

# 2018 Water Cost Comparison Study

Board of Directors Committee Meeting

May 27, 2020

 RAFTELIS



# Objective of the study

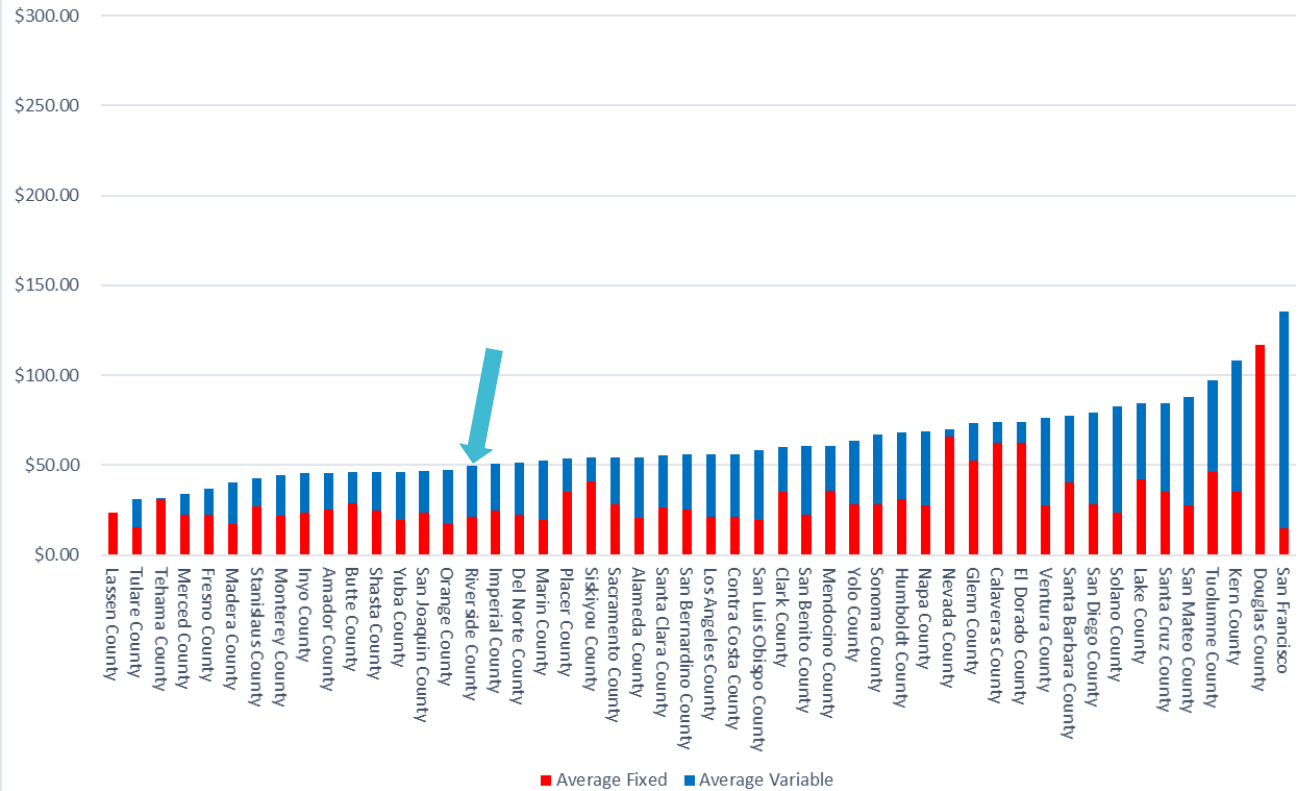
To develop a water cost comparison analysis with the intent of identifying a feasible methodology for measuring the operational efficiency of Water Districts within Orange County



