWMP - 2015
ETWD	48,797	UWMP - 2015
MNWD	170,326	UWMP - 2015
YLWD	75,773	UWMP - 2015
SWD	6,464	UWMP - 2015
LBCWD	19,225	UWMP - 2015
SCWD	35,004	UWMP - 2015
SMWD	156,176	CAFR - 2017
TCWD	12,712	UWMP - 2015

# Data availability note and assumptions



MWDOC decided to discontinue the “Orange County Water Suppliers - Water Rates & Financial Information” (aka. MWDOC Rate Survey) which was used to provide data on rates structure (incl. fixed vs commodity rates) and on population served by the water districts.

This hinders our ability to precisely report Expenditure Per Capita figures.

Slides 10, 11 , 13 & 14: population by district in 2012-2015 is the same (last MWDOC survey as of Aug 2013). Population in 2016 is based on respective agencies’ 2015 UWMP