DESERT WATER AGENCY
DECEMBER 19, 2017

BOARD OF DIRECTORS
REGULAR MEETING AGENDA

REGULAR MEETING 8:00 A.M. OPERATIONS CENTER - 1200 SOUTH GENE AUTRY TRAIL – PALM SPRINGS – CALIFORNIA

About Desert Water Agency:

Desert Water Agency operates independently of any other local government. Its autonomous elected board members are directly accountable to the people they serve. The Agency is one of the desert's two State Water Contractors and provides water and resource management, including recycling, for a 325-square-mile area of Western Riverside County, encompassing parts of Cathedral City, Desert Hot Springs, outlying Riverside County and Palm Springs.

1. PLEDGE OF ALLEGIANCE

2. APPROVAL OF MINUTES – December 5, 2017 — CIOFFI

3. GENERAL MANAGER'S REPORT — KRAUSE

4. COMMITTEE REPORTS – Executive – December 14, 2017 — CIOFFI

5. PUBLIC INPUT:

Members of the public may comment on any item not listed on the agenda, but within the jurisdiction of the Agency. In addition, members of the public may speak on any item listed on the agenda as that item comes up for consideration. Speakers are requested to keep their comments to no more than three (3) minutes. As provided in the Brown Act, the Board is prohibited from acting on items not listed on the agenda.

6. SECRETARY-TREASURER'S REPORT – NOVEMBER — BLOOMER

7. ITEMS FOR ACTION
   - A. Request Adoption of Resolution No. 1174 Granting Retirement Status to Jeff Nesbit — KRAUSE
   - B. Request Adoption of Resolution No. 1175 Honoring CVWD for 100 Years of Service — KRAUSE
   - C. Acceptance of FY 2016-2017 Singer Lewak LLP Annual Audit — KRIEGER
   - D. Request Approval of Seventh Amendment to Tolling & Waiver Agreement — KRAUSE

8. ITEMS FOR DISCUSSION
   - A. November Water Reduction Figures — KRAUSE
   - B. Annual Reporting of Back-Up Facility and Capacity Charges — KRIEGER
   - C. UNC Chapel Hill Study on Drought Water Use and Rate Structures — KRAUSE

9. DIRECTORS COMMENTS AND REQUESTS

10. CLOSED SESSION

    A. CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION
    Pursuant to Government Code Section 54956.9 (d) (1)
    Name of Case: Agua Caliente Band of Cahuilla Indians vs. Coachella Valley Water District, et al

    B. CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION
    Pursuant to Government Code Section 54956.9 (d) (1)
    Name of Case: Agua Caliente Band of Cahuilla Indians vs. County of Riverside, et al

    C. CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION
    Pursuant to Government Code Section 54956.9 (d) (1)
    Name of Case: Mission Springs Water District vs. Desert Water Agency

11. RECONVENE INTO OPEN SESSION – REPORT FROM CLOSED SESSION

12. ADJOURN

Upon request, this agenda will be made available in appropriate alternative formats to persons with disabilities, as required by Section 202 of the Americans with Disabilities Act of 1990. Any person with a disability who requires a modification or accommodation in order to participate in a meeting is asked to contact Desert Water Agency's Executive Secretary, at (760) 323-4971, at least 48 working hours prior to the meeting to enable the Agency to make reasonable arrangements. Copies of records provided to Board members which relate to any agenda item to be discussed in open session may be obtained from the Agency at the address indicated on the agenda.

MINUTES OF THE REGULAR MEETING OF THE DESERT WATER AGENCY BOARD OF DIRECTORS

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December 5, 2017

Attendance

DWA Board:	James Cioffi, President	)
	Joseph K. Stuart, Vice President	)
	Kristin Bloomer, Secretary-Treasurer	)
	Craig A. Ewing, Director	)
Absent:	Patricia G. Oygar, Director	)
DWA Staff:	Mark S. Krause, General Manager	)
	Steve Johnson, Asst. General Manager	)
	Martin S. Krieger, Finance Director	)
	Sylvia Baca, Asst. Secretary of the Board	)
	Ashley Metzger, Outreach & Conserv. Mgr.	)
	Irene Gaudinez, Human Resources Mgr.	)
Consultant:	Michael T. Riddell, Best Best & Krieger	)
Public:	David Freedman, P.S. Sustainability Comm.	)

Pledge of Allegiance

17973. President Cioffi opened the meeting at 8:00 a.m. and asked everyone to join him in the Pledge of Allegiance.

Approval of 11/07/17 Regular Board Mtg. Minutes

17974. President Cioffi called for approval of the November 7, 2017 Regular Board meeting minutes.

Director Ewing moved for approval. After a second by Vice President Stuart, the minutes were approved as written (Director Oygar absent, Secretary-Treasurer Bloomer abstained due to her absence).

General Manager's Report

17975. President Cioffi called upon General Manager Krause to provide an update on Agency operations.

Hit Fire Hydrant – Gene Autry Trail/Dinah Shore Drive

Mr. Krause stated on November 8 at approximately 3:00 a.m., stand-by responded to a hit hydrant on the east side of Gene Autry Trail, north of Dinah Shore Drive. Staff took the hydrant out of service due to its bury needing replacement. A police report was made and the water loss was from a 6-inch fully open fire hydrant bury which ran for approximately 20 minutes. Repairs have been made and the hydrant is back in service.

GM Report (Cont.) Whitewater Pipe Damage

Mr. Krause stated on November 13, Metropolitan Water District (MWD) hit the Agency's 24-inch Whitewater pipe north of the hydro plant. It was hit by a large excavator clearing a spot for storage. It was repaired and put back into service on November 16.

Facilities & Safety Update

Mr. Krause provided a report for the Facilities & Safety department: Carpet replacement was completed on November 17 and 18 for the Management conference room, and half of the I.S. department.

System Leak Data, General Manager's Meetings & Activities

Concluding his report, Mr. Krause noted the current system leak data, and meetings and activities he participated in during the past several weeks.

Public Input

17976. President Cioffi opened the meeting for public input.

There being no one from the public wishing to address the Board, President Cioffi closed the public comment period.

Secretary-Treasurer's Report (October)

17977. President Cioffi called upon Secretary-Treasurer Bloomer to provide an overview of financial activities for the month of October 2017.

Operating Fund

Secretary-Treasurer Bloomer reported that the Operating Fund received $2,775,418 in Water Sales Revenue and $103,105 in Reclamation Sales Revenue. $50,000 from Prop. 84 grant money and $14,095 from the auction sale of surplus equipment was included in the Miscellaneous Receipts category. $3,424,081 was paid out in Accounts Payable. Year-to-date Water Sales were 3% over budget, Year-to-date Total Revenues were 5% over budget and Year-to-date Total Expenses were 21% under budget. There were 22,484 active services as of October 31 compared to 22,468 as of September 30.

General Fund

Reporting on the General Fund, Ms. Bloomer stated that $1,372,048 was received in Groundwater Assessments ($1,077,444 from Operating Fund, $294,604 from private pumpers). $375,420 was received in State Water Project refunds, $67,650 was received from SCE (September Whitewater Hydro Sales), and $727,036 was paid in State Water Project Charges (YTD SWP payments $6,622,168).

Wastewater Fund

Reporting on the Wastewater Fund, Ms. Bloomer stated that $2,839 was received in Sewer Contract Payments. There were a total of 50 sewer contracts, with total delinquents of 14 (28%). $89,231 was paid out in Accounts Payable.

Discussion Items: 11/16/17 SWC Meeting

17978. President Cioffi asked Agency Counsel Riddell to provide a report on the November 16, 2017 Board of Directors meeting of the State Water Contractors, Inc.

Discussion Items: (Cont.) 11/16/17 SWC Meeting

Mr. Riddell provided a report on the following items: 1) Board Action Items, 2) SWP Water Operations, 3) General Manager's Report, and 4) Report on Infrastructure Objectives.

Directors' Report on ACWA Fall Conference

17979. Secretary-Treasurer Bloomer and Vice President Stuart reported their attendance at the ACWA Fall Conference in Anaheim.

October Production

17980. President Cioffi asked General Manager Krause to report on the October production report.

Mr. Krause reported that the Agency and its customers achieved a 16% reduction in potable water production during October 2017 compared to the same month in 2013. He noted the cumulative savings June 2016 through current is 19%. He also noted the amount of fresh water outflow to the ocean was 677,716-acre feet.

Outreach & Conservation – November 2017

17981. President Cioffi noted that Board packets included Outreach & Conservation reports for November 2017.

Mrs. Metzger noted that Director Ewing attended Coffee with DWA at Ristretto on November 8.

Closed Session:
A. Existing Litigation – ACBCI vs. CVWD, et al.
B. Existing Litigation – ACBCI vs. Riverside County
C. Existing Litigation – MSWD vs. DWA

17982. At 8:40 a.m., President Cioffi convened into Closed Session for the purpose of Conference with Legal Counsel, (A) Existing Litigation, pursuant to Government Code Section 54956.9 (d) (1), Agua Caliente Band of Cahuilla Indians vs. Coachella Valley Water District, et al; (B) Existing Litigation, pursuant to Government Code Section 54956.9 (d) (1), ACBCI vs. County of Riverside, et al; and (C) Existing Litigation, pursuant to Government Code Section 54956.9 (d) (1), Mission Springs Water District vs. Desert Water Agency.

Reconvene –No Reportable Action

17983. At 9:40 a.m., President Cioffi reconvened the meeting into open session and announced there was no reportable action.

Adjournment

17984. In the absence of any further business, President Cioffi adjourned the meeting at 9:41 a.m.

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James Cioffi, President

ATTEST:

_____

Kristin Bloomer, Secretary-Treasurer

GENERAL MANAGER'S REPORT
DECEMBER 19, 2017

Desert Water Agency received two Presidential Special Recognition Awards from ACWA/JPIA at the recent Fall Conference in Anaheim.

The awards were for low claims/losses in the Liability, Property & Worker Compensation Program (from 2013 thru 2016)

State Water Project Initial Allocation is 15%.

DWA E-Billing Update

The Agency has implemented a free online payment option for customers for one time payments. Customers can go to myDWA website and select “Pay Your Bill”, enter in their information for making an ACH (automatic clearing house) or bank transaction for payment, select the date and dollar amount and make a one-time payment. This is in contrast to making a one-time payment using a credit card and incurring a transaction fee from the creditor. We also give the customer an option to save their information to our Auto Pay for all their future payments. Online access to the customers transaction history has also been added. They can see when their account was billed, payments were received, and the account status going back as far as 2013.

Water Delivery Update

As of the end of November, approximately 349,228 AC-FT has been delivered to the Whitewater Spreading Basins and 7,209 AC-FT to the Mission Creek Spreading Basins. We anticipate delivering approximately 43,650 AC-FT to Whitewater and 2,000 AC-FT to Mission Creek for the month of December, bringing our total water deliveries for the year to 392,878 AC-FT and 9,209 AC-FT respectively.

We anticipate generating 780,000 kWh for the month of December with an anticipated SCE settlement of $65,000, bringing our total power generated for the year to approximately 7,300,000 kWh and a total year end SCE settlement amount to approximately $650,000.

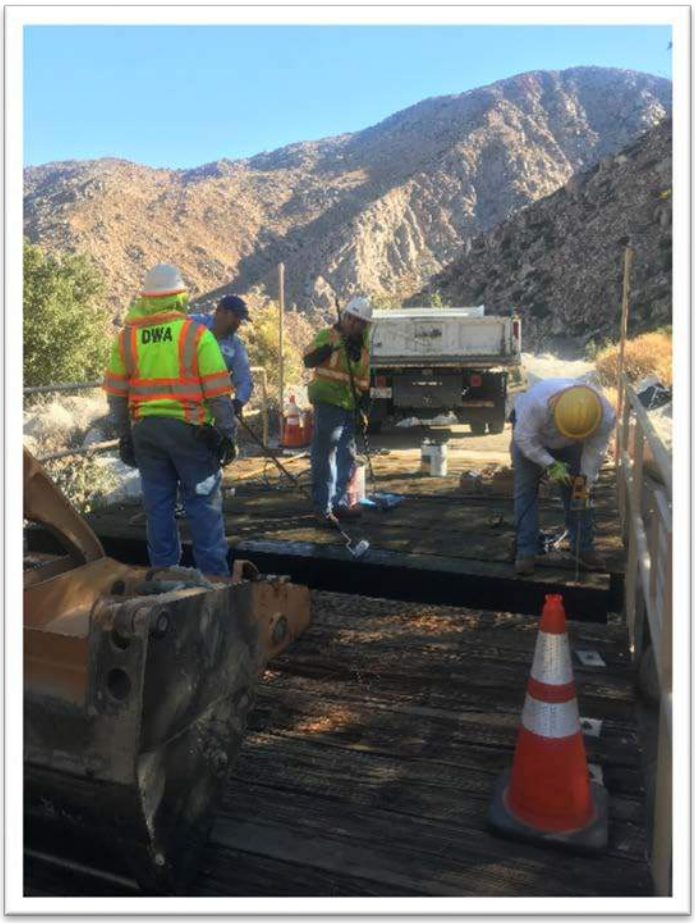
2017/2018 Potable Water Reservoir Maintenance
(12 M.G. Palm Springs North Reservoir No. 2)

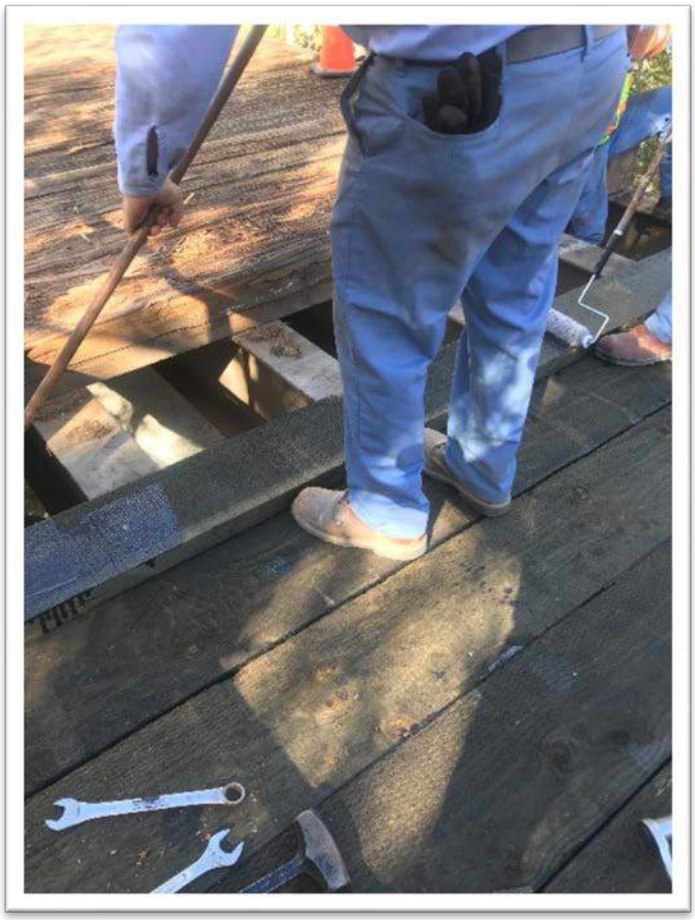
The Agency is currently in the process of recoating the interior and repainting the exterior of the 12 M.G. Palm Springs North Reservoir as part of its annual reservoir maintenance program. The 12 M.G. reservoir was built in 1982.

Currently, the contractor is in the process of blasting and priming the existing epoxy coated surfaces (i.e. interior roof and shell between the upper two stiffener rings) on the interior of the reservoir. The tentative completion date for this project, per the contract completion schedule, is May 15, 2018.

Snow Creek Bridge Deck Replacement:

On December 5, 2017, DWA begun work to replace the lumber for Snow Creek Bridge. The project required 44 pieces of pressure treated Douglas Fir lumber that are 12" wide, 10" thick, and 14' long. The wood was treated with an additional wood preservation as it was installed to extend the life. The wood from the bridge deck had not been replaced since its construction in the early 90's.





SYSTEM LEAK DATA

(PERIOD BEGINNING NOVEMBER 28, 2017 THRU DECEMBER 11, 2017)

STREET NAME	QUARTER SECTION	NUMBER OF LEAKS
CAHUILLA RD	4410SE	3
RAMON RD	4519NW	2
COTTONWOOD RD	4411NW	2
DESERT WILLOW CIR	4402NW	2
STARR RD	4402NW	2
VISTA CHINO (20")	4410NE	2
LIVMOR AVE (6"/4"/6")	4413NE	2
VIA ALTAMIRA	4411SE	2
INDIAN CANYON DR (10")	4415SE	2
MERITO PL	4410SE	2
SATURMINO DR	4413NW	1
BELDING DR	4413NW	1
AVENIDA PALOS VERDES	4411SW	1
VIA MIRALESTE	4411NW	1
BARISTO RD	4415SE	1
SUNNY DUNES RD	4519NE	1
SUNNY DUNES RD	4423NW	1
VIA DEL NORTE	4403SE	1
VIA SOLEDAD	4423SW	1
BROADMOOR DR (10")	4529SW	1
CERRITOS DR	4413NW	1
ARABY DR (6")	4425NE	1
DEBBY DR	4413NW	1
TOTAL LEAKS IN SYSTEM:		**34**

* Streets highlighted in blue are being replaced as part of the 2016/2017 Replacement Pipeline Project

* Streets highlighted in green are included as part of the proposed list of streets for the 2017/2018 Replacement Pipeline Project

SYSTEM LEAKS

(Period beginning November 28, 2017 thru December 11, 2017)

DESERT WATER AGENCY

PALM SPRINGS, CALIFORNIA

LEGEND

- LEAK(S) RECORDED
- LEAK(S) RECORDED; INCLUDED IN 2016/17 REPLACEMENT PIPELINES
- LEAK(S) RECORDED; INCLUDED IN PROPOSAL FOR 2017/18 REPLACEMENT PIPELINES

DWG. BY	DATE	SCALE
SR	12/17	NTS

EXHIBIT "A"

General Manager's Meetings and Activities:

Meetings:

12/08/17	Whitewater Spreading Basin BLM Permit	Conf. Call
12/11/17	DWA I.S./Staff/Snow Creek Security Weekly Meeting	DWA
12/12/17	CV-Link Solar	DWA
12/13/17	Jeff Nesbit Retirement Luncheon	DWA
12/14/17	Executive Committee	DWA
12/15/17	Meeting with Lincoln Financial	DWA
12/18/17	DWA I.S./Staff/Snow Creek Security Weekly Meeting	DWA
12/19/17	DWA Bi-Monthly Board Meeting	DWA
10/26/17	Active Shooter-Crisis Communication Training	DWA

Activities:

1) SGMA – Annual Alternative GW Sustainability Plan Update Due in April 2018
2) E-Billing – implementing customer payment history capabilities
3) E-Billing -. Implementing Customer One Time Payment Option
4) Outreach Talking Points – KESQ
5) Snow Creek Hydro SCE contract extension – ongoing
6) Whitewater Hydro – Facility Bypass Pipeline
7) State and Federal Contractors Water Authority and Delta Specific Project Committee (Standing)
8) MSWD Settlement Agreement and MOA from Mediation
9) ACBCI Section 14 Facilities & Easements
10) Lake Oroville Spillway Damage
11) Replacement Pipelines 2017-2018
12) CWF – Phasing Concepts
13) DWA/CVWD/MWD Operations Coordination/Article 21/Pool A/Pool B/Yuba Water
14) DWA/CVWD/MWD Agreements Update
15) SGMA Alternative Plans and Bridge Documents
16) SWP 2018 Water Supply
17) ACBCI Law Suits
18) Lake Perris Dam Remediation
19) Section 14 Pipeline Easements
20) DOI Regulation
21) 218 Applicability to Groundwater Recharge Assessment
22) A.B. 1562
23) Repair of Facility Access Roads Damaged in the September 10 Storm (Araby)
24) Whitewater Hydro Operations Coordination with Recharge Basin O&M
25) Multi-Agency Rate Study
26) SGMA Tribal Stakeholder Meetings
27) Whitewater Spreading Basins – BLM Permits
28) Lake Perris Dam Seepage Recovery Project Participation
29) Cal Waterfix Cost Allocation
30) DWA Surface Water Filtration Feasibility Study

Activities:
(Cont.)

31) Modification of our CVRWMP Boundary
32) MSWD Mediation
33) Review Documents for MSWD Public Records Act Request
34) CV-Link Solar
35) S1464 - Water Conservation Tax Parity Act (Conservation Rebate Tax)
36) CVWD 100 Year Anniversary Resolution
37) CRA & SWP Tours 2018
38) 3M Glass Shield
39) Snow Creek Gate Locks
40) MCSB Delivery Updates
41) DWA SWP Contract Amendment No. 20

DWA offices will be closed on Friday, December 22 and Monday, December 25 for the Christmas holiday. We wish everyone a Merry Christmas!!