# Water rates comparison 2017



Average Monthly Water Charges Comparison by County 2017

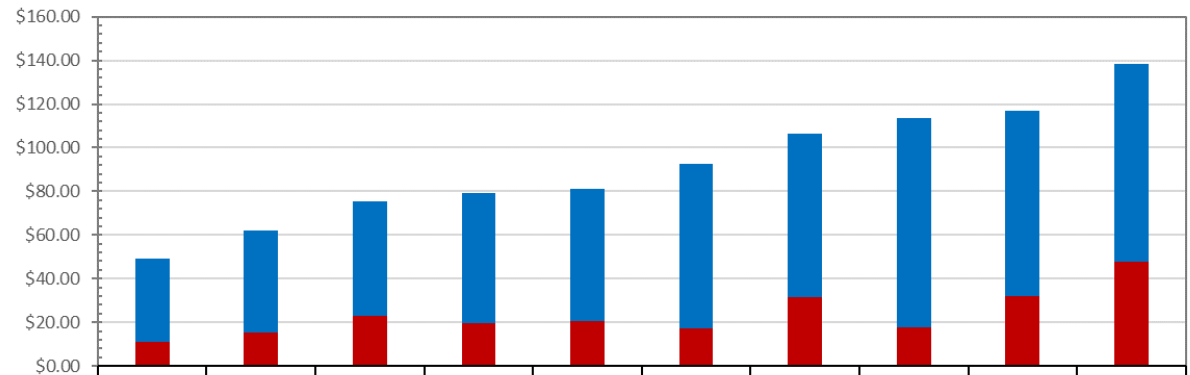


Data Source: 2017 California-Nevada Water and Wastewater Rate Survey

# Sample water rates comparison 2018



Sample Water Rates - 3/4" SFR Customer 15 hcf Usage  
2018



	MNWD	IRWD	SMWD	YLWD	ETWD	Mesa Water	TCWD	LBCWD	SWD	SCWD
■ Commodity	\$38.07	\$46.49	\$52.57	\$59.95	\$60.62	\$75.15	\$74.66	\$96.21	\$84.71	\$90.52
■ Fixed	\$11.22	\$15.45	\$23.05	\$19.45	\$20.48	\$17.25	\$31.61	\$17.46	\$32.21	\$47.92
% Commodity	77%	75%	70%	76%	75%	81%	70%	85%	72%	65%
% Fixed	23%	25%	30%	24%	25%	19%	30%	15%	28%	35%
Total	\$49.29	\$61.94	\$75.62	\$79.40	\$81.10	\$92.40	\$106.27	\$113.66	\$116.92	\$138.44

**Data Source:** Raftelis Rate Survey 2018

# Using water rates to measure operational efficiency



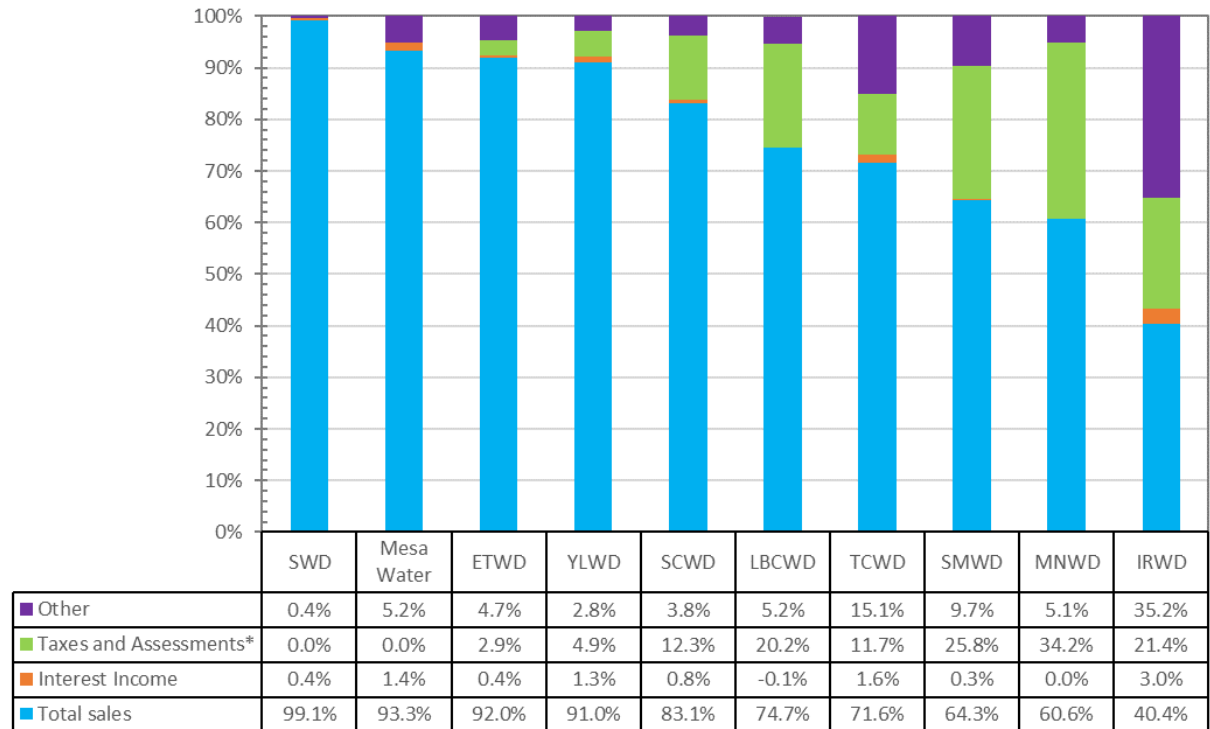
## Challenges:

- 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*
- Data change  
California State Controller Office made changes in data format for special districts in 2018. The data in this survey includes data from both SCO's databases (2003-2017) and 2018

# Sources of income 2018



Sources of Incomes Comparison: 2018

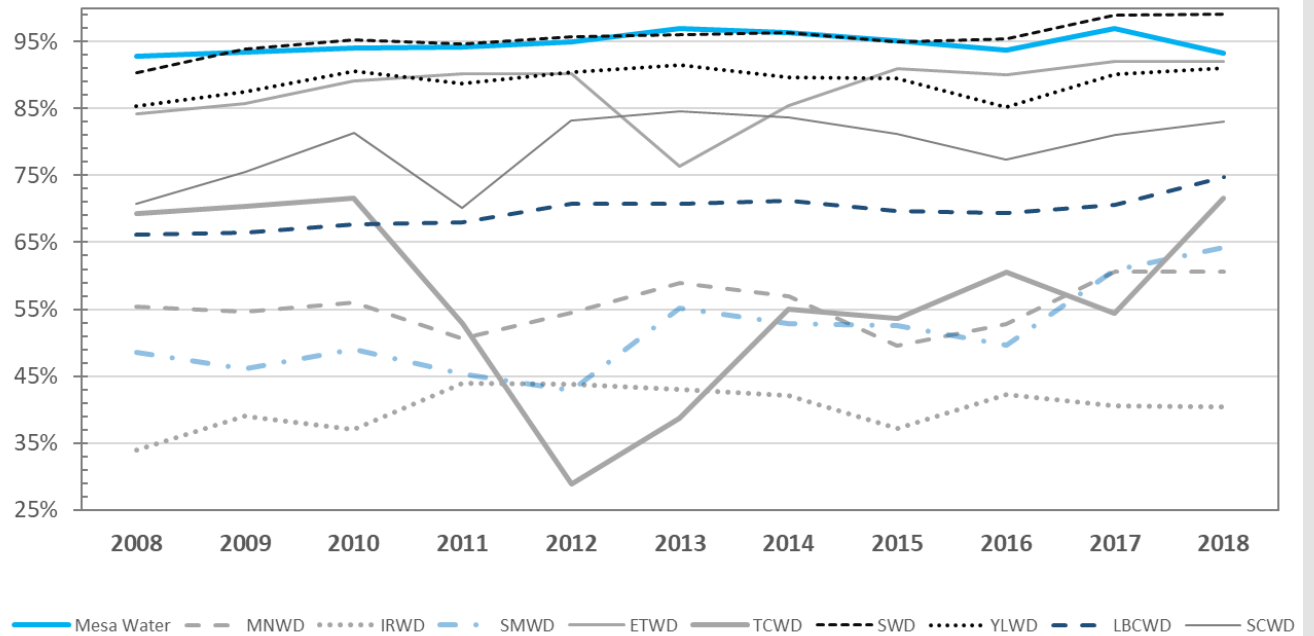


**Data Source:** California State Controller's Office, Special Districts Financial data for 2018

# Share of sales in total revenues 2008-2018



Share of Total Sales in Revenues



**Data Source:** California State Controller's Office, Special Districts Financial data;  
 This graph uses California State Controller office's database for 2003-2017 and database for 2018