Minutes
Executive Committee Meeting
December 14, 2017

Directors Present: Jim Cioffi, Joe Stuart
Staff Present: Mark Krause, Steve Johnson, Martin Krieger

1. Discussion Items

   A. Review Agenda for December 19, 2017 Regular Board Meeting
   The proposed agenda for the December 19, 2017 regular board meeting was reviewed.

   B. Expense Reports
   The October and November expense reports were reviewed.

   C. 2018 Board Conference Schedule
   The Committee added and approved the AWWA annual conference and the CSDA conferences. The Committee noted that the NWRA groundwater committee meetings are not on the proposed conference schedule, given that they are committee meetings and not conference events, they are not shown on the conference schedule.

   D. Chino Cone
   The request for participation from the "Friends of Palm Springs Mountains" was reviewed and discussed.

2. Other – None

3. Adjourn

DESERT WATER AGENCY
STATEMENT OF CASH RECEIPTS AND EXPENDITURES

OPERATING ACCOUNT

NOVEMBER 2017

				INVESTED RESERVE FUNDS
BALANCE	NOVEMBER 1, 2017		($98,216.54)	$17,650,030.09
	WATER SALES	$2,443,658.54		
	RECLAMATION SALES	140,805.04		
	WASTEWATER RECEIPTS	76,761.25		
	POWER SALES	1,253.61		
	METERS, SERVICES, ETC.	171,995.00		
	REIMBURSEMENT – GENERAL FUND	118,540.07		
	REIMBURSEMENT – WASTEWATER FUND	28,730.17		
	ACCOUNTS RECEIVABLE – OTHER	16,020.02		
	CUSTOMER DEPOSITS – SURETY	17,090.00		
	CUSTOMER DEPOSITS – CONST.	176,905.00		
	LEASE REVENUE	3,396.33		
	INTEREST RECEIVED ON INV. FDS.	0.00		
	FRONT FOOTAGE FEES	0.00		
	BOND SERVICE & RESERVE FUND INT	0.00		
	MISCELLANEOUS	398,123.41		
	TOTAL RECEIPTS		$3,593,278.44	
PAYMENTS				
	PAYROLL CHECKS	$491,014.15		
	PAYROLL TAXES	158,663.39		
	ELECTRONIC TRANSFERS	131,677.65		
	CHECKS UNDER $10,000.00	281,959.10		
	CHECKS OVER $10,000.00 – SCH. #1	846,658.11		
	CANCELLED CHECKS AND FEES	14,212.12		
	TOTAL PAYMENTS		$1,924,184.52	
NET INCOME			$1,669,093.92	
BOND SERVICE ACCOUNT				
	MONTHLY WATER SALES	$0.00		
	EXCESS RETURNED BY B/A	$0.00		
	BOND SERVICE FUND		$0.00	
INVESTED RESERVE FUNDS				
	FUNDS MATURED	$0.00		
	FUNDS INVESTED – SCH. #3	1,756,500.00		
	NET TRANSFER		($1,756,500.00)	$1,756,500.00
BALANCE	NOVEMBER 30, 2017		($185,622.62)	$19,406,530.09

OPERATING ACCOUNT

SCHEDULE #1-CHECKS OVER $10,000

CHECK #	NAME	DESCRIPTION	AMOUNT
116079	FASTENAL COMPANY	ROOF FALL PROTECTION (W/O # 17-146-M)	$17,041.67
116112	SOUTHERN CALIFORNIA EDISON CO	POWER	$231,018.71
116127	BR PALM SPRINGS INVESTMENTS	WORKORDER REFUND - SOUTH INDIAN CANYON DRIVE (W/O # 16-811)	$14,067.15
116141	DESERT WATER AGENCY - WASTEWATER	WASTEWATER REVENUE BILLING - OCTOBER 2017	$85,033.18
116154	ACWA/JOINT POWERS INS AUTHOR	HEALTH,DENTAL & VISION INSURANCE PREMIUMS - DECEMBER 2017	$160,980.03
116161	AES WATER INC	EARTH QUAKE VALVE ACCUATORS - RESERVOIR # 14 & # 23	$28,844.52
116169	BEST BEST & KRIEGER LLP	LEGAL FEES	$122,550.84
116170	BRITHINEE ELECTRIC INC	SWITCHGEAR - WELL # 25 (W/O # 17-126-W-25)	$24,621.55
116178	CLEANEXCEL	CLEANING SERVICES - OCTOBER & NOVEMBER 2017	$12,136.00
116184	DOWN TO EARTH LANDSCAPING	LANDSCAPE MAINTENANCE	$29,270.54
116207	INLAND WATER WORKS SUPPLY CO	WATER SERVICE SUPPLIES	$40,090.10
116211	KRIEGER & STEWART INC	ENGINEERING	$66,166.30
116242	THATCHER COMPANY OF CALIFORNIA	WATER SERVICE SUPPLIES	$14,837.52
		** TOTAL	$846,658.11

DESERT WATER AGENCY
OPERATING FUND - LISTING OF INVESTMENTS
NOVEMBER 30, 2017

PURCH DATE	NAME	DESCRIPTION	MATURITY DATE	COST	PAR VALUE	MARKET VALUE	YIELD TO MATURITY	CALLABLE STATUS
		Local Agency Investment Fund						
06-30-83	State of California	LAIF	Open	$ 16,406,530.09	$ 16,406,530.09	$ 16,406,530.09	1.180%	-
		Certificates of Deposit						
		Total Certificates of Deposit		$ -	$ -	$ -		
		Commercial Paper						
		Total Commerical Paper		$ -	$ -	$ -		
		Government Agency						
09-20-16	Union Bank	FNMA (Callable 12-20-17)	09-20-19	$ 1,000,000.00	$ 1,000,000.00	$ 988,320.00	1.300%	Quarterly
10-28-16	Union Bank	FHLMC STEP (Callable 1-28-18)	10-28-21	$ 1,000,000.00	$ 1,000,000.00	$ 998,900.00	2.000%	Quarterly
02-28-17	Union Bank	FHLMC (Callable 2-25-18)	02-25-19	$ 500,000.00	$ 500,000.00	$ 497,240.00	1.400%	Quarterly
09-29-17	Union Bank	FHLMC (Callable 12-29-17)	09-29-20	$ 500,000.00	$ 500,000.00	$ 495,610.00	1.700%	Quarterly
		Total Government Agency		$ 3,000,000.00	$ 3,000,000.00	$ 2,980,070.00		
						Weighted Mean YTM	1.248%	
		TOTAL INVESTED @ 11/30/17		$ 19,406,530.09	$ 19,406,530.09	$ 19,386,600.09		
		BALANCE @ 06/30/17		$ 16,124,074.41				
		INCREASE (DECREASE)		$3,282,455.68				

DESERT WATER AGENCY
STATEMENT OF CASH RECEIPTS AND EXPENDITURES

GENERAL ACCOUNT

NOVEMBER 2017

				INVESTED RESERVE FUNDS
BALANCE	NOVEMBER 1, 2017		($274,441.57)	$114,857,897.70
* TAXES - RIVERSIDE COUNTY		83,301.47		
* INTEREST EARNED - INV. FUNDS		78,859.32		
GROUNDWATER REPLEN. ASSESSMENT		37,392.45		
REIMBURSEMENT - OPERATING FUND		0.00		
REIMBURSEMENT - CVWD MGMT		0.00		
STATE WATER PROJECT REFUNDS		9,677.00		
REIMB - CVWD - WHITEWATER HYDRO		0.00		
POWER SALES - WHITEWATER		68,786.17		
MISCELLANEOUS		90.00		
TOTAL RECEIPTS			$278,106.41	
PAYMENTS				
CHECKS UNDER $10,000.00		14,700.85		
CHECKS OVER $10,000.00 - SCH. #1		900,595.54		
CANCELLED CHECKS AND FEES		0.00		
TOTAL PAYMENTS			$915,296.39	
NET INCOME			($637,189.98)	
INVESTED RESERVE FUNDS				
FUNDS MATURED		3,328,500.00		
FUNDS INVESTED – SCH. #2		3,000,000.00		
NET TRANSFER			$328,500.00	($328,500.00)
BALANCE	NOVEMBER 30, 2017		($583,131.55)	$114,529,397.70

* INCLUSIVE TO DATE	TAXES	INTEREST
RECEIPTS IN FISCAL YEAR	$1,580,516.25	$602,086.95
RECEIPTS IN CALENDAR YEAR	$20,754,172.89	$1,164,803.64

DESERT WATER AGENCY

GENERAL ACCOUNT

SCHEDULE #1-CHECKS OVER $10,000

CHECK #	NAME	DESCRIPTION	AMOUNT
8968	STATE OF CA. DEPT. OF WATER RESOURCES	STATE WATER PROJECT ENTITLEMENT - AUGUST 2017	$25,555.00
8971	SITES PROJECT JOINT POWERS AUTHORITY	WATER RESERVOIR CHARGES - PHASE I FINAL	$102,615.25
8973	STATE OF CA. DEPT. OF WATER RESOURCES	STATE WATER PROJECT - NOVEMBER 2017	$654,272.00
8977	DESERT WATER AGENCY-OPERATING	P/R & EXP REIMBURSEMENT FOR OCTOBER 2017	$118,153.29
		** TOTAL	$900,595.54

DESERT WATER AGENCY
GENERAL FUND - LISTING OF INVESTMENTS
NOVEMBER 30, 2017

PURCHASE DATE	NAME	DESCRIPTION	MATURITY DATE	COST	PAR VALUE	MARKET VALUE	YIELD TO MATURITY	CALLABLE STATUS
		Local Agency Investment Fund						
06-30-83	State of California	LAIF	Open	$ 37,506,077.70	$ 37,506,077.70	$ 37,506,077.70	1.180%	-
		Certificates of Deposit						
01-25-13	Union Bank	General Electric Capital Bank CD	01-25-18	$ 1,000,000.00	$ 1,000,000.00	$ 999,940.00	1.100%	Bullet
10-07-15	Ladenburg Thalmann	Goldman Sachs CD	04-07-18	$ 245,000.00	$ 245,000.00	$ 245,049.00	1.350%	Bullet
04-20-17	RBC Wealth Mgmt	Whitney Bank CD	04-22-19	$ 1,000,000.00	$ 1,000,000.00	$ 999,620.00	1.650%	Bullet
06-14-17	RBC Wealth Mgmt	Capital One N/A CD	06-15-20	$ 250,000.00	$ 250,000.00	$ 249,675.00	1.900%	Bullet
06-14-17	RBC Wealth Mgmt	Capital One Bank USA CD	06-15-20	$ 250,000.00	$ 250,000.00	$ 249,675.00	1.900%	Bullet
06-19-17	RBC Wealth Mgmt	First Priority Bank CD	06-19-20	$ 250,000.00	$ 250,000.00	$ 248,727.50	1.750%	Bullet
06-22-17	Sun Community FCU	Credit Union CD	06-22-18	$ 1,000,000.00	$ 1,000,000.00	$ 1,006,675.70	1.500%	Bullet
		Total Certificates of Deposit		$ 3,995,000.00	$ 3,995,000.00	$ 3,999,362.20		
		Commercial Paper						
12-16-13	Stifel	General Electric	05-15-18	$ 587,600.00	$ 500,000.00	$ 499,495.00	6.300%	Bullet
04-27-15	Ladenburg Thalmann	Apple Inc.	05-03-18	$ 997,920.00	$ 1,000,000.00	$ 997,620.00	1.000%	Bullet
02-01-16	Union Bank	US Bank Note (Callable 12-29-17)	01-29-18	$ 1,000,950.00	$ 1,000,000.00	$ 999,790.00	1.450%	1 Time
		Total Commercial Paper		$ 2,586,470.00	$ 2,500,000.00	$ 2,496,905.00		
		Government Agency						
12-28-12	Stifel (D.A.D)	FHLB (Callable Continuous)	12-28-17	$ 1,000,000.00	$ 1,000,000.00	$ 999,660.00	0.840%	Continuous
03-27-13	Ladenburg Thalmann	FNMA (Callable 12-27-17)	03-27-18	$ 1,000,000.00	$ 1,000,000.00	$ 998,950.00	1.050%	Qrtrly
06-13-13	Ladenburg Thalmann	FHLB (Callable 12-13-17)	06-13-18	$ 1,000,000.00	$ 1,000,000.00	$ 997,990.00	1.100%	Qrtrly
10-02-15	Stifel	FHLB (Callable Continuous)	10-02-19	$ 1,000,000.00	$ 1,000,000.00	$ 991,290.00	1.450%	Continuous
10-29-15	Stifel	FHLB (Callable Continuous)	10-29-18	$ 1,000,000.00	$ 1,000,000.00	$ 994,710.00	1.120%	Continuous
11-23-15	Ladenburg Thalmann	FHLMC (Callable 2-23-18)	05-23-18	$ 996,000.00	$ 1,000,000.00	$ 997,250.00	1.000%	Qrtrly
11-25-15	Stifel	FNMA (Callable 2-25-18)	11-25-19	$ 1,000,000.00	$ 1,000,000.00	$ 990,860.00	1.500%	Qrtrly
02-26-16	Ladenburg Thalmann	FNMA (Callable 2-26-18)	02-26-19	$ 1,000,000.00	$ 1,000,000.00	$ 992,890.00	1.250%	Qrtrly
03-23-16	Ladenburg Thalmann	FNMA (Callable 12-23-17)	03-23-20	$ 1,000,000.00	$ 1,000,000.00	$ 987,860.00	1.500%	Qrtrly
03-30-16	Stifel	FNMA STEP (Callable 12-30-17)	03-30-21	$ 1,000,000.00	$ 1,000,000.00	$ 992,980.00	1.500%	Qrtrly
03-30-16	Stifel	FHLMC STEP (Callable 12-30-17)	03-30-21	$ 1,000,000.00	$ 1,000,000.00	$ 991,170.00	1.250%	Qrtrly
04-26-16	Ladenburg Thalmann	FHLB (Callable Continuous)	10-26-20	$ 999,500.00	$ 1,000,000.00	$ 983,610.00	1.550%	Continuous
05-23-16	Stifel	FNMA (Callable 2-23-18)	08-23-19	$ 1,000,000.00	$ 1,000,000.00	$ 985,470.00	1.250%	Qrtrly
05-26-16	Union Bank	FNMA	11-26-19	$ 1,000,000.00	$ 1,000,000.00	$ 989,640.00	1.300%	1 Time
05-31-16	Ladenburg Thalmann	FHLMC (Callable 2-28-18)	08-29-18	$ 1,000,000.00	$ 1,000,000.00	$ 995,500.00	1.020%	Qrtrly
06-01-16	Stifel	FFCB (Callable Continuous)	03-01-19	$ 1,000,000.00	$ 1,000,000.00	$ 990,450.00	1.250%	Continuous
06-13-16	Ladenburg Thalmann	FNMA (Callable 12-13-17)	06-13-19	$ 1,000,000.00	$ 1,000,000.00	$ 993,170.00	1.400%	Qrtrly
06-16-16	Stifel	FFCB (Callable Continuous)	03-16-20	$ 1,000,000.00	$ 1,000,000.00	$ 986,190.00	1.400%	Continuous
06-21-16	Stifel	FHLMC STEP (Callable 12-21-17)	06-21-21	$ 1,000,000.00	$ 1,000,000.00	$ 978,430.00	1.400%	Qrtrly
06-28-16	Ladenburg Thalmann	FNMA (Callable 12-28-17)	06-28-19	$ 1,000,000.00	$ 1,000,000.00	$ 989,210.00	1.200%	Qrtrly
06-30-16	Stifel	FHLMC STEP (Callable 12-30-17)	12-30-19	$ 1,000,000.00	$ 1,000,000.00	$ 993,710.00	1.000%	Qrtrly
07-07-16	Ladenburg Thalmann	FFCB (Callable Continuous)	01-07-19	$ 1,000,000.00	$ 1,000,000.00	$ 991,910.00	1.000%	Continuous
07-11-16	Ladenburg Thalmann	FHLB (Callable Continuous)	10-11-19	$ 1,000,000.00	$ 1,000,000.00	$ 983,880.00	1.125%	Continuous
07-11-16	Ladenburg Thalmann	FHLB (Callable Continuous)	07-11-19	$ 1,000,000.00	$ 1,000,000.00	$ 988,930.00	1.125%	Continuous
07-13-16	Union Bank	FFCB (Callable Continuous)	01-13-20	$ 1,000,000.00	$ 1,000,000.00	$ 984,750.00	1.240%	Continuous
07-26-16	Ladenburg Thalmann	FNMA (Callable 1-26-18)	07-26-19	$ 999,500.00	$ 1,000,000.00	$ 987,920.00	1.125%	Qrtrly