# Total expenditure per capita



## Total Expenditure Per Capita:

### Proxy to Measure Efficiency

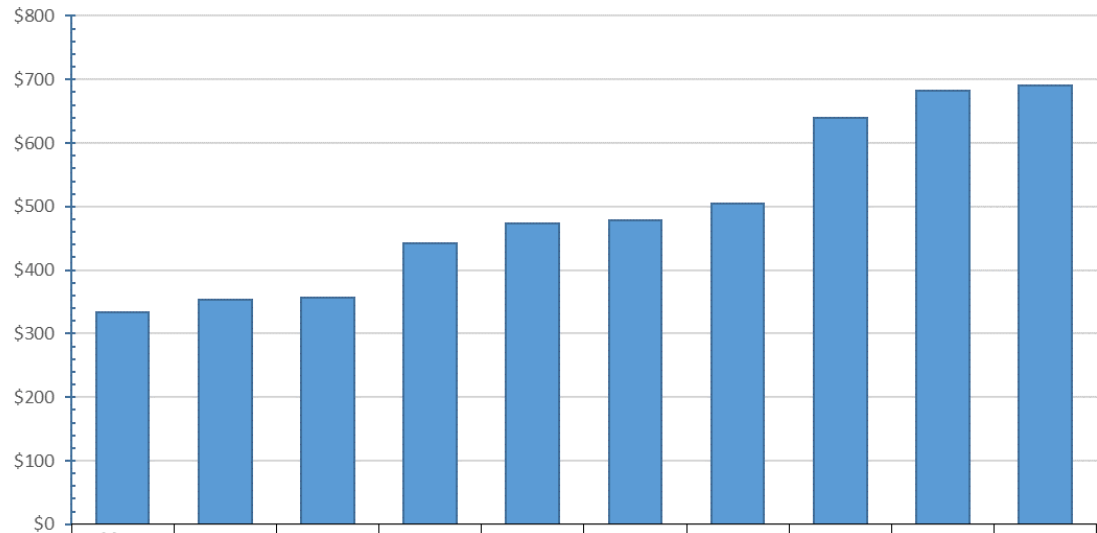
- Total expenditures for special districts are gathered by the CA State Controller's *Special Districts Annual Report*
- Population service area is available from the last MWDOC and 2015 Urban Water Management Plan by Water District



# Expenditure comparison per capita 2018



FY 2018 Total Expenses (incl. LT debt service) - per capita



	Mesa Water	ETWD	IRWD	MNWD	SMWD	YLWD	SWD	TCWD	LBCWD	SCWD
Total Expenses	\$334.32	\$352.88	\$356.61	\$441.53	\$472.86	\$477.94	\$505.29	\$640.37	\$682.93	\$689.76
Population 2015	107,588	170,326	381,463	156,176	48,797	12,712	6,464	75,773	19,225	35,004