DESERT WATER AGENCY
GENERAL FUND - LISTING OF INVESTMENTS
NOVEMBER 30, 2017

PURCHASE DATE	NAME	DESCRIPTION	MATURITY DATE	COST	PAR VALUE	MARKET VALUE	YIELD TO MATURITY	CALLABLE STATUS
		Government Agency						
07-27-16	Stifel	FNMA STEP (Callable 1-27-18)	07-27-21	$ 1,000,000.00	$ 1,000,000.00	$ 973,170.00	1.250%	Qrtrly
08-10-16	Ladenburg Thalmann	FHLMC (Callable 2-10-18)	08-10-20	$ 1,000,000.00	$ 1,000,000.00	$ 985,540.00	1.450%	Qrtrly
08-24-16	Ladenburg Thalmann	FHLMC STEP (Callable 2-24-18)	08-24-21	$ 1,000,000.00	$ 1,000,000.00	$ 996,560.00	1.250%	Qrtrly
08-30-16	Stifel	FHLMC STEP (Callable 2-28-18)	08-27-21	$ 1,000,000.00	$ 1,000,000.00	$ 996,150.00	1.500%	Qrtrly
08-30-16	Ladenburg Thalmann	FNMA (Callable 2-27-18)	11-27-19	$ 1,000,000.00	$ 1,000,000.00	$ 981,830.00	1.250%	Qrtrly
09-06-16	Ladenburg Thalmann	FFCB (Callable Continuous)	03-06-19	$ 1,000,000.00	$ 1,000,000.00	$ 990,270.00	1.150%	Continuous
09-20-16	Union Bank	FNMA (Callable 12-20-17)	09-20-19	$ 1,000,000.00	$ 1,000,000.00	$ 988,320.00	1.300%	Qrtrly
09-27-16	Ladenburg Thalmann	FHLMC STEP (Callable 12-27-17)	09-27-19	$ 1,000,000.00	$ 1,000,000.00	$ 996,220.00	1.250%	Qrtrly
09-29-16	Ladenburg Thalmann	FHLMC STEP (Callable 12-29-17)	09-29-21	$ 950,000.00	$ 950,000.00	$ 936,947.00	1.375%	Qrtrly
09-30-16	Ladenburg Thalmann	FNMA (Callable 12-30-17)	09-30-19	$ 1,000,000.00	$ 1,000,000.00	$ 985,970.00	1.250%	Qrtrly
10-06-16	Ladenburg Thalmann	FHLMC (Callable 1-6-18)	07-06-20	$ 1,000,000.00	$ 1,000,000.00	$ 983,260.00	1.375%	Qrtrly
10-11-16	Ladenburg Thalmann	FHLMC (Callable 1-11-18)	10-11-18	$ 999,750.00	$ 1,000,000.00	$ 993,670.00	1.000%	Qrtrly
10-17-16	Stifel	FNMA	04-17-20	$ 1,000,000.00	$ 1,000,000.00	$ 985,520.00	1.250%	1 Time
10-28-16	Stifel	FHLMC STEP (Callable 1-28-18)	10-28-21	$ 1,500,000.00	$ 1,500,000.00	$ 1,485,300.00	1.250%	Qrtrly
10-28-16	Union Bank	FHLMC STEP (Callable 1-28-18)	10-28-21	$ 1,000,000.00	$ 1,000,000.00	$ 998,900.00	2.000%	Qrtrly
11-03-16	Ladenburg Thalmann	FFCB (Callable Continuous)	05-03-21	$ 999,250.00	$ 1,000,000.00	$ 980,250.00	1.490%	Continuous
11-15-16	Stifel	FHLMC STEP (Callable 2-15-18)	11-15-19	$ 1,000,000.00	$ 1,000,000.00	$ 990,670.00	1.000%	Qrtrly
12-14-16	Ladenburg Thalmann	FHLMC (Callable 12-14-17)	12-14-20	$ 1,000,000.00	$ 1,000,000.00	$ 989,870.00	1.750%	Qrtrly
12-29-16	Ladenburg Thalmann	FNMA (Callable 12-29-17)	06-29-20	$ 1,000,000.00	$ 1,000,000.00	$ 992,280.00	1.750%	Qrtrly
12-30-16	Ladenburg Thalmann	FHLMC (Callable 12-30-17)	12-30-19	$ 998,000.00	$ 1,000,000.00	$ 990,850.00	1.500%	Qrtrly
01-27-17	Ladenburg Thalmann	FNMA (Callable 1-27-18)	01-27-20	$ 1,000,000.00	$ 1,000,000.00	$ 993,930.00	1.650%	Qrtrly
01-30-17	Union Bank	FHLB (Callable 1-30-18)	04-30-20	$ 1,000,000.00	$ 1,000,000.00	$ 993,760.00	1.750%	Qrtrly
02-28-17	Union Bank	FHLMC (Callable 2-25-18)	02-25-19	$ 1,000,000.00	$ 1,000,000.00	$ 994,480.00	1.400%	Qrtrly
03-29-17	Stifel	FHLMC STEP (Callable 3-29-18)	03-29-22	$ 1,000,000.00	$ 1,000,000.00	$ 999,300.00	1.300%	Annual
04-20-17	Stifel	FHLMC STEP (Callable 1-20-18)	04-20-20	$ 1,000,000.00	$ 1,000,000.00	$ 998,330.00	1.250%	Qrtrly
04-27-17	Ladenburg Thalmann	FHLMC (Callable 1-27-18)	01-27-21	$ 1,000,000.00	$ 1,000,000.00	$ 1,000,190.00	2.000%	Qrtrly
06-08-17	Stifel	FHLMC STEP (Callable 12-8-17)	06-08-20	$ 1,000,000.00	$ 1,000,000.00	$ 996,850.00	1.250%	Qrtrly
06-22-17	Ladenburg Thalmann	FHLMC STEP (Callable 12-22-17)	06-22-22	$ 1,000,000.00	$ 1,000,000.00	$ 995,560.00	1.625%	Qrtrly
06-27-17	Union Bank	FHLB (Callable 12-27-17)	09-27-19	$ 1,000,000.00	$ 1,000,000.00	$ 992,660.00	1.500%	Qrtrly
06-29-17	Ladenburg Thalmann	FHLMC (Callable 12-29-17)	09-29-20	$ 1,000,000.00	$ 1,000,000.00	$ 989,920.00	1.750%	Qrtrly
07-11-17	Ladenburg Thalmann	FHLMC (Callable 1-11-18)	01-11-21	$ 1,000,000.00	$ 1,000,000.00	$ 988,100.00	1.800%	Qrtrly
07-26-17	Stifel	FHLMC STEP (Callable 1-26-18)	07-26-22	$ 1,000,000.00	$ 1,000,000.00	$ 997,260.00	1.750%	Qrtrly
07-27-17	Stifel	FHLMC STEP (Callable 1-27-18)	07-27-22	$ 1,000,000.00	$ 1,000,000.00	$ 997,260.00	1.500%	Qrtrly
08-07-17	Ladenburg Thalmann	FFCB (Callable Continuous)	11-23-20	$ 999,850.00	$ 1,000,000.00	$ 990,360.00	1.770%	Continuous
08-09-17	Stifel	FHLB STEP (Callable 2-9-18)	02-09-22	$ 2,000,000.00	$ 2,000,000.00	$ 1,987,880.00	1.750%	Qrtrly
08-10-17	Ladenburg Thalmann	FHLB STEP (Callable 2-10-18)	08-10-22	$ 1,000,000.00	$ 1,000,000.00	$ 997,080.00	1.500%	Qrtrly
09-08-17	Stifel	FHLB STEP (Callable 12-8-17)	09-08-22	$ 1,000,000.00	$ 1,000,000.00	$ 992,060.00	1.750%	Qrtrly
09-28-17	Ladenburg Thalmann	FHLMC STEP (Callable 12-28-17)	09-28-20	$ 1,000,000.00	$ 1,000,000.00	$ 992,640.00	1.375%	Qrtrly
09-29-17	Union Bank	FHLMC (Callable 12-29-17)	09-29-20	$ 1,000,000.00	$ 1,000,000.00	$ 991,220.00	1.700%	Qrtrly
09-29-17	Stifel	FHLMC STEP (Callable 3-29-18)	09-29-22	$ 1,000,000.00	$ 1,000,000.00	$ 991,470.00	1.625%	Qrtrly
10-26-17	Ladenburg Thalmann	FNMA (Callable 4-26-18)	07-26-21	$ 1,000,000.00	$ 1,000,000.00	$ 993,240.00	2.000%	Qrtrly
11-06-17	Ladenburg Thalmann	FFCB (Callable 2-16-18)	06-06-19	$ 1,000,000.00	$ 1,000,000.00	$ 996,600.00	1.600%	Continuous
11-20-16	Ladenburg Thalmann	FHLMC (Callable 2-20-18)	11-20-20	$ 1,000,000.00	$ 1,000,000.00	$ 997,940.00	2.000%	Qrtrly
		Total Government Agency		$ 70,441,850.00	$ 70,450,000.00	$ 69,848,017.00		
						Weighted Mean YTM	1.354%	
		TOTAL INVESTED @ 11/30/17		$ 114,529,397.70	$ 114,451,077.70	$ 113,850,361.90		
		BALANCE @ 06/30/17		$ 117,493,032.70				
		INCREASE OR (DECREASE)		$ (2,963,635.00)				

DESERT WATER AGENCY
STATEMENT OF CASH RECEIPTS AND EXPENDITURES

WASTEWATER ACCOUNT

NOVEMBER 2017

				INVESTED RESERVE FUNDS
BALANCE	NOVEMBER 1, 2017	($16,739.23)		$1,195,890.93
ACCOUNTS RECEIVABLE - OTHER		$0.00		
CUSTOMER DEPOSITS - CONSTRUCTION		0.00		
INTEREST EARNED - INVESTED FUNDS		21.21		
WASTEWATER REVENUE		85,033.18		
SEWER CAPACITY CHARGES		3,395.45		
MISCELLANEOUS		0.00		
TOTAL RECEIPTS		$88,449.84		
PAYMENTS				
CHECKS UNDER $10,000.00		$15,776.75		
CHECKS OVER $10,000.00 - SCH. #1		73,164.52		
CANCELLED CHECKS AND FEES		117.37		
TOTAL PAYMENTS		$89,058.64		
NET INCOME			($608.80)	
INVESTED RESERVE FUNDS				
FUNDS MATURED		$18,000.00		
FUNDS INVESTED – SCH. #2		2,000.00		
NET TRANSFER			$16,000.00	($16,000.00)
BALANCE	NOVEMBER 30, 2017		($1,348.03)	$1,179,890.93

DESERT WATER AGENCY

WASTEWATER ACCOUNT

SCHEDULE #1-CHECKS OVER $10,000

CHECK #	NAME	DESCRIPTION	AMOUNT
2523	DESERT WATER AGENCY - OPERATING	8" MAIN - THE DISTRICT (W/O # 15-002--08)	$23,032.66
2525	COACHELLA VALLEY WATER DISTRICT	WASTEWATER REVENUE BILLING FOR OCTOBER 2017	$50,131.86
		** TOTAL	$73,164.52

DESERT WATER AGENCY
WASTEWATER FUND - LISTING OF INVESTMENTS
NOVEMBER 30, 2017

PURCH DATE	NAME	DESCRIPTION	MATURITY DATE	COST	PAR VALUE	MARKET VALUE	YIELD TO MATURITY
		Local Agency Invstment Fund					
06-30-83	State of California	LAIF	Open	$ 1,179,890.93	$ 1,179,890.93	$ 1,179,890.93	1.180%
		TOTAL INVESTED @ 11/30/17		$ 1,179,890.93	$ 1,179,890.93	$ 1,179,890.93	
		BALANCE @ 06/30/17		$ 1,142,620.01			
		INCREASE OR (DECREASE)		$ 37,270.92			

DESERT WATER AGENCY - OPERATING FUND
COMPARATIVE EARNINGS STATEMENT

MONTH 17-18 NOVEMBER	THIS MONTH THIS YEAR	THIS MONTH LAST YEAR	THIS MONTH BUDGET	FISCAL YEAR TO DATE THIS YEAR	FISCAL YEAR TO DATE LAST YEAR	FISCAL YEAR TO DATE BUDGET	VARIANCE YTD	VARIANCE PCT
OPERATING REVENUES								
WATER SALES	2,619,252.32	1,998,804.02	2,195,000.00	13,788,056.22	11,361,581.34	13,057,575.00	730,481.22	6
RECLAMATION SALES	154,765.40	139,550.47	135,500.00	726,234.48	752,321.42	683,400.00	42,834.48	6
POWER SALES	1,253.61	392.60	2,000.00	17,206.87	13,185.88	10,000.00	7,206.87	72
OTHER OPER REVENUE	232,957.65	73,356.00	130,700.00	927,619.68	538,767.37	653,500.00	274,119.68	42
TOTAL OPER REVENUES	3,008,228.98	2,212,103.09	2,463,200.00	15,459,117.25	12,665,856.01	14,404,475.00	1,054,642.25	7
OPERATING EXPENSES								
SOURCE OF SUPPLY EXP	24,840.60	34,802.17	36,825.00	1,351,007.54	1,101,773.71	1,305,250.00	45,757.54	4
PUMPING EXPENSE	273,152.57	245,865.71	265,875.00	1,360,815.20	1,278,558.67	1,414,775.00	53,959.80-	4-
REGULATORY WATER TREAT	61,691.48	52,119.28	42,500.00	232,199.75	213,273.81	212,500.00	19,699.75	9
TRANS & DIST EXPENSE	226,715.08	226,373.45	437,800.00	1,007,509.51	1,007,353.47	2,189,000.00	1,181,490.49-	54-
CUSTOMER ACT EXPENSE	89,527.38	104,981.50	81,525.00	360,793.38	377,806.07	401,625.00	40,831.62-	10-
ADMIN & GEN EXPENSE	376,209.72	682,635.19	602,275.00	3,627,822.21	4,051,132.32	4,010,075.00	382,252.79-	10-
REGULATORY EXPENSE	11,812.77	35,811.74	25,125.00	64,231.31	71,081.09	125,775.00	61,543.69-	49-
SNOW CREEK HYDRO EXP	1,699.06	2,052.37	3,350.00	8,251.80	21,688.64	16,750.00	8,498.20-	51-
RECLAMATION PLNT EXP	85,645.59	111,529.91	207,800.00	376,081.24	331,258.69	1,039,575.00	663,493.76-	64-
SUB-TOTAL	1,151,294.25	1,496,171.32	1,703,075.00	8,388,711.94	8,453,926.47	10,715,325.00	2,326,613.06-	22-
OTHER OPER EXPENSES								
DEPRECIATION	462,543.62	460,334.61	471,200.00	2,334,956.27	2,306,063.76	2,356,000.00	21,043.73-	1-
SERVICES RENDERED	25,285.56	20,646.87	11,250.00	102,821.43	58,639.62	56,250.00	46,571.43	83
DIR & INDIR CST FOR WO	117,359.51-	192,173.52-	83,750.00-	798,940.07-	900,308.98-	418,750.00-	380,190.07-	91
TOTAL OPER EXPENSES	1,521,763.92	1,784,979.28	2,101,775.00	10,027,549.57	9,918,320.87	12,708,825.00	2,681,275.43-	21-
NET INCOME FROM OPERATIONS	1,486,465.06	427,123.81	361,425.00	5,431,567.68	2,747,535.14	1,695,650.00	3,735,917.68	220
NON-OPERATING INCOME (NET)								
RENTS	3,396.33	5,186.87	3,395.00	48,821.65	50,500.59	48,805.00	16.65	0
INTEREST REVENUES	18,668.95	10,219.32	10,250.00	80,643.40	45,007.74	51,250.00	29,393.40	57
OTHER REVENUES	.00	240.00	.00	1,880.36	460.00	.00	1,880.36	0
GAINS ON RETIREMENT	.00	.00	750.00	14,095.00	32.34	2,250.00	11,845.00	526
DISCOUNTS	.00	2.12	300.00	164.22	162.73	1,500.00	1,335.78-	89-
PR. YEAR EXPENSES	.00	.00	.00	161,622.97	.00	.00	161,622.97	0
LOSS ON RETIREMENTS	.00	.00	3,000.00-	13,803.41-	10,672.67-	15,000.00-	1,196.59	8-
TOTAL NON-OPER INCOME	22,065.28	15,648.31	11,695.00	293,424.19	85,490.73	88,805.00	204,619.19	230
TOTAL NET INCOME	1,508,530.34	442,772.12	373,120.00	5,724,991.87	2,833,025.87	1,784,455.00	3,940,536.87	221

7-A

STAFF REPORT
TO
DESERT WATER AGENCY
BOARD OF DIRECTORS

DECEMBER 19, 2017

RE: REQUEST ADOPTION OF RESOLUTION NO. 1174, GRANTING RETIREMENT STATUS TO JEFF NESBIT WITH APPRECIATION

Attached is a copy of Resolution No. 1174 officially granting retirement status to Water Service Worker III, Jeff Nesbit.

Mr. Nesbit will be presented a copy of Resolution No. 1174 acknowledging his 25 years of dedicated service and loyalty to Desert Water Agency.

RESOLUTION NO. 1174

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE DESERT WATER AGENCY GRANTING RETIREMENT STATUS TO JEFFREY NESBIT

WHEREAS, Jeffrey "Jeff" Nesbit began his service with Desert Water Agency on October 26, 1992 as a Water Service Worker I in the Construction Department. He was promoted to Water Service Worker II on April 26, 1996 and Water Service Worker III on March 30, 1998. He transferred to the Operations Department as an Operations Technician I on February 24, 2003. In 2005, he returned to the Construction Department as a Water Service Worker III in the Warehouse/Meter Shop; and is concluding his career in that capacity; and

WHEREAS, over his career with Desert Water Agency, Jeff has worked in the field as a Water Service Worker and Operations Technician and in the Warehouse/Meter Shop ensuring parts and equipment were ready and available for our work crews; and

WHEREAS, Jeff continued his education and obtained Water Distribution Grade III and Water Treatment Grade II certification from the State of California; and

WHEREAS, Jeff as an Operations Technician was responsible for the maintenance and repairs to the Agency's vertical deep well pumping stations, booster stations, sewer lift stations, hydroelectric generators and various reclamation plant equipment; and

WHEREAS, Jeff demonstrated his dedication to the Agency while an Operations Technician by assisting in the Great Chino West Intake flood; and

WHEREAS, Jeff gained experience and training to become an underground line locator for the Agency and was assigned to the Warehouse Department as the Agency's Locator where he shared his knowledge and experience by training staff on how to locate underground water mains and services; and

WHEREAS, Jeff obtained his Class "A" driver's license with hazardous materials endorsement for the benefit of the Agency; and

WHEREAS, Jeff has been keeping the warehouse and meter shop running smoothly and efficiently for the past 12 years; and

WHEREAS, Jeff has consistently been a reliable employee and made himself available when needed and during stand-by assignments; and

WHEREAS, Jeff has maintained a positive attitude and worked harmoniously with co-workers and other department staff during his entire career;

NOW, THEREFORE, BE IT RESOLVED by the Desert Water Agency Board of Directors that

JEFFREY NESBIT

is, with infinite thanks and appreciation for his 25 years of service to the Desert Water Agency, and our community, hereby granted the status of retirement. It is the wish of the Board that Jeff spends countless years enjoying a happy and healthy retirement, for he has earned it.

ADOPTED this 19th day of December 2017, with retirement effective December 29, 2017.

_____

James Cioffi, President

ATTEST:

_____

Kristin Bloomer, Secretary-Treasurer

STAFF REPORT
TO
DESERT WATER AGENCY
BOARD OF DIRECTORS

DECEMBER 19, 2017

RE: RESOLUTION NO. 1175 HONORING COACHELLA VALLEY WATER DISTRICT FOR 100 YEARS OF SERVICE

On January 9, 2018, our neighbor and partner to the east, Coachella Valley Water District, will mark 100 years of service. CVWD's 100th anniversary will be celebrated throughout 2018.

Resolution No. 1175 notes the key areas of collaboration that we've enjoyed – though they are just a few of the many ways that we have worked together over the years.

Board and staff will have an opportunity to present the resolution to CVWD's Board of Directors at its January 9 meeting in Palm Desert.

Staff is very grateful for the partnership with CVWD and recommends approval of Resolution No. 1175 to recognize this important milestone in CVWD's history and pay tribute to our lasting partnership.

RESOLUTION NO. 1175
A RESOLUTION OF THE BOARD OF DIRECTORS OF DESERT WATER AGENCY IN RECOGNITION OF COACHELLA VALLEY WATER DISTRICT'S ONE HUNDRED YEARS OF SERVICE

WHEREAS, on January 9, 1918, valley citizens voted to form the Coachella Valley County Water District, now Coachella Valley Water District;

WHEREAS, Desert Water Agency began partnering with Coachella Valley Water District in 1961, the year Desert Water Agency was formed;

WHEREAS, the agencies serve as the State Water Contractors and water importers for the region;

WHEREAS, Coachella Valley Water District and Desert Water Agency entered into an exchange agreement with Metropolitan Water District of Southern California in 1967 to receive Colorado River water in lieu of State Water Project Water;

WHEREAS, the agencies have built, operated and maintained local delivery and recharge facilities in the west valley with mutual support;

WHEREAS, Coachella Valley Water District and Desert Water Agency accept advanced water deliveries by Metropolitan Water District;

WHEREAS, the agencies have replenished more than 3.5 trillion gallons with 2017 as a milestone year for water deliveries to the region;

WHEREAS, Coachella Valley Water District and Desert Water Agency expect to eliminate overdraft in the near future;

WHEREAS, the agencies generate clean hydropower from the imported water deliveries to sell to Southern California Edison;

WHEREAS, Coachella Valley Water District and Desert Water Agency are partners in a Settlement Agreement to manage the Mission Creek subbasin;

WHEREAS, Coachella Valley Water District and Desert Water Agency are two of the partners in the development of the 2013 Mission Creek/Garnet Hill Water Management Plan;

WHEREAS, Coachella Valley Water District and Desert Water Agency are two of the partners in the development and submission of Alternative Sustainability Plans under the Sustainable Groundwater Management Act for the Indio, and Mission Creek subbasins;

WHEREAS, Coachella Valley Water District and other regional partners developed the Coachella Valley Integrated Regional Water Management Plan in 2010 with an update in 2014 and another underway now;

WHEREAS, the agencies work together to allow emergency connections for water service;

WHEREAS, Coachella Valley Water District provides sewer treatment service Desert Water Agency's wastewater customers;

WHEREAS, Coachella Valley Water District and Desert Water Agency are two of six members of the CV Water Counts collaborative on outreach on regional water issues;

WHEREAS, the agencies continue to engage in conservation measures to ensure the sustainable management of the most critical resource to human health; and

WHEREAS, Coachella Valley Water District continues to provide excellent service to families, businesses and municipalities across the Coachella Valley.

NOW, THEREFORE, BE IT RESOLVED on this 19th day of December, 2017 that the Desert Water Agency Board of Directors, now congratulates Coachella Valley Water District on its 100-year history and commends the Board of Directors and District leadership on planning for the next 100 years.

ADOPTED this 19th day of December 2017.

_____
James Cioffi, President

ATTEST:

_____
Kristin Bloomer, Secretary-Treasurer

7-C

STAFF REPORT
TO
DESERT WATER AGENCY
BOARD OF DIRECTORS

DECEMBER 19, 2017

RE: REQUEST ACCEPTANCE OF SINGER LEWAK LLP ANNUAL AUDIT FOR 2016-2017 FISCAL YEAR

Linda Devlin and Chad Halliday of Singer Lewak LLP, will be in attendance at today's meeting, at which time they will present its report on the Audit of Desert Water Agency's financial activities for Fiscal Year 2016-2017, and will answer any questions the Board may have with regard to the audit.

Staff has reviewed the attached Audit Report and recommends it be accepted by the Board.

7-D

STAFF REPORT
TO
DESERT WATER AGENCY
BOARD OF DIRECTORS

DECEMBER 19, 2017

RE: SEVENTH ADMENDMENT TO TOLLING AND WAIVER AGREEMENT

The current tolling agreement to suspend the deadline for challenging protested items on the statement of charges (SOC) received from the Department of Water Resources (DWR) under the Agency's water supply contract will expire on December 31, 2017. The State Water Contractors (SWC) staff are requesting adoption of a seventh amendment to the tolling agreement which would extend the agreement for 2 years to December 31, 2019. Among other things, the Agreement, as currently amended through the Sixth Amendment, tolls the statute of limitations with regard to certain Claims beginning with the Effective Date of the Agreement through and including December 31, 2017. The Claims specified in the Agreement, as amended through the Sixth Amendment, include, with certain exceptions, DWR's bills to the Contractors for Calendar years 2007 through and including 2018, but do not include bills for subsequent years.

In accordance with contract requirements, formal protests concerning the annual SOC's are due no later than December 21st each year. DWR often sends out its revised SOC's in November or December leaving insufficient time for SWC's to file protests by the December 21st deadline. The tolling agreement provides the SWC's the time and the forum to lodge their protests and provides DWR the ability to address the protest items and potentially avoid legal action.

Prior to 2008, there was no alternative to dealing with protest issues other than that provided by the contract. The positive outcome of this process is that DWR has begun to address a significant number of these issues without requiring the contractors to take legal action. The tolling agreement is expected to continue into the future.

Staff requests authorization to execute the amendment extending the tolling agreement for up to two years pending contractor consensus and legal counsel review.

SEVENTH AMENDMENT TO TOLLING AND WAIVER AGREEMENT

This SEVENTH AMENDMENT TO TOLLING AND WAIVER AGREEMENT ("Seventh Amendment"), which shall be effective as of December 15, 2017 ("Effective Date of Seventh Amendment"), is entered into by and between _____ ("AGENCY") and the CALIFORNIA DEPARTMENT OF WATER RESOURCES ("DWR"). AGENCY and DWR are referred to individually as a "Party" and collectively as the "Parties."

RECITALS

A. In 2007, the Parties entered into a Tolling and Waiver Agreement ("Agreement"), and thereafter entered into the First Amendment with an effective date of December 15, 2007 ("First Amendment"), Second Amendment with an effective date of December 15, 2008 ("Second Amendment"), Third Amendment with an effective date of September 15, 2009 ("Third Amendment") , Fourth Amendment with an effective date of December 15, 2010 ("Fourth Amendment"), Fifth Amendment with an effective date of December 15, 2012 ("Fifth Amendment") and Sixth Amendment with an effective date of December 15, 2015 ("Sixth Amendment"). Except as otherwise set forth in this Seventh Amendment, capitalized terms have the meanings given to such terms in the Agreement, as amended.

B. Among other things, the Agreement, as currently amended through the Sixth Amendment, tolls the statute of limitations with regard to certain Claims beginning with the Effective Date of the Agreement through and including December 31, 2017. The Claims specified in the Agreement, as amended through the Sixth Amendment, include, with certain exceptions, DWR's bills to the Contractors for calendar years 2007 through and including 2018, but do not include bills for subsequent years.

C. Thus, in the absence of an amendment to extend the tolling period beyond December 31, 2017, AGENCY will be required to formally protest and/or take other legal action to preserve its rights to pursue Claims under the Agreement, as amended, upon expiration of the tolling period on December 31, 2017. In addition, in the absence of an amendment to the Agreement regarding the SWP bills for 2019 and 2020, AGENCY will be required to formally

protest its SWP bills for 2019 and 2020 and/or take other legal action to preserve any claims it may have with respect to such bills.

D. The Parties currently are engaged in good faith discussions concerning a possible resolution of the claims related to the SWP bills issued for calendar years 2007 through and including 2018, and certain other claims related to the State Water Project. In order to facilitate these discussions, the Parties agree that the applicable tolling period for pursuing Claims as set out in the Agreement, as amended, (with the exception of the issues set out in Exhibit 1, Exhibit 2A and Exhibit 2B) should be extended through December 31, 2019 and that claims related to the SWP bills issued by DWR for 2019 and 2020, including any revisions made on or before December 31, 2019, should also be tolled.

E. The Parties also recognize that there may be issues that they are not able to resolve through good faith discussions and that a Party to this Agreement and/or a Contractor which has entered into a similar, but separate, tolling and waiver agreement with DWR may desire to seek formal dispute resolution or other legal action on such issues before the end of the tolling period on December 31, 2019. Accordingly, the Parties have included procedures in this Agreement, as amended, and DWR has included similar procedures in its tolling and waiver agreements with other Contractors to allow any party (including DWR) to exclude issues from the tolling provisions before the end of the tolling period and to have such exclusion apply to and bind DWR and all other Contractors with tolling and waiver agreements with DWR.

NOW, THEREFORE, AGENCY and DWR, for good and adequate consideration, the sufficiency of which is hereby acknowledged, agree to the following:

TERMS OF SEVENTH AMENDMENT

1. The text in Paragraph 1(b) of the Agreement, as amended by the Sixth Amendment, is deleted in its entirety and replaced with the following text, shown here in italics:

(b) (i) The term "Claims" is broadly defined to include any and all claims for relief, actions, suits, causes of action, damages, debts, costs, demands, losses, liabilities and obligations of whatever nature, whether legal or equitable, and notices of contest under Article 29(i) of the State Water Contracts that arise out of or are related to: (1) the

Metropolitan Claim; (2) the use, prior to July 1, 2006, of revenue bond proceeds and commercial paper note proceeds to pay "costs incurred for the enhancement of fish and wildlife or for the development of public recreation"; (3) the related establishment, restatement or adjustment of charges and rate reductions under the State Water Contracts; (4) the accounting for the costs of the San Joaquin Drainage Program; (5) the allocation of the costs of certain facilities in the Delta to the purposes of the development of public recreation and the enhancement of fish and wildlife; (6) DWR's bills to the Contractors for calendar years 2007 through and including 2020, including any revisions to such bills made on or before December 31, 2019; provided that the term "Claims" does not include the issue set out in Exhibit 1, attached hereto, effective January 1, 2009; the issues set out in Exhibit 2A, attached hereto, effective January 1, 2016 and the issues set out in Exhibit 2B, attached hereto, effective January 1, 2018. To the extent the issue set out in Exhibit 1 was heretofore included within the term "Claims", the Tolling Period Expiration Date for such issue as used in Paragraph 4 shall be deemed to be December 31, 2008. To the extent the issues set out in Exhibit 2A were heretofore included within the term "Claims", the Tolling Period Expiration Date for such issues as used in Paragraph 4 shall be deemed to be December 31, 2015. To the extent the issues set out in Exhibit 2B were heretofore included within the term "Claims", the Tolling Period Expiration Date for such issues as used in Paragraph 4 shall be deemed to be December 31, 2017. In addition, the term "Claims" shall not include any issue to the extent such issue is excluded from the term "Claims" pursuant to the provisions of Paragraph 1(b)(ii) or 1(b)(iii)

(ii) Any Party (including DWR) to this Agreement may elect to remove one or more of the issues set out in Exhibit 3 from the term "Claims" by giving 60 days advance written notice to DWR and the other Contractors which have tolling and waiver agreements with DWR with a tolling period expiration date that has been extended to December 31, 2019. Such notice shall specify the effective date of such exclusion and shall apply to and be binding upon DWR and the other Contractors listed in Exhibit 4 which have a tolling and waiver agreement with DWR with a tolling period expiration date that has been extended to December 31, 22019. Exhibit 4 contains a listing of all water contractors which entered into the previous tolling and waiver agreement

amendment extending the tolling period to December 31, 2017, and which are expected to enter into amendments to extend their tolling periods to December 31, 2019. To be effective, such notice must be received by DWR and shall be effective as to all other Contractors with tolling and waiver agreements with DWR with a tolling period expiration date that has been extended to December 31, 2019, even if one or more of such Contractors do not receive such notice. The effect of such notice by one Party or by any Contractor with a tolling and waiver agreement with DWR shall be to exclude such issue or issues from the term "Claims" in this Agreement and in the tolling and waiver agreements of DWR and the other Contractors listed in Exhibit 4 with a tolling period expiration date that has been extended to December 31, 2019. To the extent the issue or issues set out in the notice were heretofore included within the term "Claims", the Tolling Period Expiration Date for each such issue as used in Paragraph 4 shall be the issue exclusion date so specified in the notice.

(iii) Any Party (including DWR) to this Agreement may elect to remove one or more issues (other than those listed in Exhibit 3, which are addressed in Paragraph 1(b)(ii)) from the definition of the term "Claims" by giving 120 days advance written notice to DWR and the other Contractors which have tolling and waiver agreements with DWR with a tolling period expiration date that has been extended to December 31, 2019; provided, however, that such Party (if other than DWR) shall notify DWR at least 30 days in advance of the issuance of such 120 day notice and allow DWR the opportunity to discuss the matter with that Party. The Party shall use its best efforts to describe clearly in the notice the issue or issues to be excluded and shall specify the effective date of such exclusion. The notice shall apply to and be binding upon DWR and the other Contractors listed in Exhibit 4 which have a tolling and waiver agreement with DWR with a tolling period expiration date that has been extended to December 31, 2019. To be effective, such notice must be received by DWR and shall be effective as to all other Contractors with tolling and waiver agreements with DWR with a tolling period expiration date that has been extended to December 31, 2019, even if one or more of such Contractors do not receive such notice. The effect of such notice by one Party or by any Contractor with a tolling and waiver agreement with DWR shall be to exclude such issue or issues from the term "Claims" in this Agreement and in the tolling and waiver agreements of DWR and

the other Contractors listed in Exhibit 4 with a tolling period expiration date that has been extended to December 31, 2019. To the extent the issue or issues set out in the notice were heretofore included within the term "Claims", the Tolling Period Expiration Date for each such issue as used in Paragraph 4 shall be the issue exclusion date so specified in the notice.

2. The text in Paragraph 4 of the Agreement, as amended by the Sixth Amendment, is deleted in its entirety and replaced with the following text, shown here in italics:

The Tolling Period Expiration Date is December 31, 2019; provided that DWR may, upon giving 60 days advance written notice to Agency, change the Tolling Period Expiration Date to a date earlier than December 31, 2019 if the sum of the maximum Table A amounts for all Contractors who enter into a Seventh Amendment to the Tolling and Waiver Agreement with DWR (plus the Table A amount for the County of Butte, if the County enters into a Sixth Amendment to the Tolling and Waiver Agreement with DWR) is less than 95% of the sum of the maximum Table A amounts for the 27 Contractors who signed the Monterey Amendment; and provided further that the Tolling Period Expiration Date as to any specific issue may be set at an earlier date pursuant to the provisions of Paragraph 1(b)(ii) or 1(b)(iii). For the time period between the Effective Date of the Agreement and the Tolling Period Expiration Date, inclusive (the "Tolling Period"), Agency and DWR agree that, except as provided for in this Agreement, all Periods of Limitation applicable to all Claims between the Parties, including without limitation those described in the Metropolitan Claim, shall be tolled and waived, shall not run or expire, and shall not operate in any manner so as to prejudice, bar, limit, create a defense to or in any way restrict Claims between the Parties. Except as provided in Paragraph 2 herein, after the Tolling Period Expiration Date, the Parties shall have the same rights, remedies, and damages each of them had on the Effective Date of the Agreement and the Tolling Period shall be excluded from any time calculation in determining whether any period of limitations has run; provided, however, that with regard to Claims pertaining to DWR's bills to the Contractors for calendar years 2007 through and including 2020, AGENCY shall have until 60 days from the Tolling Period Expiration Date to submit notices of contest to DWR for Claims pertaining to any such bills for calendar years 2007 through and including 2020. Except for the Parties' waiver

of the Statute of Limitations as provided herein and except as provided in Paragraph 2 herein, this Agreement shall not operate as a waiver of any Claims or defenses that either Party may have against the other.

3. Exhibit 1, entitled "Issue Not Included in the Term "Claims" Effective January 1, 2009", which title was changed by the Fifth Amendment, remains unchanged as a part of this Agreement and is attached.

4. Exhibit 2, entitled "Issues Not Included in the Term "Claims" for Purposes of the Tolling and Waiver Agreement Extension Beginning January 1, 2013", which was added by the Fifth Amendment, did not have any issues listed and was therefore deleted in its entirety and replaced in the Sixth Amendment by Exhibit 2, entitled "Issues Not Included in the Term "Claims" Effective January 1, 2016". Exhibit 2 is hereby renumbered as Exhibit 2A and remains entitled "Issues Not Included in the Term "Claims" Effective January 1, 2016 and is attached and remains a part of this Agreement.

5. Exhibit 2B, entitled "Issues Not Included in the Term "Claims" Effective January 1, 2018", is attached and made a part of this Agreement.

6. Exhibit 3, entitled "Issues that May be Excluded from the Term "Claims" upon 60 Days Advance Notice", which was added by the Fourth Amendment, is amended by listing additional issues, if any, to issues 1 and 2 previously listed therein, and such Exhibit 3 as amended is attached and remains a part of this Agreement.

7. Exhibit 4, entitled "Contractors which Signed Prior Tolling Agreement Amendment Extending Tolling Period to December 31, 2015 and which are Expected to Enter into Amendment to Extend Tolling Period to December 31, 2017", which was added by the Sixth Amendment, is deleted in its entirety and replaced by Exhibit 4 entitled "Contractors which Signed Prior Tolling Agreement Amendment Extending Tolling Period to December 31, 2017, and which are Expected to Enter into Amendment to Extend Tolling Period to December 31, 2019", which is attached and made a part of this Agreement.

8. All other terms and conditions of the Agreement, as amended, are unchanged by this Seventh Amendment and shall remain in full force and effect.

9. In consideration of the extension of the tolling period provided by this Seventh Amendment, the Parties intend to continue to use their best efforts to discuss and seek to resolve, in a timely manner, as many of the remaining issues as practicable that have been tolled by this agreement or that have otherwise been raised in the resolution process established in response to this Agreement.

10. Each individual signing below represents and warrants that he or she is authorized to execute this Seventh Amendment on behalf of the respective Parties to this Seventh Amendment and does so freely and voluntarily.

11. Each Party warrants and represents that, in executing this Seventh Amendment, it has relied upon legal advice from counsel of its choice; that the terms of this Seventh Amendment have been read and its consequences have been completely explained to it by counsel; that it fully understands the terms of this Seventh Amendment; and that it knows of no reason why this Seventh Amendment shall not be a valid and binding agreement of that Party.

12. This Seventh Amendment may be executed in counterparts.

DATED:_____ _____

SPENCER KENNER
Chief Counsel
Attorney for DWR

DATED:_____ _____

Name:
Title:
For AGENCY

EXHIBIT 1

ISSUE NOT INCLUDED IN THE TERM "CLAIMS"
EFFECTIVE JANUARY 1, 2009

1. The validity of charges for costs incurred by DWR at Perris Reservoir for beach sand, the ADA fishing pier, and marina repairs and relocation, which have been billed to and included in the annual Statements of Charges issued to Metropolitan Water District, Coachella Valley Water District and Desert Water Agency for calendar years 2008 and 2009.

EXHIBIT 2A

ISSUES NOT INCLUDED IN THE TERM "CLAIMS" EFFECTIVE JANUARY 1, 2016

FOR THE COMPLETE LIST OF "ISSUES NOT INCLUDED IN THE TERM "CLAIMS" EFFECTIVE JANUARY 1, 2016" PLEASE REFER TO EXHIBIT 2 IN THE SIXTH AMENDMENT. THOSE ISSUES ARE DEEMED INCORPORATED HEREIN AS THOUGH FULLY SET FORTH IN THIS EXHIBIT 2A.

EXHIBIT 2B

ISSUES NOT INCLUDED IN THE TERM "CLAIMS" EFFECTIVE JANUARY 1, 2018

1. Whether the delta cross channel study costs and other Delta-related costs totaling approximately $5,960,000 were improperly allocated statewide from 2009-2014 instead of through the Delta Water Charge. Resolution: The Department corrected the allocation by reallocating the costs to Reach 300 in the Delta and this was reflected in the 2016 and 2017 Statements of Charges.

2. Whether the Central Coast Water Agency on behalf of Santa Barbara overpaid the Coastal Extension debt service by approximately $328,882 as of 4/20/2010. Resolution: The Department verified that the overpayment amounted to approximately $328,882 as of April 20, 2010 and credited back the overpayment to Santa Barbara and this was reflected in the 2011 Statements of Charges.

3. Whether the litigation settlement costs of approximately $2 million for the San Luis Canal and Arroyo Pasajero Flood Control Improvement Project were incorrectly allocated to the Contractors in 2010. Resolution: The Department reviewed this item and determined that it had correctly allocated the costs to the Contractors and no changes were necessary.

4. Whether the 2009 LADWP peaking credit of approximately $583,000 was included twice in the transportation variable charges. Resolution: The Department removed the duplicate peaking credit of approximately $583,000 and this was reflected in the 2017 Statements of Charges.

5. Whether a reconciliation of the 2009 power data compiled by the Joint Operations Center (JOC) and SWPAO was not performed by the Department and whether the 2009 Preliminary Allocation of Power Costs (PALPOC) has not been reconciled to the Department's Accounting software (SAP) in the 2011 Statements of Charges. Resolution: The Department does not reconcile the PALPOC to the JOC, only to the Financial Accounting System (PR5) and then it becomes a Final Allocation of Power Cost (FALPOC). The Department, therefore, determined no corrective action is required.

6. Whether replacement parts totaling approximately $1,195,000 were included in the Delta Water Charge in error. Resolution: The replacements parts were purchased as inventory therefore the costs were properly included in the Delta Water Charge. The costs will be removed from and credited to the Delta Water Charge and included in and paid from the Replacement Accounting System when the replacement parts are placed in service.

7. Whether the Delta-related costs in cost center 1101FAD890 were incorrectly allocated statewide. Resolution: The Department reallocated the costs back to Reach 300 in the Delta and this was reflected in the 2015 Statements of Charges.

8. Whether the 2013 variable charges were overstated by approximately $225,000 due to the misposting of a credit for Hyatt Thermalito refurbishment costs. Resolution: The Department corrected the posting of this credit and this was reflected in the 2017 Statements of Charges.

9. Whether expenditures were posted with an incorrect cost element in the accounting system related to gas hedging fee credits in the Utility Cost Allocation Billing System (UCABS), but were not reflected in the Financial Accounting System (PR5), causing an imbalance between the two systems in the 2013 Statements of Charges. Resolution: In September 2015, the Department reversed the credits that were incorrectly posted in UCABS, totaling approximately $973,666. The balance in UCABS and PR5 are now the same.

10. Whether multiple reach allocations (alpha allocation cycles) for 2011 used the 2010 listing of functional areas, resulting in an understatement to Metropolitan by $8,291. Resolution: The Department updated the alpha allocation cycles through 2013, and the change was reflected in 2014 Statements of Charges.

11. Whether the incremental revenues and incremental costs in the calculation of the 2013 Delta Water Charges included errors. Resolution: The Department corrected the incremental revenues and incremental costs in the calculation of the 2013 Delta Water Charges and this was reflected in the 2014 Statements of Charges.

12. Whether station service credits were miscalculated for 2011 by using 2009 estimated station service energy and excluding East Branch Extension plants from the calculation in the 2013 Statements of Charges. Resolution: The Department updated station service credits to include East Branch Extension plants in the calculation for 2011 and this was reflected in the 2016 Statements of Charges.

13. Whether replacement parts for Edmonston and Chrisman Pumping Plants totaling approximately $2,900,000 were included in the transportation minimum component in error. Resolution: The replacements parts were purchased as inventory. Therefore the costs were properly included in transportation minimum component. The costs will be removed from and credited to the transportation minimum component and included in and paid from the Replacement Accounting System when the replacement parts are placed in service.

14. Whether water data used to calculate the 2012 off-aqueduct charges were outdated, resulting in an overstatement of Metropolitan's refund. Resolution: The Department updated water delivery data to calculate 2012 off-aqueduct power charges and the change was reflected in the final version of water delivery data released in May 2014.

15. Whether multiple reach allocations (alpha allocation cycles) for 2012 should not have used the 2010 listing of functional areas. Resolution: The Department updated the alpha allocation cycles through 2013 and the change was reflected in 2014 Statements of Charges.

16. Whether costs related to the LOSBANOS cost center group were miscalculated in the three-year average calculation in the 2014 Statements of Charges. Resolution: The Department corrected a formula error that incorrectly included a three-year average value. This correction was reflected in the 2015 Statements of Charges.

17. Whether the Department manually included the project costs for the San Joaquin River Flow Augmentation Program (SJRFAP) in the Delta Water Charge calculation for 2013 and removed these costs in the subsequent year through the Delta Water Charge (DWC) calculation causing a present value misstatement. Resolution: The Department reviewed this item and determined that the Department's approach was consistent with the Contractors' Board of Director's prior recommendation and that; therefore, no changes are required.

18. Whether station service credits were miscalculated for 2012 by excluding East Branch Extension plants from the calculation in the 2014 Statements of Charges. Resolution: The Department updated the station service credits to include East Branch Extension plants in the calculation for 2012 and this was reflected in the 2016 Statements of Charges.

19. Whether there is a variance in the 2014 Statements of Charges between the Contractors' variable transportation component for 2012 included in Attachment 4C when compared to SAP. Resolution: The Department corrected this item in the Rebill for 2014 Statements of Charges by using actual costs from SAP, totaling approximately $187,445,000.

20. Whether CAISO ancillary services revenue for 2014 and 2015 were incorrectly entered in the 2015 Statements of Charges. Resolution: The Department adjusted the calculations with a positive value, rather than a negative value, which decreased net power costs. This was only a projection issue that occurred within years that were 100% projection based. This was corrected for the variable projections in 2015 and this was reflected in the 2016 Statements of Charges.

21. Whether 2015 costs totaling approximately $3.7 million that appear to benefit the Oroville Division were allocated statewide through the conservation and transportation minimum components. Resolution: The Department revised costs totaling approximately $3.1 million that benefit the Oroville Division from a statewide allocation to the Oroville Division and this was reflected in the 2017 Statements of Charges.

22. Whether the Department improperly reversed a credit of approximately $420,000 recorded in 2006 for Hyatt refurbishment project related costs and charged it to the contractors in the 2013 Statements of Charges, Resolution: The Department removed the charge of approximately $420,000 and the change was reflected in the 2017 Statements of Charges.

23. Whether costs totaling approximately $4,400,000 related to the fish science building and the Curtis Landing fish release site were double counted in the 2015 Statements of Charges. Resolution: The Department adjusted the accounting entries for the costs related to the fish science building and the Curtis Landing fish release site to remove the double counting and this was reflected in the rebill of the 2015 Statements of Charges.