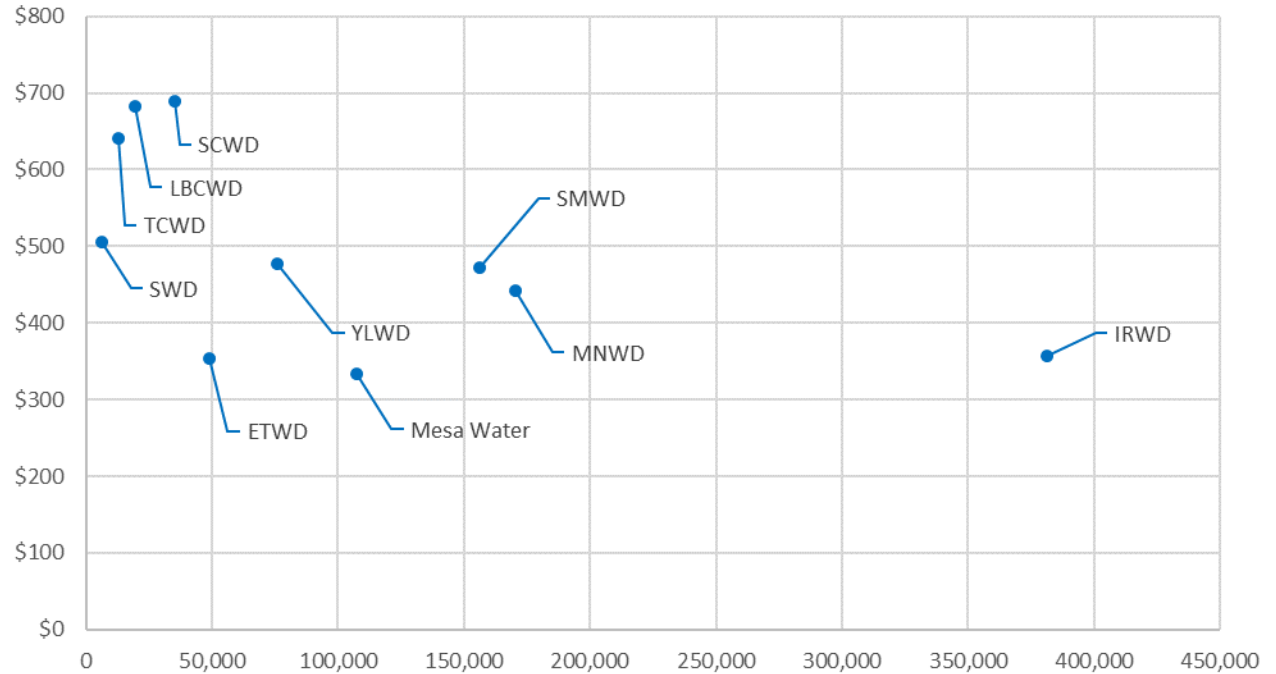
**Data Sources:**

California State Controller's Office, Special Districts Financial Data for total costs and long-term debt  
 Population from Orange County Water Suppliers - respective agencies' 2015 UWMP

# Population and total expenditure 2018



Population and Total Expenditures Per Capita



**Data Sources:**

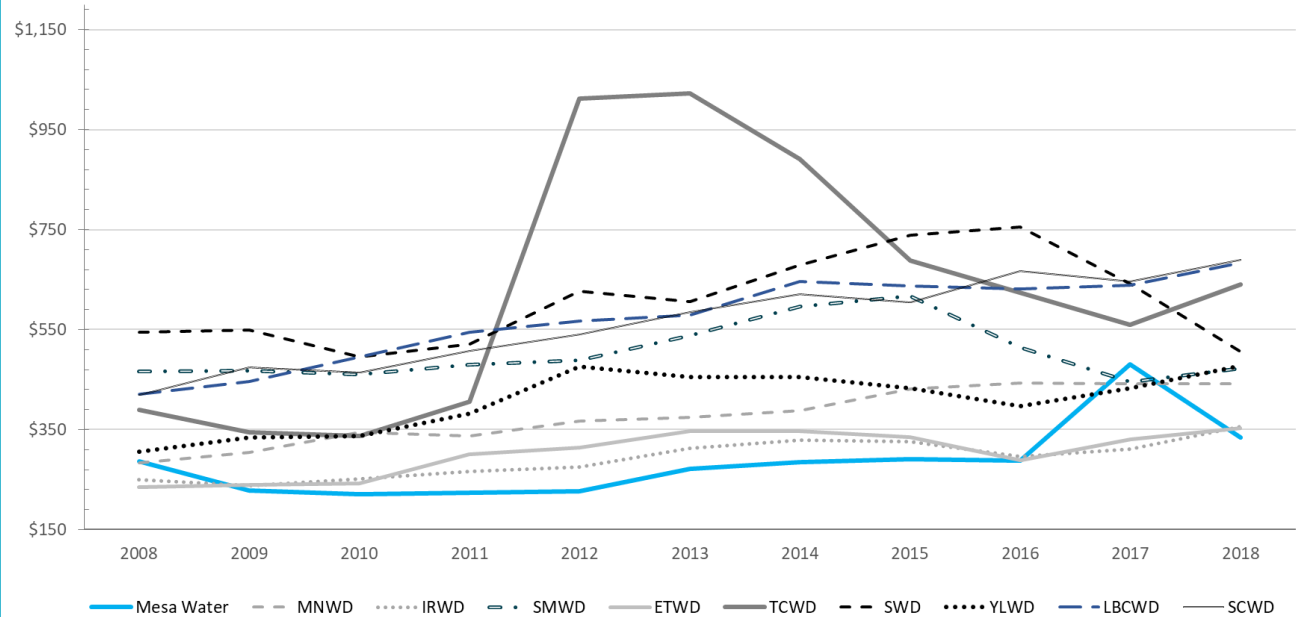
California State Controller's Office, Special Districts Financial Data for 2018