24. Whether two recreation cost centers (M540395142 and M540395242) were improperly included in the calculation of the Contractor's charges and one cost center (M540395112) was improperly excluded. Resolution: The Department removed the two recreation cost centers and included the one cost center in the calculation of the Contractor's charges and this was reflected in the 2016 Statements of Charges.

25. Whether revenues totaling approximately $428,000 from a contract between the Department and the East Contra Costa Irrigation District were not properly included to reduce the Contractor's charges. Resolution: The Department included the revenues from the East Contra Costa Irrigation District contract to reduce the Contractors' charges and this was reflected in the 2016 Statements of Charges.

26. Whether the mill rates of 96 and 137 to compute 2014 recovery generation charges for Alamo and Mojave Siphon, respectively, were incorrect in the 2015 Statements of Charges. Resolution: The Department corrected the mill rates and used 92 and 140 as presented in the Bulletin 132-14 and the change was reflected in the 2016 Statements of Charges.

27. Whether the methodology for calculating projected O&M costs used in the Alamo recovery generation calculation was improperly modified for the 2015 Statements of Charges. Resolution: The Department applied the previous method using the most recent three-year average for calculating projected O&M costs and the change was reflected in the 2016 Statements of Charges.

28. Whether 2015 compliance costs of approximately $432,000 were improperly excluded from the transportation minimum component. Resolution: The Department corrected this by including the compliance costs totaling approximately $432,000 in the transportation minimum component and this was reflected in the 2016 Statements of Charges.

29. Whether the 2013 estimate for Southern California power facility relicensing costs was used to compute the contractors' 2014 variable charges instead of the 2014

estimate. Resolution: The Department reviewed the issue and determined to capitalize the Southern California power facility relicensing costs (FERC 2426) for 2013 and forward. The revisions were reflected in the 2015 Statements of Charges Rebill.

30. Whether the cost center C540395112, which was created in 2012, was not included in the Cost Allocation and Repayment Analysis Cost Center System's (CARACCS) hierarchy until after the Department calculated the capital Delta Water Charge for 2015. Resolution: The Department added the cost center C540395112 to the CARACCS hierarchy and it was reflected in the capital Delta Water Charge. This was included in the November 2014 Rebill of the 2015 Statements of Charges.

31. Whether a cost center (M540395112), created in 2013, was not properly included in the calculation of the Delta Water Charge minimum component. Resolution: The Department included the cost center in the calculation of the Delta Water Charge minimum component and this was reflected in the rebill of the 2015 Statements of Charges.

32. Whether the calculation of the Hyatt-Thermalito credit did not include the Thermalito debt service charge and resulted in an overstatement of Metropolitan's capital costs in the 2014 Statements of Charges. Resolution: The Department included the Thermalito debt service charge in the calculation of the Hyatt-Thermalito credit and the revision was reflected in the 2015 Statements of Charges Rebill.

33. Whether the Coastal reallocation did not include all transportation minimum costs that were allocated to Reaches 33B, 34, and 35 in years 2000 - 2013. Resolution: The Department corrected the Coastal reallocation to include all transportation minimum costs of Reaches 33B, 34, and 35 and this was reflected in the 2014 Rebill of the 2015 Statements of Charges.

34. Whether a cost of $11,546 was improperly charged directly to reach CA-28G, rather than the Southern Field Division in the 2013 Statements of Charges. Resolution: The Department reviewed the issue and determined the cost was properly allocated and charged.

35. Whether a new cost center (C540391212) was not properly included in the calculation of the Delta Water Charge capital component of the 2015 Statements of Charges. Resolution: The Department included the cost center in the calculation of the Delta Water Charge capital component and this was reflected in the rebill of the 2015 Statements of Charges.

36. Whether there were discrepancies in the amounts of water billed versus delivered to the Central Coast Water Agency in 2011 and 2014. Resolution: The Department corrected the water data for 2011 and this was reflected in the 2018

Statements of Charges. The Department reviewed and determined that no changes are required to the 2014 water data.

37. Whether the Hyatt Unit 6 leak investigation costs of approximately $7,543,000 were double billed when entries were made to move the costs from the conservation minimum to the conservation capital component in 2014. Resolution: The Department corrected the double billing of the Hyatt Unit 6 investigation costs and this was reflected in the 2017 Statements of Charges.

38. Whether South Bay Improvement debt service costs included in the variable charges were overstated for 2015 by approximately $31,000. Resolution: The Department reduced the South Bay Improvement debt service costs included in the variable charges for 2015 by approximately $29,000 and this was reflected in the 2017 Statements of Charges.

39. Whether the 2015 Hyatt Thermalito Operations & Maintenance estimate included in the computation of the variable component is understated by approximately $334,000 and the 2016 Hyatt Thermalito Operations & Maintenance estimate included as a credit in the computation of the Delta Water Rate is understated by approximately $70,000. Resolution: The Department corrected these items and these changes were reflected in the 2017 Statements of Charges.

40. Whether the adjustments to reflect the use of emission allowances were improperly excluded from the 2013 and 2014 variable charges. Resolution: The Department included the emission allowances adjustments in the 2013 and 2014 variable charges and this was reflected in the 2017 Statements of Charges.

41. Whether the renewable power procurement costs of approximately $8,004,000 were improperly excluded from the net power costs for 2016. Resolution: The Department included the renewable power procurement costs totaling approximately $8,004,000 in the net power costs for 2016 and this was reflected in the 2017 Statements of Charges.

EXHIBIT 3

ISSUES THAT MAY BE EXCLUDED FROM THE TERM "CLAIMS" UPON 60 DAYS ADVANCE NOTICE

1. The Department of Water Resources' change in funding the costs of the San Joaquin Valley Drainage program from the Capital Facilities Account (as established pursuant to Article 51 (b) (1) of the State Water Contract) prior to 2006 to operations and maintenance costs beginning in 2006, but not including the Department's retention of unused Capital Facility Account balances in 2006 and 2007 for anticipated future year capital expenditures (which retention issue shall not be subject to exclusion upon 60 days notice).

2. All Claims arising out of or related to the determination, allocation and/or payment of fish and wildlife enhancement and recreation costs incurred in constructing, operating and maintaining the State Water Project Perris Reservoir and any of its appurtenant, ancillary or related facilities, including, but not limited to, such costs associated with any actions taken at Perris Reservoir to address seismic safety issues. ("Claims" as used in this item 2, does not include the issue described in Exhibit 1, item 1.)

EXHIBIT 4

CONTRACTORS WHICH SIGNED PRIOR TOLLING AGREEMENT AMENDMENT EXTENDING TOLLING PERIOD TO DECEMBER 31, 2017 AND WHICH ARE EXPECTED TO ENTER INTO AMENDMENT TO EXTEND TOLLING PERIOD TO DECEMBER 31, 2019

Jill Duerig, General Manager
Alameda County FC&WCD, Zone 7
100 North Canyons Parkway
Livermore, CA 94551

Robert Shaver, General Manager
Alameda County Water District
43885 So. Grimmer Blvd.
Fremont, CA 94537

Dwayne Chisam, General Manager
Antelope Valley/East Kern Water Agency
6500 West Avenue N
Palmdale, CA 93551-2855

Bruce Alpert, County Counsel
Butte County
2279 Del Oro Avenue, Suite A
Oroville, CA 95965

Matthew Stone, General Manager
Castaic Lake Water Agency
27234 Bouquet Canyon Road
Santa Clarita, CA 91350

Steve Kroeger, City Manager
City of Yuba City
1201 Civic Center Blvd
Yuba City, CA 95993

Jim Barrett, General Manager
Coachella Valley Water District
P.O. Box 1058
Coachella, CA 92236

Roxanne Holmes, General Manager
Crestline/Lake Arrowhead Water Agency
P.O. Box 3880
Crestline, CA 92325

Dale Melville, Manager-Engineer
Dudley Ridge Water District
286 W. Cromwell Ave
Fresno, CA 93711-6162

John Howe, Manager
Empire West Side Irrigation District
P.O. Box 66
Stratford, CA 93266

Curtis Creel, General Manager
Kern County Water Agency
P.O. Box 58
Bakersfield, CA 93302

Larry Spikes, Administrative Officer
County Of Kings
1400 West Lacey Blvd
Hanford, CA 93230

James Chaisson, General Manager
Littlerock Creek Irrigation District
35141 N.87th Street East
Littlerock, CA 93543

Jeff Kightlinger, General Manager
Metropolitan Water District
P.O. Box 54153
Los Angeles, CA 90054

Tom McCarthy, General Manager
Mojave Water Agency
13846 Conference Center Drive
Apple Valley, CA 92307

Phillip Miller, District Engineer
Napa County FC & WCD
1195 Third Street, Room 201
Napa, CA 94559

Mark Krause, General Manager
Desert Water Agency
P.O. Box 1710
Palm Springs, CA 92263-1710

Dennis Lamoreaux, General Manager
Palmdale Water District
2029 East Avenue Q
Palmdale, CA 93550

Douglas Headrick, General Manager
San Bernardino Valley MWD
380 East Vanderbilt Way
San Bernardino, CA 92408

Darin Kasamoto, General Manager
San Gabriel Valley MWD
P.O. Box 1299
Azusa, CA 91702

Jeff Davis, General Manager
San Gorgonio Pass Water Agency
1210 Beaumont Avenue
Beaumont, CA 92223

Mark Hutchinson, Deputy Director
San Luis Obispo County FC&WCD
976 Osos Street, Room 206
San Luis Obispo, CA 93408

Fray Crease, Water Agency Manager
Santa Barbara County Water Agency
123 East Anapamu Street, 2nd Floor
Santa Barbara, CA 93101-2058

and

Ray Stokes, Executive Director
Central Coast Water Agency
255 Industrial Way
Buellton, CA 93427-9565

Anthea Hansen, Manager
Oak Flat Water District
P.O. Box 1596 / 17840 Ward Avenue
Patterson, CA 95363

Norma Camacho, Chief Executive Officer
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

Roland Sanford, Interim General Manager
Solano County Water Agency
810 Vaca Valley Parkway
Vacaville, CA 95688

Mark Gilkey, General Manager
Tulare Lake Basin WSD
1001 Chase Avenue
Corcoran, CA 93212

Glenn Shephard, Director
Ventura County Watershed Protection District
800 S. Victoria Avenue
Ventura, CA 93009-1600

and

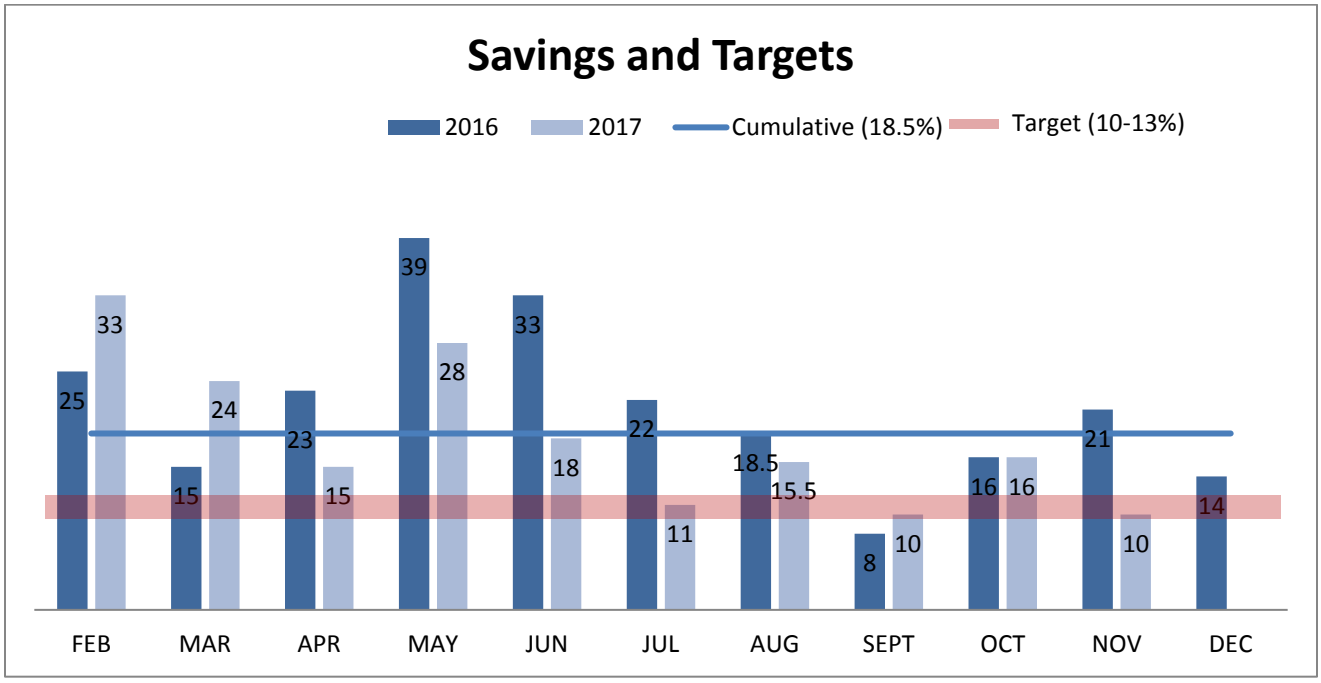
Steve Wickstrum, General Manager
Casitas Municipal Water District
1055 Ventura Avenue
Oakview, CA 93022-9622

STAFF REPORT
TO
DESERT WATER AGENCY
BOARD OF DIRECTORS

DECEMBER 19, 2017

RE: NOVEMBER 2017 WATER USE REDUCTION FIGURES

Desert Water Agency and its customers achieved a 10% percent reduction in potable water production during November 2017 compared to the same month in 2013 – the baseline year used by the State Water Resources Control Board (State Water Board) to measure statewide conservation achievements. DWA continues to report its production to the state on a monthly basis, despite mandatory conservation ending in April 2017.



Staff is also tracking the water use compared to the threshold in the rate study regarding the proposed drought surcharge. This trigger was not met this month and the cumulative since January is far below the 10% trigger (we are 19.9% above the drought surcharge baseline).

DWA is asking its customers to save 10-13% compared to 2013 to help achieve long-term sustainability. The cumulative savings beginning in June of 2016 when we put our 10-13% target in place is 18.5%.

On the following page is additional information for this month.

November 2017 water production	2,776.85 AF
November 2013 water production	3,088.61 AF
Percent changed in this month per drought surcharge baseline (November 2015)	9.93% increase
Quantity of potable water delivered for all commercial, industrial, and institutional users for the reporting month	847.09 AF
The percentage of the Total Monthly Potable Water Production going to residential use only for the reporting month	69.49%
Population (inclusive of seasonal residents)	106,353
Estimated R-GPCD	197
How many public complaints of water waste or violation of conservation rules were received during the reporting month?	37
How many contacts (written/ verbal) were made with customers for actual/ alleged water waste or for a violation of conservation rules?	16
How many formal warning actions (e.g.: written notifications, warning letters, door hangers) were issued for water waste or for a violation of conservation rules?	10
How many penalties were issued for water waste or for a violation of conservation rules?	1

Comments: The Agency's service area is highly seasonal making population analysis a complex task. The State Water Resources Control Board (State Board) analyzes data on a per capita basis.

Historically, DWA has submitted data based on the permanent population of the service area; however that data does not accurately reflect water use in DWA's service area which has a highly seasonal population. Based on local data, the correct population is higher than previously reported. The Residential Gallons Per Capita Per Day (R-GPCD) is being submitted using the corrected population.

DWA would like it noted that the amount of fresh water outflow to the ocean during the month of November was 502,631 acre feet. Additionally, since it began recycling water Desert Water Agency has reclaimed 94,125 acre feet. If our recycled water production for this month was taken into consideration against our potable production, the conservation achieved would have been several percentage points higher.

STAFF REPORT
TO
DESERT WATER AGENCY
BOARD OF DIRECTORS

DECEMBER 19, 2017

RE: ANNUAL REPORTING OF BACK-UP FACILITY AND CAPACITY CHARGES

Attached for the Board's review are summaries of the Back-up Facility Charge and Capacity Charge the Agency collects when a new service connection is made to the water distribution, reclaimed or sewer systems. The amounts collected are used to off-set Agency capital expenditures on production, storage and transmission of water, reclaimed water and sewer collection and transmission facilities.

The Agency has received legal counsel that it does not need to make this report on an annual basis, as the Capital Expenditures exceed the fees collected (when this condition exists, there are no funds to segregate or interest to account for separately as Government Code requires in a situation where fees collected are greater than expenditures for Capital Improvements). However, it is felt it would be prudent to continue making an annual report to the Board in order to show the amounts expended during the year on projects for which the fees were collected, as well as the beginning and ending balances. As the attached summaries indicate, since this reporting requirement began with the 1988-89 fiscal year, Desert Water Agency has expended more funds on potable, sewer, and reclaimed water facilities than actual amounts collected.

Staff's intent is to not only report this information to the Board, but to also make it available to the public upon request.

A copy of the analysis was sent to the Desert Valleys Builders Association (DVBA). After their review, the DVBA approved the analysis and agreed with the report.

DESERT WATER AGENCY

Water Service

Backup Facility Charge Summary

Fiscal Year	Beginning Balance	Fees Collected	Capital Expenditures	Interest Earned	Ending Balance
1988/1989	$ -	$ 283,665	$ (1,105,664)	$ -	$ (821,999)
1989/1990	$ (821,999)	$ 246,640	$ (27,479)	$ -	$ (602,838)
1990/1991	$ (602,838)	$ 157,005	$ (921,486)	$ -	$ (1,367,319)
1991/1992	$ (1,367,319)	$ 167,250	$ (1,981,296)	$ -	$ (3,181,365)
1992/1993	$ (3,181,365)	$ 44,285	$ (12,325)	$ -	$ (3,149,405)
1993/1994	$ (3,149,405)	$ 52,300	$ (551,426)	$ -	$ (3,648,531)
1994/1995	$ (3,648,531)	$ 76,590	$ (1,582,064)	$ -	$ (5,154,005)
1995/1996	$ (5,154,005)	$ 104,680	$ (1,282,271)	$ -	$ (6,331,596)
1996/1997	$ (6,331,596)	$ 81,660	$ (22,324)	$ -	$ (6,272,260)
1997/1998	$ (6,272,260)	$ 98,410	$ (137,782)	$ -	$ (6,311,632)
1998/1999	$ (6,311,632)	$ 158,840	$ (3,383,470)	$ -	$ (9,536,262)
1999/2000	$ (9,536,262)	$ 263,778	$ (23,329)	$ -	$ (9,295,813)
2000/2001	$ (9,295,813)	$ 267,580	$ (4,837)	$ -	$ (9,033,070)
2001/2002	$ (9,033,070)	$ 172,850	$ (889,827)	$ -	$ (9,750,047)
2002/2003	$ (9,750,047)	$ 334,440	$ (1,847,631)	$ -	$ (11,263,238)
2003/2004	$ (11,263,238)	$ 1,277,190	$ (1,299,480)	$ -	$ (11,285,528)
2004/2005	$ (11,285,528)	$ 3,393,467	$ (2,154,904)	$ -	$ (10,046,965)
2005/2006	$ (10,046,965)	$ 1,287,940	$ (2,059,507)	$ -	$ (10,818,532)
2006/2007	$ (10,818,532)	$ 2,218,549	$ (3,300,220)	$ -	$ (11,900,203)
2007/2008	$ (11,900,203)	$ 603,536	$ (781,382)	$ -	$ (12,078,049)
2008/2009	$ (12,078,049)	$ 181,840	$ (7,741,281)	$ -	$ (19,637,490)
2009/2010	$ (19,637,490)	$ 90,820	$ (1,083,717)	$ -	$ (20,630,387)
2010/2011	$ (20,630,387)	$ 138,080	$ (965,570)	$ -	$ (21,457,877)
2011/2012	$ (21,457,877)	$ 396,420	$ (2,437,821)	$ -	$ (23,499,278)
2012/2013	$ (23,499,278)	$ 481,060	$ (1,300,211)	$ -	$ (24,318,429)
2013/2014	$ (24,318,429)	$ 657,460	$ (353,989)	$ -	$ (24,014,958)
2014/2015	$ (24,014,958)	$ 680,110	$ (3,768,248)	$ -	$ (27,103,096)
2015/2016	$ (27,103,096)	$ 574,675	$ (2,952,328)	$ -	$ (29,480,749)
2016/2017	$ (29,480,749)	$ 939,845	$ (2,087,213)		$ (30,628,117)
	Totals	**$ 15,430,965**	$ (46,059,082)	$ -	$ (30,628,117)

BACK-UP FACILITY REVENUE SUMMARY

WATER SERVICE

YEAR	TOTAL REVENUE	CUMULATIVE BALANCE
FISCAL 1988/1989	$ 283,665	$ 283,665
FISCAL 1989/1990	$ 246,640	$ 530,305
FISCAL 1990/1991	$ 157,005	$ 687,310
FISCAL 1991/1992	$ 167,250	$ 854,560
FISCAL 1992/1993	$ 44,285	$ 898,845
FISCAL 1993/1994	$ 52,300	$ 951,145
FISCAL 1994/1995	$ 76,590	$ 1,027,735
FISCAL 1995/1996	$ 104,680	$ 1,132,415
FISCAL 1996/1997	$ 81,660	$ 1,214,075
FISCAL 1997/1998	$ 98,410	$ 1,312,485
FISCAL 1998/1999	$ 158,840	$ 1,471,325
FISCAL 1999/2000	$ 263,778	$ 1,735,103
FISCAL 2000/2001	$ 267,580	$ 2,002,683
FISCAL 2001/2002	$ 172,850	$ 2,175,533
FISCAL 2002/2003	$ 334,440	$ 2,509,973
FISCAL 2003/2004	$ 1,277,190	$ 3,787,163
FISCAL 2004/2005	$ 3,393,467	$ 7,180,630
FISCAL 2005/2006	$ 1,287,940	$ 8,468,570
FISCAL 2006/2007	$ 2,218,549	$ 10,687,119
FISCAL 2007/2008	$ 603,536	$ 11,290,655
FISCAL 2008/2009	$ 181,840	$ 11,472,495
FISCAL 2009/2010	$ 90,820	$ 11,563,315
FISCAL 2010/2011	$ 138,080	$ 11,701,395
FISCAL 2011/2012	$ 396,420	$ 12,097,815
FISCAL 2012/2013	$ 481,060	$ 12,578,875
FISCAL 2013/2014	$ 657,460	$ 13,236,335
FISCAL 2014/2015	$ 680,110	$ 13,916,445
FISCAL 2015/2016	$ 574,675	$ 14,491,120
FISCAL 2016/2017	$ 939,845	**$ 15,430,965**

DESERT WATER AGENCY
Reclamation Water Service
Backup Facility Charge Summary

Fiscal Year	Beginning Balance	Fees Collected	Capital Expenditures	Interest Earned	Ending Balance
1988/1989	$ -	$ -	$ (8,496,895)	$ -	$ (8,496,895)
1989/1990	$ (8,496,895)	$ 96,193	$ (28,934)	$ -	$ (8,429,636)
1990/1991	$ (8,429,636)	$ -	$ -	$ -	$ (8,429,636)
1991/1992	$ (8,429,636)	$ -	$ (37,793)	$ -	$ (8,467,429)
1992/1993	$ (8,467,429)	$ -	$ -	$ -	$ (8,467,429)
1993/1994	$ (8,467,429)	$ -	$ (19,190)	$ -	$ (8,486,619)
1994/1995	$ (8,486,619)	$ -	$ (21,123)	$ -	$ (8,507,742)
1995/1996	$ (8,507,742)	$ -	$ (3,545,644)	$ -	$ (12,053,386)
1996/1997	$ (12,053,386)	$ -	$ (49,258)	$ -	$ (12,102,644)
1997/1998	$ (12,102,644)	$ -	$ (33,313)	$ -	$ (12,135,957)
1998/1999	$ (12,135,957)	$ -	$ (177,863)	$ -	$ (12,313,820)
1999/2000	$ (12,313,820)	$ -	$ (28,864)	$ -	$ (12,342,684)
2000/2001	$ (12,342,684)	$ -	$ (1,207,954)	$ -	$ (13,550,638)
2001/2002	$ (13,550,638)	$ -	$ (339,383)	$ -	$ (13,890,021)
2002/2003	$ (13,890,021)	$ -	$ (38,056)	$ -	$ (13,928,077)
2003/2004	$ (13,928,077)	$ -	$ (522,373)	$ -	$ (14,450,450)
2004/2005	$ (14,450,450)	$ -	$ (50,211)	$ -	$ (14,500,661)
2005/2006	$ (14,500,661)	$ -	$ (25,173)	$ -	$ (14,525,834)
2006/2007	$ (14,525,834)	$ -	$ (4,198,092)	$ -	$ (18,723,926)
2007/2008	$ (18,723,926)	$ -	$ (1,935,892)	$ -	$ (20,659,818)
2008/2009	$ (20,659,818)	$ -	$ (180,517)	$ -	$ (20,840,335)
2009/2010	$ (20,840,335)	$ -	$ (45,005)	$ -	$ (20,885,340)
2010/2011	$ (20,885,340)	$ -	$ (55,067)	$ -	$ (20,940,407)
2011/2012	$ (20,940,407)	$ -	$ (4,973,063)	$ -	$ (25,913,470)
2012/2013	$ (25,913,470)	$ -	$ -	$ -	$ (25,913,470)
2013/2014	$ (25,913,470)	$ -	$ (739,724)	$ -	$ (26,653,194)
2014/2015	$ (26,653,194)	$ -	$ (99,660)	$ -	$ (26,752,854)
2015/2016	$ (26,752,854)	$ -	$ (2,555,400)	$ -	$ (29,308,254)
2016/2017	$ (29,308,254)	$ -	$ (26,248)		$ (29,334,502)
	Totals	**$96,193**	**$ (29,430,695)**	**$0**	**$ (29,334,502)**

BACK-UP FACILITY REVENUE SUMMARY

RECLAMATION SERVICE

YEAR	TOTAL REVENUE	CUMULATIVE BALANCE
FISCAL 1988/1989	$ -	$ -
FISCAL 1989/1990	$ 96,193	$ 96,193
FISCAL 1990/1991	$ -	$ 96,193
FISCAL 1991/1992	$ -	$ 96,193
FISCAL 1992/1993	$ -	$ 96,193
FISCAL 1993/1994	$ -	$ 96,193
FISCAL 1994/1995	$ -	$ 96,193
FISCAL 1995/1996	$ -	$ 96,193
FISCAL 1996/1997	$ -	$ 96,193
FISCAL 1997/1998	$ -	$ 96,193
FISCAL 1998/1999	$ -	$ 96,193
FISCAL 1999/2000	$ -	$ 96,193
FISCAL 2000/2001	$ -	$ 96,193
FISCAL 2001/2002	$ -	$ 96,193
FISCAL 2002/2003	$ -	$ 96,193
FISCAL 2003/2004	$ -	$ 96,193
FISCAL 2004/2005	$ -	$ 96,193
FISCAL 2005/2006	$ -	$ 96,193
FISCAL 2006/2007	$ -	$ 96,193
FISCAL 2007/2008	$ -	$ 96,193
FISCAL 2008/2009	$ -	$ 96,193
FISCAL 2009/2010	$ -	$ 96,193
FISCAL 2010/2011	$ -	$ 96,193
FISCAL 2011/2012	$ -	$ 96,193
FISCAL 2012/2013	$ -	$ 96,193
FISCAL 2013/2014	$ -	$ 96,193
FISCAL 2014/2015	$ -	$ 96,193
FISCAL 2015/2016	$ -	$ 96,193
FISCAL 2016/2017	$ -	**$ 96,193**

CAPITAL ADDITIONS

BACK-UP FACILITIES - RECLAMATION

YEAR	TOTAL EXPENDITURE	CUMULATIVE TOTAL
FISCAL 1988/1989	$ 8,496,895	$ 8,496,895
FISCAL 1989/1990	$ 28,934	$ 8,525,829
FISCAL 1990/1991	$ -	$ 8,525,829
FISCAL 1991/1992	$ 37,793	$ 8,563,622
FISCAL 1992/1993	$ -	$ 8,563,622
FISCAL 1993/1994	$ 19,190	$ 8,582,812
FISCAL 1994/1995	$ 21,123	$ 8,603,935
FISCAL 1995/1996	$ 3,545,644	$ 12,149,579
FISCAL 1996/1997	$ 49,258	$ 12,198,837
FISCAL 1997/1998	$ 33,313	$ 12,232,150
FISCAL 1998/1999	$ 177,863	$ 12,410,013
FISCAL 1999/2000	$ 28,864	$ 12,438,877
FISCAL 2000/2001	$ 1,207,954	$ 13,646,831
FISCAL 2001/2002	$ 339,383	$ 13,986,214
FISCAL 2002/2003	$ 38,056	$ 14,024,270
FISCAL 2003/2004	$ 522,373	$ 14,546,643
FISCAL 2004/2005	$ 50,211	$ 14,596,854
FISCAL 2005/2006	$ 25,173	$ 14,622,027
FISCAL 2006/2007	$ 4,198,092	$ 18,820,119
FISCAL 2007/2008	$ 1,935,892	$ 20,756,011
FISCAL 2008/2009	$ 180,517	$ 20,936,528
FISCAL 2009/2010	$ 45,005	$ 20,981,533
FISCAL 2010/2011	$ 55,067	$ 21,036,600
FISCAL 2011/2012	$ 4,973,063	$ 26,009,663
FISCAL 2012/2013	$ -	$ 26,009,663
FISCAL 2013/2014	$ 739,724	$ 26,749,387
FISCAL 2014/2015	$ 99,660	$ 26,849,047
FISCAL 2015/2016	$ 2,555,400	$ 29,404,447
FISCAL 2016/2017		
W/O #11-121-M	$ 26,248	**$ 29,430,695**

FISCAL 2016/2017 CAPITAL ADDITION DESCRIPTIONS:

W/O #11-121-M AUTOCLAVE REPLACEMENT

DESERT WATER AGENCY
Wastewater Service
Capacity Charge Summary

Fiscal Year	Beginning Balance	Fees Collected	Capital Expenditures	Interest Earned	Ending Balance
Prior 88/89	$ -	$ 36,140	$ (119,529)	$ -	$ (83,389)
1988/1989	$ (83,389)	$ -	$ (7,599)	$ -	$ (90,988)
1989/1990	$ (90,988)	$ 77,512	$ (7,599)	$ -	$ (21,075)
1990/1991	$ (21,075)	$ 34,965	$ (7,599)	$ 499	$ 6,790
1991/1992	$ 6,790	$ 2,970	$ (11,447)	$ -	$ (1,687)
1992/1993	$ (1,687)	$ 13,959	$ (7,599)	$ 192	$ 4,865
1993/1994	$ 4,865	$ 6,039	$ (8,309)	$ 83	$ 2,678
1994/1995	$ 2,678	$ 30,432	$ (7,599)	$ 1,381	$ 26,892
1995/1996	$ 26,892	$ 10,290	$ (7,599)	$ 2,037	$ 31,620
1996/1997	$ 31,620	$ 19,865	$ (7,599)	$ 2,456	$ 46,342
1997/1998	$ 46,342	$ 27,038	$ (99,631)	$ -	$ (26,251)
1998/1999	$ (26,251)	$ 18,457	$ (2,380,685)	$ -	$ (2,388,479)
1999/2000	$ (2,388,479)	$ 2,783	$ (37,077)	$ -	$ (2,422,773)
2000/2001	$ (2,422,773)	$ 118,283	$ (153,707)	$ -	$ (2,458,197)
2001/2002	$ (2,458,197)	$ 32,834	$ (5,000)	$ -	$ (2,430,363)
2002/2003	$ (2,430,363)	$ 2,836	$ -	$ -	$ (2,427,527)
2003/2004	$ (2,427,527)	$ 199,950	$ (34,706)	$ -	$ (2,262,283)
2004/2005	$ (2,262,283)	$ 1,185,870	$ (41,294)	$ -	$ (1,117,707)
2005/2006	$ (1,117,707)	$ 176,085	$ -	$ -	$ (941,622)
2006/2007	$ (941,622)	$ 42,472	$ (806,040)	$ -	$ (1,705,190)
2007/2008	$ (1,705,190)	$ 99,288	$ (180,813)	$ -	$ (1,786,715)
2008/2009	$ (1,786,715)	$ 50,520	$ (12,442,742)	$ -	$ (14,178,937)
2009/2010	$ (14,178,937)	$ 80,776	$ (173,702)	$ -	$ (14,271,863)
2010/2011	$ (14,271,863)	$ 96,705	$ -	$ -	$ (14,175,158)
2011/2012	$ (14,175,158)	$ 229,445	$ (4,953,728)	$ -	$ (18,899,441)
2012/2013	$ (18,899,441)	$ 64,395	$ (3,575)	$ -	$ (18,838,621)
2013/2014	$ (18,838,621)	$ 34,650	$ (61,503)	$ -	$ (18,865,474)
2014/2015	$ (18,865,474)	$ 11,820	$ -	$ -	$ (18,853,654)
2015/2016	$ (18,853,654)	$ 13,336	$ -	$ -	$ (18,840,318)
2016/2017	$ (18,840,318)	$ 46,200	$ (109,889)	$ -	$ (18,904,007)
	Totals	**$ 2,765,915**	**$ (21,676,570)**	**$ 6,648**	**$ (18,904,007)**

SEWER CAPACITY CHARGE REVENUE SUMMARY

WASTEWATER SERVICE

YEAR	TOTAL REVENUE	CUMULATIVE BALANCE
PRIOR 1988/1989	$ 36,140	$ 36,140
FISCAL 1988/1989	$ -	$ 36,140
FISCAL 1989/1990	$ 77,512	$ 113,652
FISCAL 1990/1991	$ 34,965	$ 148,617
FISCAL 1991/1992	$ 2,970	$ 151,587
FISCAL 1992/1993	$ 13,959	$ 165,546
FISCAL 1993/1994	$ 6,039	$ 171,585
FISCAL 1994/1995	$ 30,432	$ 202,017
FISCAL 1995/1996	$ 10,290	$ 212,307
FISCAL 1996/1997	$ 19,865	$ 232,172
FISCAL 1997/1998	$ 27,038	$ 259,210
FISCAL 1998/1999	$ 18,457	$ 277,667
FISCAL 1999/2000	$ 2,783	$ 280,450
FISCAL 2000/2001	$ 118,283	$ 398,733
FISCAL 2001/2002	$ 32,834	$ 431,567
FISCAL 2002/2003	$ 2,836	$ 434,403
FISCAL 2003/2004	$ 199,950	$ 634,353
FISCAL 2004/2005	$ 1,185,870	$ 1,820,223
FISCAL 2005/2006	$ 176,085	$ 1,996,308
FISCAL 2006/2007	$ 42,472	$ 2,038,780
FISCAL 2007/2008	$ 99,288	$ 2,138,068
FISCAL 2008/2009	$ 50,520	$ 2,188,588
FISCAL 2009/2010	$ 80,776	$ 2,269,364
FISCAL 2010/2011	$ 96,705	$ 2,366,069
FISCAL 2011/2012	$ 229,445	$ 2,595,514
FISCAL 2012/2013	$ 64,395	$ 2,659,909
FISCAL 2013/2014	$ 34,650	$ 2,694,559
FISCAL 2014/2015	$ 11,820	$ 2,706,379
FISCAL 2015/2016	$ 13,336	$ 2,719,715
FISCAL 2016/2017	$ 46,200	**$ 2,765,915**

CAPITAL ADDITIONS

SEWER CAPACITY CHARGE - WASTEWATER

W/O # & (G/L A/C)	TOTAL EXPENDITURE	CUMULATIVE TOTAL
PRIOR 1988/1989	$119,529	$119,529
FISCAL 1988/1989	$7,599	$127,128
FISCAL 1989/1990	$7,599	$134,727
FISCAL 1990/1991	$7,599	$142,326
FISCAL 1991/1992	$11,447	$153,773
FISCAL 1992/1993	$7,599	$161,372
FISCAL 1993/1994	$8,309	$169,681
FISCAL 1994/1995	$7,599	$177,280
FISCAL 1995/1996	$7,599	$184,879
FISCAL 1996/1997	$7,599	$192,478
FISCAL 1997/1998	$99,631	$292,109
FISCAL 1998/1999	$2,380,685	$2,672,794
FISCAL 1999/2000	$37,077	$2,709,871
FISCAL 2000/2001	$153,707	$2,863,578
FISCAL 2001/2002	$5,000	$2,868,578
FISCAL 2002/2003	$0	$2,868,578
FISCAL 2003/2004	$34,706	$2,903,284
FISCAL 2004/2005	$41,294	$2,944,578
FISCAL 2005/2006	$0	$2,944,578
FISCAL 2006/2007	$806,040	$3,750,618
FISCAL 2007/2008	$180,813	$3,931,431
FISCAL 2008/2009	$12,442,742	$16,374,173
FISCAL 2009/2010	$173,702	$16,547,875
FISCAL 2010/2011	$0	$16,547,875
FISCAL 2011/2012	$4,953,728	$21,501,603
FISCAL 2012/2013	$3,575	$21,505,178
FISCAL 2013/2014	$61,503	$21,566,681
FISCAL 2014/2015	$0	$21,566,681
FISCAL 2015/2016	$0	$21,566,681
FISCAL 2016/2017		
W/O #14-001--08 (10071)	$56,439	$21,623,120
W/O #15-003--08 (10071)	$47,437	$21,670,557
W/O #15-003-S-06 (10072)	$6,013	**$21,676,570**

FISCAL 2016/2017 CAPITAL ADDITION DESCRIPTIONS:

W/O #14-001--08	8" SEWER MAIN - PEREZ ROAD (RCFCD)
W/O #15-003--08	8" SEWER MAIN - EAST PALM CANYON (CATHEDRAL CITY)
W/O #15-003-S-06	6" SEWER LATERAL - EAST PALM CANYON (CATHEDRAL CITY)

8-C

STAFF REPORT
TO
DESERT WATER AGENCY
BOARD OF DIRECTORS

DECEMBER 19, 2017

RE: A CALIFORNIA MULTI-AGENCY ANALYSIS OF THE REPLATIONSHIP BETWEEN WATER SALES PRICING AND NON-PRICING MEASURES DEPLOYED DURING THE DROUGHT

In 2015, the State of California set mandatory statewide water reduction requirements for water suppliers. Every major water agency in the state was required to report water production and usage to the State Water Resources Control Board (SWRCB). The SWRCB initially set these conservation targets by creating tiers based on ranges of average residential gallons-per-day-per capita. Agencies like DWA with higher average R-GPD during the months of July through September of 2014 were assigned higher conservation targets. Compliance with conservation standards was judged on a cumulative basis starting in June 2015. In 2016 the SWRCB provided agencies with the opportunity to adjust their conservation standard to reflect some of their individual circumstances.

While the SWRCB was responsible for setting each agency's standard, individual agencies were generally free to choose their own strategy for meeting their reduction goals. Agencies employed a diverse range of pricing signals and conservation programs. Some agencies employed aggressive pricing strategies involving new pricing signals such as special drought fees, while some others adjusted their budget-based rates and, while other agencies focused primarily on non-pricing measures such as limiting irrigation or increasing infraction enforcement. The data generated during the mandated conservation period provides a unique opportunity to study different pricing strategies and pricing signals that agencies throughout the state used to influence usage and to better understand the impact these practices may have had on customer behavior.

In 2017, a group of California water Agencies (participating agencies) asked the Environmental Finance Center at the University of North Carolina at Chapel Hill (EFC) to collect and analyze information that could provide insight on how pricing, conservation measures, and a range of other factors might influence customer water usage behavior. EDF is leader in analysis research and rate analysis. They

have conducted research for diverse range of state agencies and water and wastewater agencies.

The analysis focused on developing and analyzing two related datasets. One was a statewide dataset consisting of data collected by the state from 398 agencies along with a number of different data sources. A second dataset was compiled based on consultation with the participation nine Agencies.

Participating Agencies:

Alameda County Water District

City of Anaheim

Contra Costa Water District

Desert Water Agency

East Orange County Water District

City of Fresno

Mesa Water District

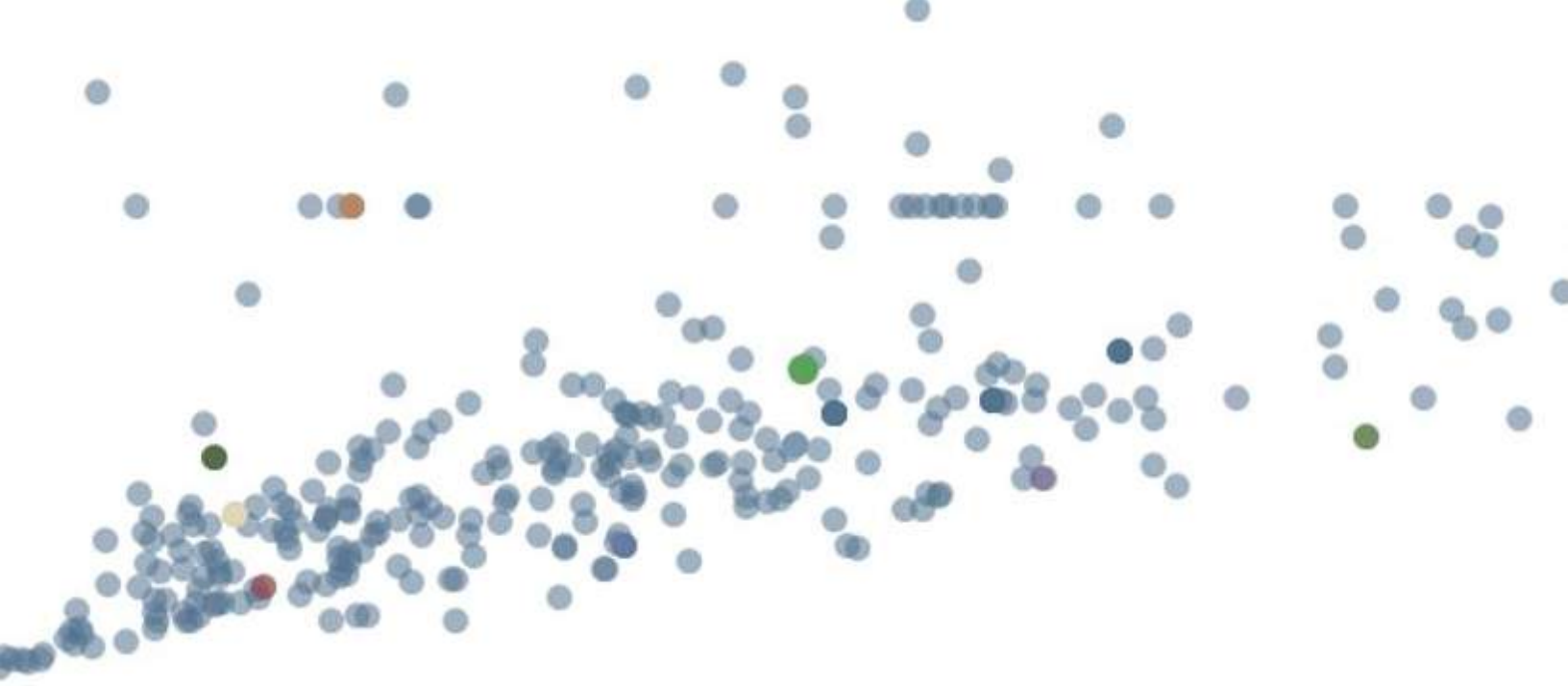
City of Sacramento

Valley Center Municipal Water District

These analyses show the complex relationships between usage and the factors believed to influence usage. There are other factors that likely contributed to the overall reduction in use that are not included in this study.