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

# Total expenditures per capita 2008-2018



Total expenses (incl. LT debt service)



2008 - 2018	MNWD	IRWD	SMWD	ETWD	TCWD	SWD	YLWD	LBCWD	SCWD	Mesa Water
% change	56%	43%	1%	50%	64%	-7%	56%	62%	65%	<b>17%</b>
\$ change	\$159	\$106	\$6	\$118	\$250	-\$40	\$172	\$262	\$271	<b>\$48</b>

**Data Sources:**

California State Controller's Office, Special Districts Financial Data for 2003-2017 and for 2018  
 Population: see end slide for details

# The value of water and water conservation

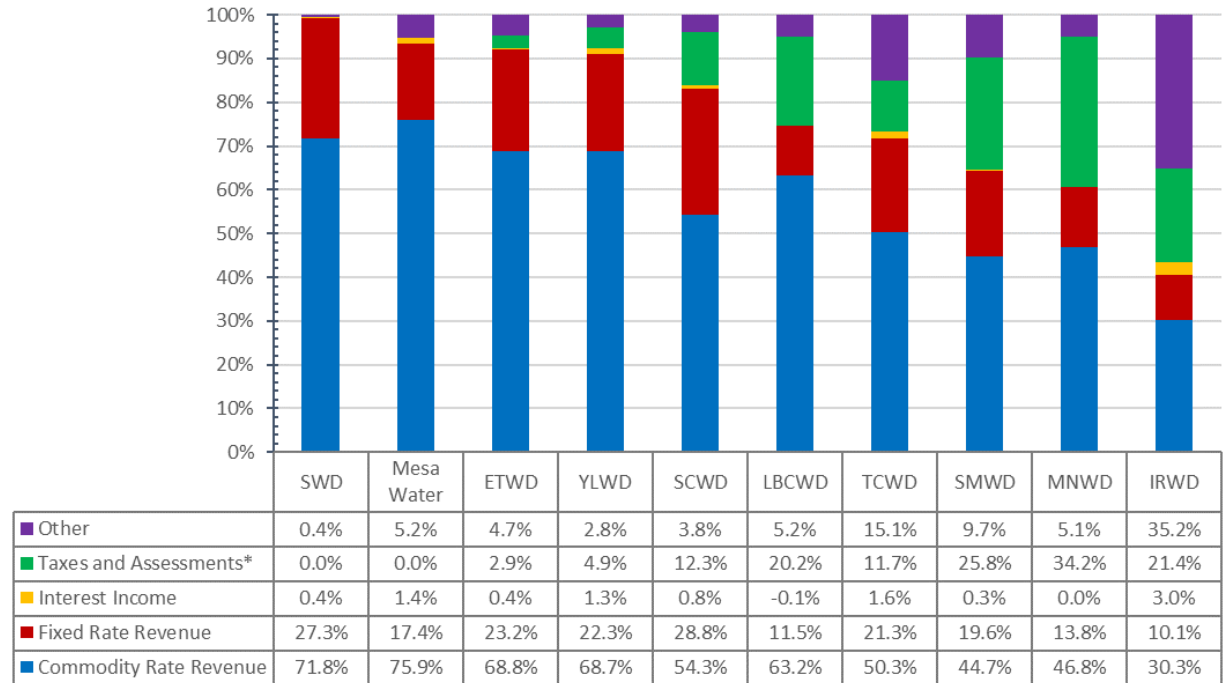
Higher percentages of revenue from commodity rates are more likely to educate customers on the value of water and promote conservation