There is no evidence that a single approach by any water agency was uniformly successful across the state. Most of the participating agencies met their conservation standards by deploying a range of different measures. All of the participating agencies employ a uniform rate, a few deployed a drought surcharge but most focused primarily on non-pricing conservation measures.

The analysis showed that rate structure alone – as defined by terms like uniform, declining, or increasing block rates – did not play a major role in how much an agency was able to reduce usage. Furthermore, many agencies with uniform price structures were able to send strong pricing signals to their customers that were even stronger that may agencies that employed increasing block rate structures. The analysis reinforced the sentiment that water agencies should consider their demographic, geographic, and climate-related situations when making determinations about how to encourage conservation through pricing and non-pricing strategies.



A California Multi-Agency Analysis of the Relationship between Water Sales and Pricing during the Drought

White Paper for Internal Agency Use

The Environmental Finance Center at the University of North Carolina, Chapel Hill.

Analysts: Jeff Hughes, Shadi Eskaf, Jack Watts, A.R. El-Khattabi, Kyrsten French & Caitlin Seyfried

November, 2017

UNC ENVIRONMENTAL FINANCE CENTER

Background

In 2015, the State of California set mandatory statewide water reduction requirements for water suppliers. Every major water agency in the state was required to report water production and usage to the State Water Resources Control Board (SWRCB) and to comply with state-mandated agency-specific reduction targets. Reduction targets were set as percent reductions in total potable water production compared to 2013 usage[1]. The SWRCB initially set these agency conservation targets, referred to as conservation standards, by creating tiers based on ranges of average residential gallons-per-capita-per-day (R-GPCD). Agencies with higher average R-GPCD during the months of July through September of 2014 were assigned higher conservation standards[2]. Compliance with conservation standards were judged on a cumulative basis starting in June 2015.

In February 2016, nine months into the mandatory conservation period, SWRCB provided agencies with the opportunity to adjust their conservation standard to reflect: (1) differences in average service area evapotranspiration for the months of July through September, as compared to the statewide average for the same months; (2) water-efficient growth in population plus additional commercial and agricultural service connections; and (3) new local drought-resilient water sources[3]. Compliance with conservation standards continued to be judged on a cumulative basis from June 2015. Agencies meeting the new, lower conservation standard were considered compliant.

While the SWRCB was responsible for setting each agency's conservation standard, individual agencies were generally free to choose their own strategy for meeting their reduction goals. Agencies employed a diverse range of pricing structures and conservation programs throughout the state-mandated conservation period. Some agencies employed aggressive pricing strategies involving new pricing structures such as budget-based rates and special drought fees, while other agencies focused primarily on non-pricing measures such as limiting irrigation or increasing infraction enforcement.

The state-mandated conservation period lasted for 12 months from June 2015 through May 2016, after which agencies entered a period of voluntary conservation. The data[4] generated during the mandated conservation period provides a unique opportunity to study different pricing strategies and pricing signals that agencies throughout the state used to influence usage and to better understand the impact these practices may have had on customer behavior.

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[1] California State Water Resources Control Board, 2015. *Emergency Conservation Regulation: Assessing Urban Water Supplier Compliance with the Mandatory Conservation Standards*. Factsheet updated on July 7, 2015. Accessed at https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/docs/factsheet/assessing_compliance.pdf

[2] California State Water Resources Control Board, 2015. *Emergency Conservation Regulation: Implementing 25% Conservation Statewide*. Factsheet updated on July 7, 2015. Accessed at https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/docs/factsheet/implementing_25percent.pdf

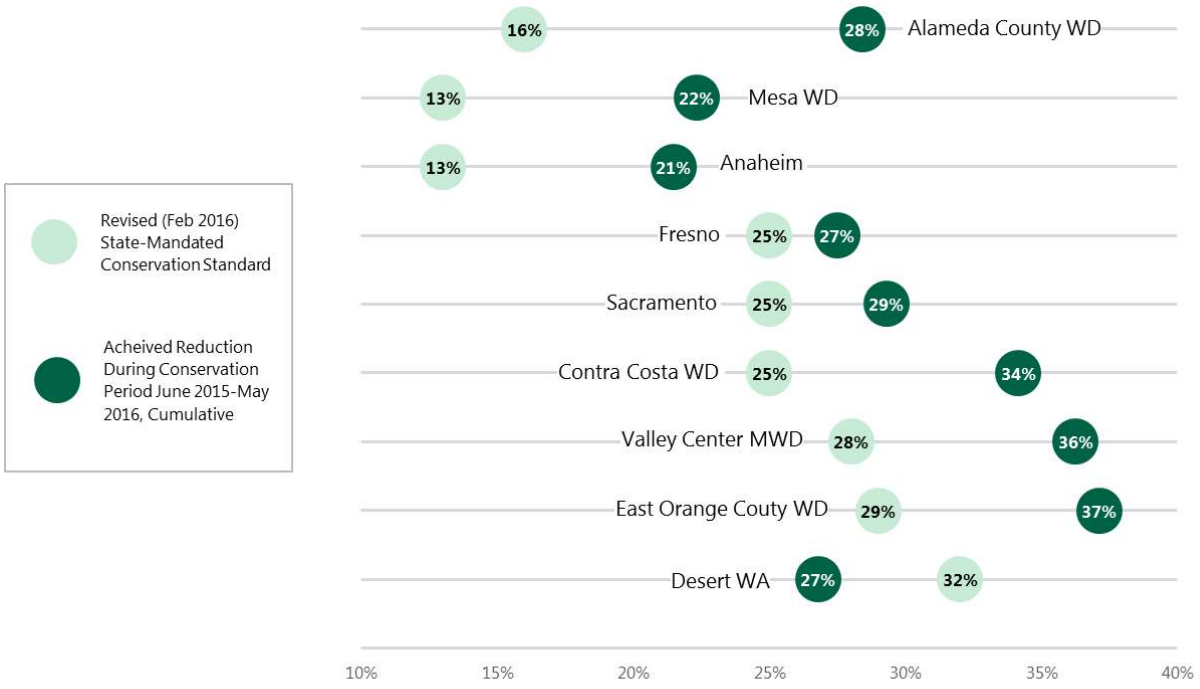
[3] California State Water Resources Control Board, 2016. *Extending the Emergency Water Conservation Regulation: New Regulatory Changes to Achieve Statewide Reductions in Urban Potable Water Usage*. Factsheet updated on February 9, 2016. Accessed at https://www.waterboards.ca.gov/publications_forms/publications/factsheets/docs/emergency_reg_fs011916.pdf

[4] It is important to note that while the availability of data helped provide a comprehensive view of pricing and usage during the drought, it became clear during the data management phase of the study that some of the self-reported data, particularly related to pricing, contained reporting errors.

Methodology

In 2017, a group of California water agencies asked the Environmental Finance Center at the University of North Carolina at Chapel Hill (EFC) to collect and analyze information that could provide insight on how pricing, conservation measures, and a range of other factors might influence customer water usage behavior. Figure 1 shows the conservation standards[5] and actual cumulative water savings achieved during the 12-month mandatory conservation period.

Figure 1. Revised Conservation Standard and Achieved Cumulative Reductions as a Percent of 2013 Baseline for Nine California Water Agencies



The study was designed as a comparative analysis that would allow each agency to see the basic relationships between their sales trends and factors likely influencing these trends. The EFC collected and compiled data in a way that would allow the agencies to compare what occurred in their communities during the drought to what occurred in other communities across the state.

The analysis focused on developing and analyzing two related datasets. One was a statewide dataset that consisted of agency-reported water production data, pricing, conservation practices, and service area demographics. Data from a number of different sources were collected and linked together in order to provide the water agencies with information on how their practices and usage compared to others across

[5] Throughout this report, "conservation standard" refers to the conservation standard that was revised after February 2016, and not the original conservation standard that was set in June 2015. At the end of the state-mandated conservation period, water agencies were assessed on their compliance with the revised post-February 2016 standard.

the state. A second dataset was compiled based on consultation with the participating agencies. This dataset included more detailed agency-specific customer sales and pricing information. This second dataset was used to show how customer behavior within each agency's jurisdiction evolved over time in relationship to key factors believed to influence usage. The analysis focused primarily on single-family residential sales.

The study was designed to provide agencies with a wide variety of comparative information related to pricing practices across the state and to provide information on basic (bivariate) relationships. Highlights from the analysis are described in the body of the paper and a detailed compilation of analyses are included in an attached appendix.

Findings

What pricing signals did agencies send to their customers?

For the purposes of this study, we identified and compared several types of water price signals that resulted from the pricing practices of agencies. Table 1 show a summary that highlights the variation in water prices and water rate structures across the nine agencies in May of 2016, at the end of the mandatory conservation period.

Although water agencies may carefully consider how to send appropriate messages to customers through a logical water rate structure, predicting how different price signals influence actual customer behavior is challenging. Signals might not come across clearly enough to bring about an incentive to reduce usage. There are multiple types of consumer pricing signals that may influence behavior and different customers may be influenced differently by the same pricing signal. Additionally, what is effective for one agency may not carry the same weight for another agency with different customer characteristics. Lastly, it is important to note that agencies set prices based on multiple factors and objectives, and may not be necessarily setting prices to intentionally influence customer water use. Nonetheless, customers may react to the price signals they are receiving, whether the price signal was intentionally or unintentionally designed to influence use.

The process of paying for water is quite different from the process of paying for other goods and services and requires its own unique view of pricing signals. Consider, for example, the difference in pricing signal experienced by a customer purchasing gasoline versus one purchasing water. A customer perhaps buys gasoline in units of gallons once a week at a gas pump, and experiences pricing signals directly and immediately. Pricing signals will not, in theory, be as salient to a customer that pays for their water in units of 100 cubic feet that was used during the last two months and was paid through an automatic bank draft. It is helpful to consider how this difference affects the signals agencies can send their customers through pricing.

The pricing signals customers experience depend on where they fall on the usage spectrum in a given period. Figure 2 shows how residential monthly expenditures for water vary across customer sales points for some of the participating agencies.

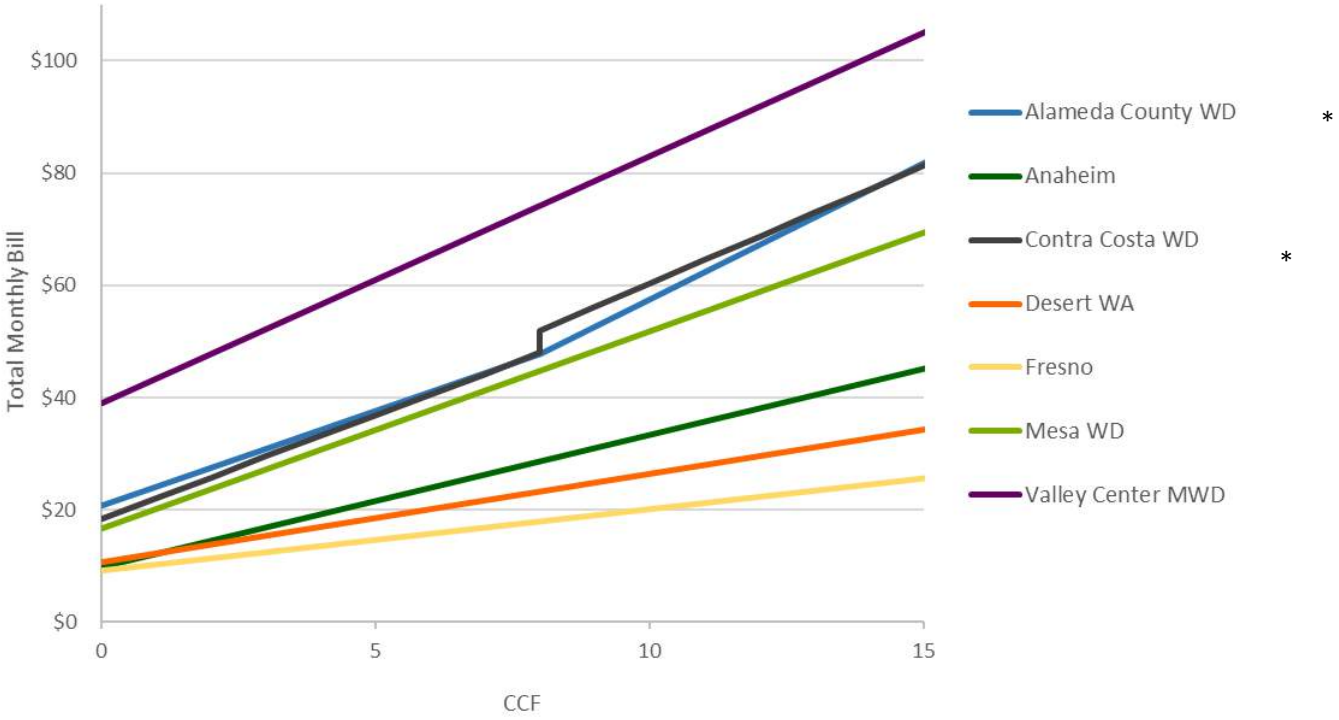
Table 1. Overview of Water Pricing in May 2016

Water Agency	BILLING FREQUENCY	CUSTOMER BILL FOR 6 CCF/MONTH (150 GPD)	CUSTOMER BILL FOR 12 CCF/MONTH (300 GPD)	MARGINAL PRICE AT 12 CCF (300 GPD)	WATER RATE STRUCTURE
ALAMEDA COUNTY WATER DISTRICT[6]	Bimonthly*	$41.01	$67.17	$4.85/ccf	uniform + surcharge
CITY OF ANAHEIM	Monthly	$24.00	$38.10	$2.35/ccf	uniform
CONTRA COSTA WATER DISTRICT[7]	Bimonthly*	$40.58	$68.72	$4.19/ccf	uniform + surcharge
DESERT WATER AGENCY	Monthly	$20.17	$29.59	$1.57/ccf	uniform
EAST ORANGE COUNTY WATER DISTRICT[8]	Monthly	$36.78	$44.04		uniform
CITY OF FRESNO	Monthly	$15.84	$22.38	$1.09/ccf	uniform
MESA WATER DISTRICT	Bimonthly*	$37.81	$58.87	$3.51/ccf	uniform
CITY OF SACRAMENTO[9]	Monthly	$56.52	$72.54		uniform
VALLEY CENTER MUNICIPAL WATER DISTRICT[10]	Monthly	$65.46	$91.86	$4.40/ccf	uniform

* Prices of bimonthly rate structures are converted to monthly prices.

[6] Includes drought surcharge for "Customer Bill at 12 ccf/month" and "Marginal Price at 12 ccf".
[7] Includes drought surcharge for "Customer Bill at 12 ccf/month" and "Marginal Price at 12 ccf", and is based on Energy Zone 1 rates, which contains the most customers.
[8] No billing data provided by agency for this date. Data is based on State Water Resources Control Board report.
[9] No billing data provided by agency for this date. Data is based on State Water Resources Control Board report.
[10] Based on Zone 0 pumping rates.

Figure 2. Water Prices Charged to Single Family Residential Customers in May 2016



* Contra Costa WD and Alameda County WD water prices includes drought surcharges

Most of the agencies rely on a basic uniform pricing structure, but two agencies, Contra Costa Water District and Alameda County Water District, implemented temporary drought pricing that raised the unit price for some of the water purchased by larger volume users. Figure 2 shows that even without employing block pricing or surcharges, agencies are able to send very different price signals. Notice how the price signals vary between Fresno and Valley Center Municipal Water District. A customer in Fresno who doubles her usage one month from 5 ccf to 10 ccf would only see an additional $5.45 on her water bill. A customer in Valley Center would see a more dramatic increase in her bill, totaling $22.00. The price-conscious consumer in Valley Center would likely be more apt to change her water usage habits, all other factors being equal. Note that water prices depend largely on costs, and agencies that have lower operating costs will tend to have lower price signals.

Several of the agencies adjusted rates during the emergency conservation period without changing their rate structure. For most of these agencies, the rate adjustment was implemented as part of their normal annual adjustment to reflect cost increases. Two of the agencies implemented specific drought-pricing mechanisms to encourage conservation and to recoup revenue from the sharp decline in water use. The two agencies that included drought surcharges implemented them in different ways. In Alameda County Water District, a customer who surpassed 17 ccf on a bimonthly basis would have to pay an additional $1.48 per ccf of water for all volumes above 17 ccf, essentially raising the marginal water price to $4.87 per

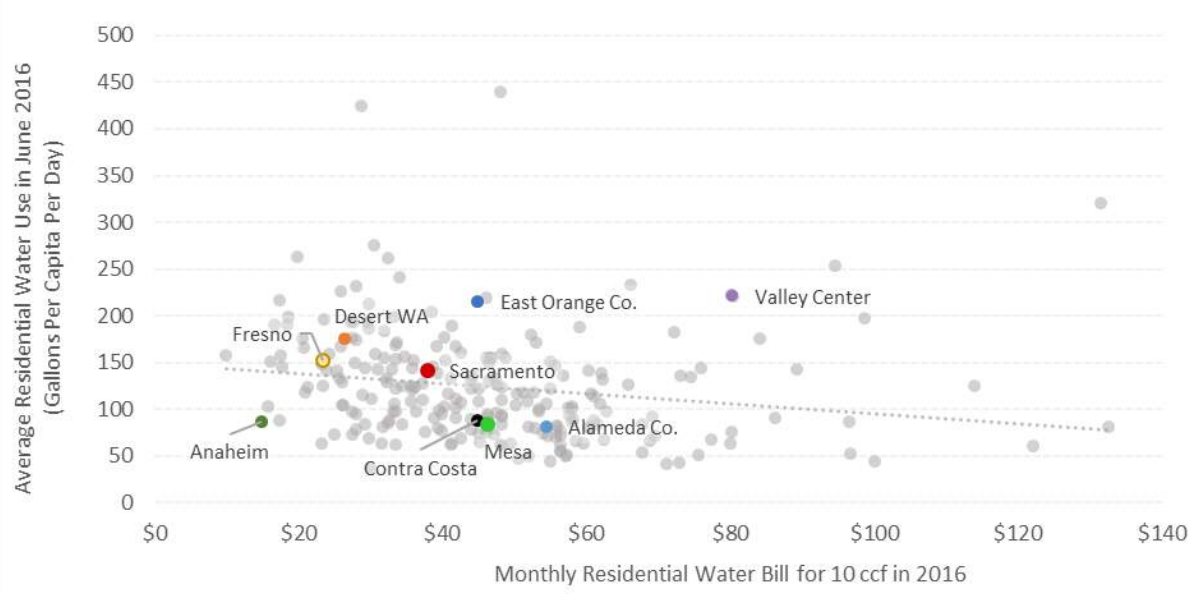
ccf above 17 ccf bimonthly. Customers who used more than 31 ccf on a bimonthly basis paid $2.00 per ccf over the base rate, raising the marginal water price to $5.37 per ccf above 31 ccf bimonthly. Note that these marginal rates only apply to use above each threshold. Alameda County Water District imposed this drought surcharge from July 2014 to June 2016.