# The value of water and water conservation



## Comparisons of Revenue Sources 2018



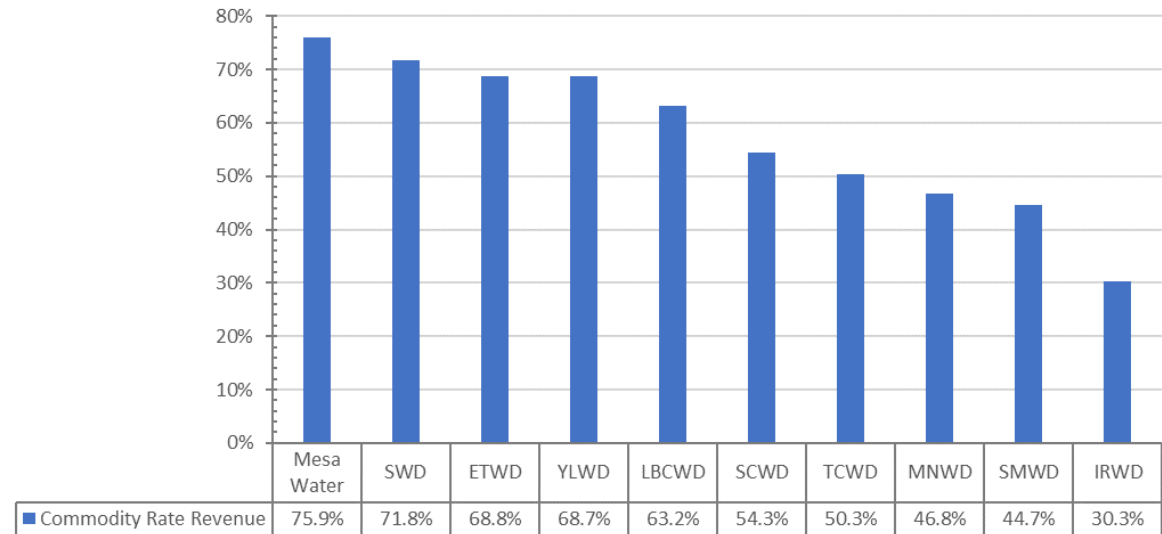
**Data Sources:**

California State Controller's Office, Special Districts Financial Data for 2018  
Raftelis rate survey 2018

# The value of water and water conservation



Comparisons of Revenue from Commodity Rates (% Total Revenues)  
2018



**Data Sources:**

California State Controller's Office, Special Districts Financial Data for 2018  
Commodity/Fixed rate revenue shares – Raftelis Rate Survey 2018



# 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



## 2018

ETWD - Rates effective Jul/2017; Water Budget PPH=4, GPD=55, DOS=30, WF =4.3, DF =0.5, ETAF =0.8, LA=4001  
IRWD - Rates effective Jul/2017; Water Budget PPH=4, GPD=50, DOS=30, WF =4.3, DF =0, ETAF =0.75, LA=1301  
LBCWD - Rates effective Nov/2017; Water Budget PPH=3, GPD=60, DOS=60, WF =4.3, DF =0.7, ETAF =0.8, LA=4001  
Mesa Water - Rates effective Jan/2018; Unifrom Rate  
MNWD - Rates effective Jan/2018; Water Budget PPH=4, GPD=60, DOS=30, WF =4.3, DF =0, ETAF =0.7, LA=4001  
SMWD - Rates effective Jan/2018; Water Budget PPH=4, GPD=55, DOS=30, WF =4.3, DF =0, ETAF =0.8, LA=4001  
SWD - Rates effective Aug/2017; Unifrom Rate  
SCWD - Rates effective Jul/2017; Inclining Block , Peak demand charge included  
TCWD - Rates effective Jan/2018; Inclining Block , Temp. revenue adjustment charge and Reliability charge included  
YLWD - Rates effective Aug/2017; 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.