Contra Costa Water District imposed a Temporary Drought Charge from June 2015 until May 2016. Customers were charged an additional $0.50 per ccf for all the water they used. However, customers with water use under 200 gpd were given a full refund on that surcharge on the same bill. This Temporary Drought Charge and Credit were distinct line items on the water bill. When the drought surcharge actually "kicked in" at any amount over 200 gpd, the drought charge then applied to all of the customer's water use. This means that the next gallon used above 200 gpd was the most expensive gallon purchased, at a total of $4.00. Each additional ccf used continued to cost $0.50 more than the usual volumetric charge. This price jump can be seen in Figure 2 at the 8 ccf mark.

Figure 3 shows one way of visualizing the variation in prices across the state. For many households, what they pay in terms of their recurring water bill sends the most consistent pricing signal. Figure 3 illustrates that, in general, per capita water use is lower for agencies that charge higher bills. The relationship is far from perfect, as a few agencies with relatively expensive water show high per capita usage and some agencies with inexpensive water show low usage. This simple relationship between price signal and usage is not surprising given all the factors that can influence usage. In general, this analysis shows pricing signals that are sent by agencies bearing naturally lower water costs are much weaker than the pricing signals sent by agencies with higher water costs.

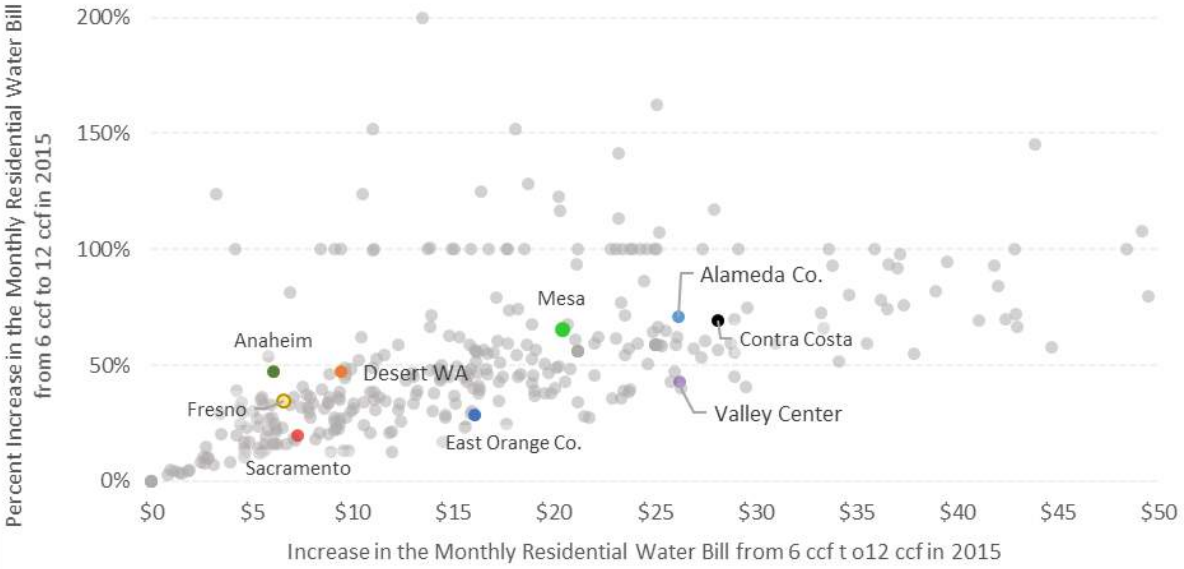
Figure 4 presents a visualization of a different pricing signal. This figure shows the financial impact and signal that a residential customer receives (in terms of percent difference or in absolute dollar terms) if they doubled their usage from 6 ccf to 12 ccf. Conversely, the graph reveals the financial incentive a customer has to affect their water use behavior and reduce their consumption from 12 ccf to 6 ccf. As shown on the graph, there is a wide variety of these pricing signals across the state. While some agencies send strong pricing signals – more than $40 or nearly doubling the water bill for doubling water use from 6 to 12 ccf – many others send much weaker pricing signals, lower than $10 or 25% increase in the bill for the same increase in water use.

Figure 3. Average R-GPCD vs Monthly Water Bill at 10 ccf (250 gpd), 2016



Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's June 2014 - June 2017 Urban Water Supplier Report Dataset (August 1, 2017), California American Water Company's survey of California water rate structures. Residential GPCD was calculated by the Water Control Board using water systems' self-reported water production data.

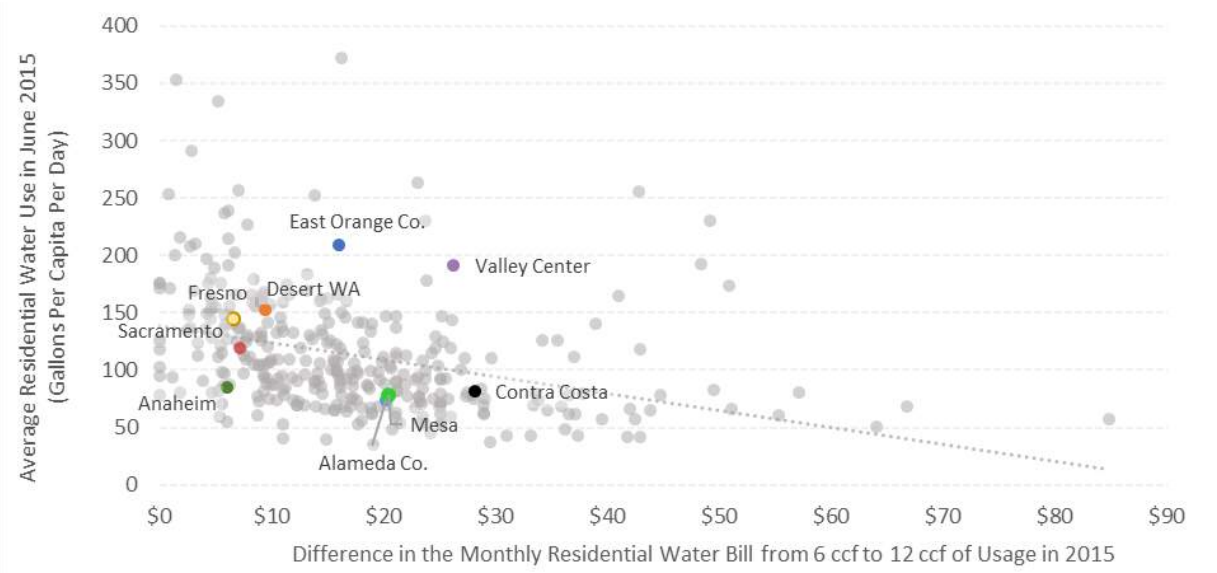
Figure 4. Percent Increase in Water Bill from 6 to 12 ccf Compared to the Absolute Increase in Water Bill Price from 6 to 12 ccf, 2015



Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's EAR water rates survey. Rates were self-reported by the water systems.

Figure 5 shows the relationship between the pricing signals described above and reported residential per capita usage in 2015. The figure shows the extreme variation in both average residential demand and in pricing signals across the state. The variations in demand are due to a wide range of customer characteristics as well as external price and non-price (e.g. irrigation rules) measures. The horizontal axis shows the savings a customer would experience by reducing their use from 12 ccf to 6 ccf, a realistic change that could be achieved by many families implementing feasible reduction behavior and technology measures. The general trend shows that agencies with a higher price signal tend to have lower reported per capita use, which is to be expected. Another way of interpreting this chart is that agencies with lower pricing signals will likely have to rely on additional policy tools beyond price to achieve conservation goals.

Figure 5. Average R-GPCD vs Change in the Water Bill from 12 ccf to 6 ccf, 2015

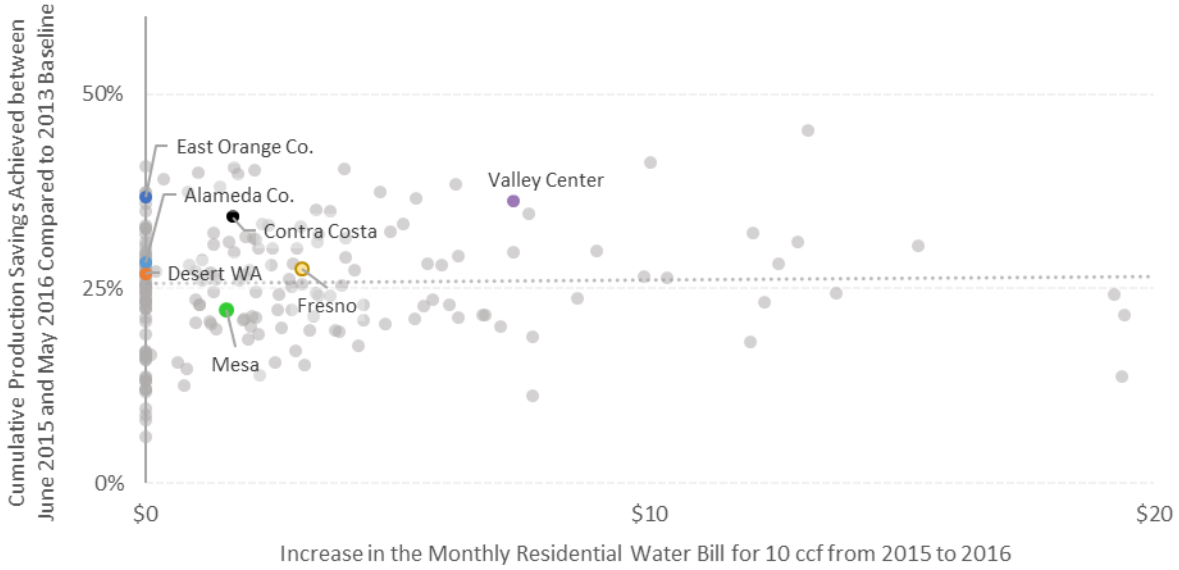


Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's June 2014 - June 2017 Urban Water Supplier Report Dataset (August 1, 2017), CA Water Control Board's EAR water rates survey. Residential GPCD was calculated by the Water Control Board using water systems' self-reported water production data, and rates were self-reported by the water systems.

Figure 6 depicts yet another type of pricing signal, namely, change in bill price between 2015 and 2016. More specifically, this chart is showing how much the water bill for 10 ccf increased from 2015 to 2016 (during the mandatory conservation period), and the cumulative production savings achieved during the mandatory conversation period. In most cases, these price increases were not specifically designed to reduce usage as part of an intentional conservation initiative, but they still can impact usage. Some agencies, including Valley Center Municipal Water District, had relatively significant price adjustments whereas other agencies had modest or no changes during this period. Statewide, there was no correlation between price increases and reported savings. Agencies that raised rates more than others were no more and no less likely to achieve greater cumulative production savings during the same time period. This

finding supports the general belief by many agencies that non-price measures played a more significant role in achieving conservation during the drought than changes to prices.

Figure 6. Cumulative Production Savings vs the Increase in Monthly Cost for 10 ccf (250 gpd) between 2015 and 2016

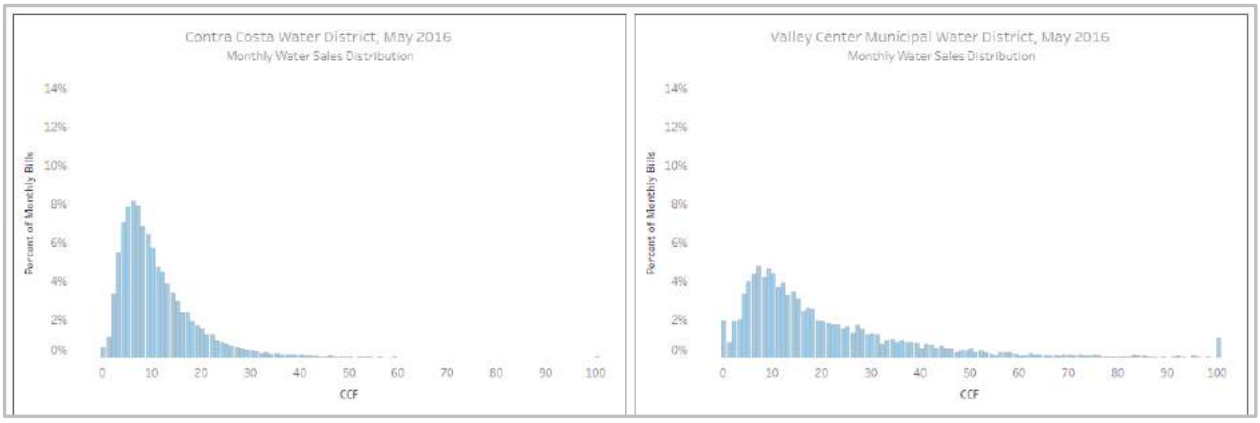


Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's May 2016 Supplier Conservation Compliance (June 21, 2016), California American Water Company's survey of California water rate structures. Savings were calculated by the Water Control Board using water systems' self-reported water production data.

The SWRCB monitored usage and progress towards savings compliance by focusing on total water production. In order to gain more insight at the customer-specific level, detailed data on single family residential sales distributions were collected and analyzed for the participating agencies. The participating agencies each have unique customer bases with usage behavior that is influenced by a variety of factors.

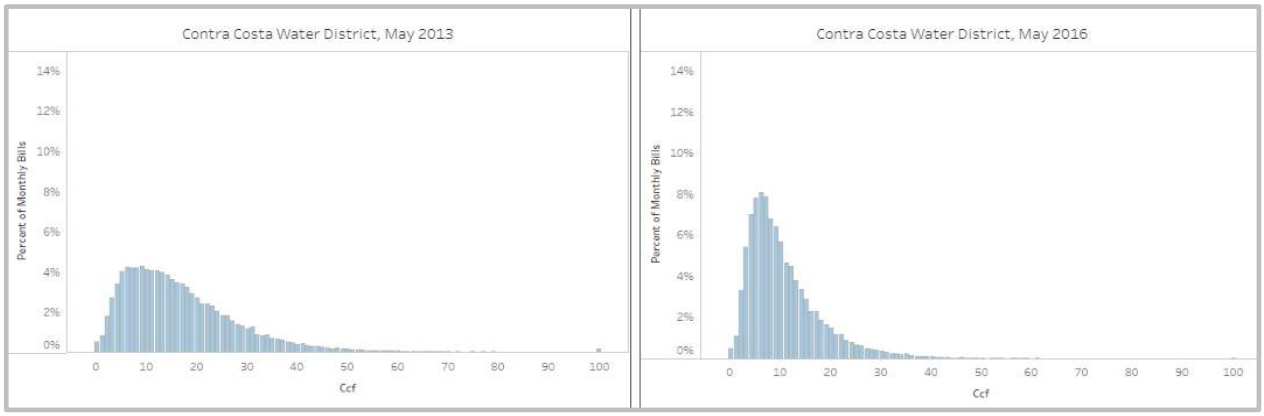
Figure 7 shows the difference in single family residential sales distributions for Contra Costa Water District, a denser suburban community in Northern California, and the Valley Center Municipal Water District which serves a more rural community with larger lots in Southern California. By comparison, Valley Center MWD has a much higher percentage of customers that purchase large quantities of water each month. Part of the very large usage can be attributed to the fact that some commercial entities choose to be billed as residential customers even though the price is higher, simply because they have fewer usage restrictions under the residential class.

Figure 7. Residential Customer Water Sales Distributions in Contra Costa Water District and Valley Center Municipal Water District, May 2016



Contra Costa Water District reported relying more on pricing than some of the other agencies to encourage conservation. The impact of their combined drought pricing and non-pricing measures are reflected in Figure 8, which shows the change in sales distribution between the baseline period in May 2013 and May 2016 when their drought surcharges and conservation measures were in effect. The chart shows a large reduction in customers that purchased water volumes above the drought pricing threshold.

Figure 8. Changes in the Residential Customer Water Sales Distributions in Contra Costa Water District between May 2013 (the Baseline Period) and May 2016 (at the end of the Drought Period)



What was the impact of using block rate structures on pricing signal and cumulative savings during the mandated conservation period?

Many agencies employ increasing block pricing to send pricing signals to their customers to encourage water efficiency. In most cases, agencies will establish a tier schedule that applies to all customers over a given time period (e.g. usage from 0 to 5,000 gallons per month is priced at $4/1,000 gallons and usage above 5,000 gallons per month is priced at $5/1,000 gallons). In some cases, the tier thresholds are customized based on water budgets so that different customers will see their marginal price increase at different thresholds. None of the nine participating agencies use a traditional block rate structure and all consider their water rate structure to be uniform. As mentioned above, though, two of the agencies had drought surcharge policies that mimicked block pricing during part of the mandated conservation period.

Agencies will often incorporate the use of increasing block pricing into their communication in a pronounced way by publicizing that they have "conservation rates." In order to gain insight into the variation in block pricing practices throughout the state, the ratio of the highest tier price vs. the lowest tier price over the typical residential customer usage range was calculated. There were only a handful of California water agencies whose tier ratios ventured beyond 2; i.e. only a few agencies doubled their marginal water price from the lowest tier to the highest tier. A "tier ratio" is the quotient between the highest tier marginal price an agency charged and the lowest tier marginal price. A high tier ratio alone would mean very little to a customer, however, if the absolute difference in the marginal prices was low. The tiered ratio metric can be seen as a surrogate for the aggressiveness of the block structure. Figure 9 shows tiered ratios plotted against per capita use at the end of the mandatory conservation period. From this perspective, the analysis shows that the per capita use tends to be lower in communities with very aggressive increasing block structures.

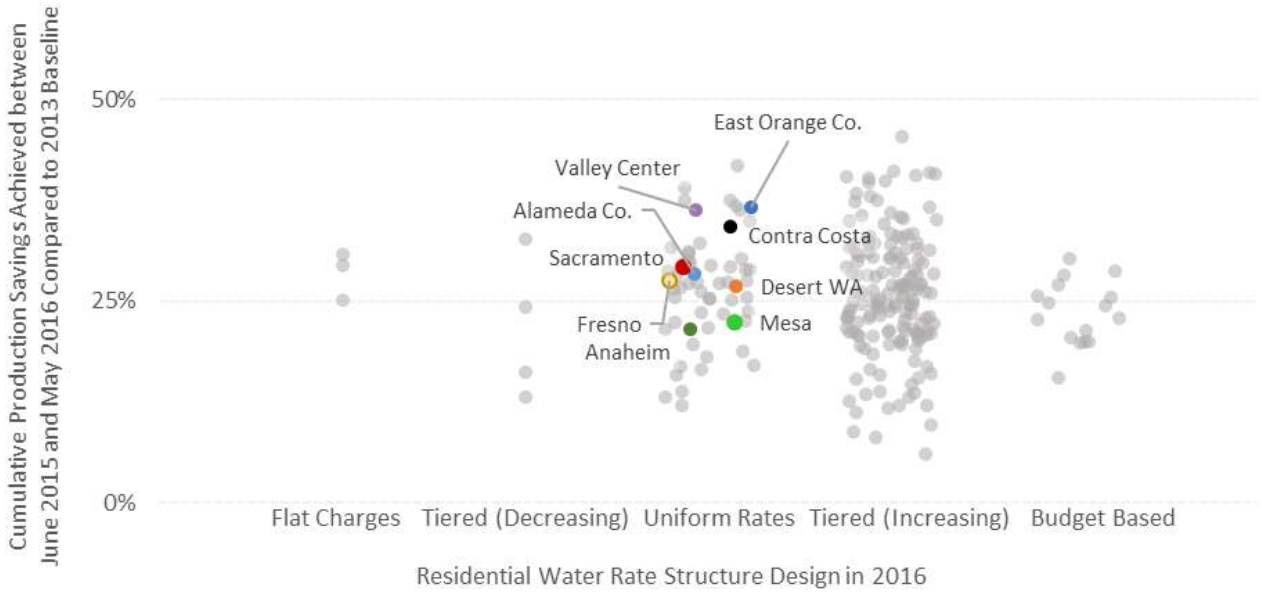
Figure 9. Residential GPCD vs Ratio of Highest Tier Marginal Price to Lowest Tier Marginal Price, 2016

Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's June 2014 - June 2017 Urban Water Supplier Report Dataset (August 1, 2017), California American Water Company's survey of California water rate structures. Residential GPCD was calculated by the Water Control Board using water systems' self-reported water production data. The ratio for uniform rate structures is 1.

However, a block rate structure alone does not guarantee low water use. As shown in Figure 9, many agencies that have uniform rate structures (depicted as a tiered ratio of 1.0) had lower average gallons per capita use than some agencies that had increasing block rate structures.

Figure 10 shows the relationship between rate structure and cumulative savings during the mandated conservation period. Agencies with similar types of rate structures are grouped together to see if the type of rate structure alone was a good predictor of an agency being able to generate greater savings. This analysis shows a wide variation statewide in achieved cumulative savings for every type of rate structure, and there was no correlation between rate structure design and cumulative savings. In other words, while aggressive increasing block rate structures are associated with lower use (see Figure 9), increasing block rate structures were not necessarily any more successful in reducing use during the conservation period than other types of rate structures. Figure 10 is another way of demonstrating that many agencies without an increasing block rate structure or budget based rate structure were still able to achieve significant usage reductions during the mandatory conservation period.

Figure 10. Cumulative Production Savings vs Water Rate Structure Design, 2016

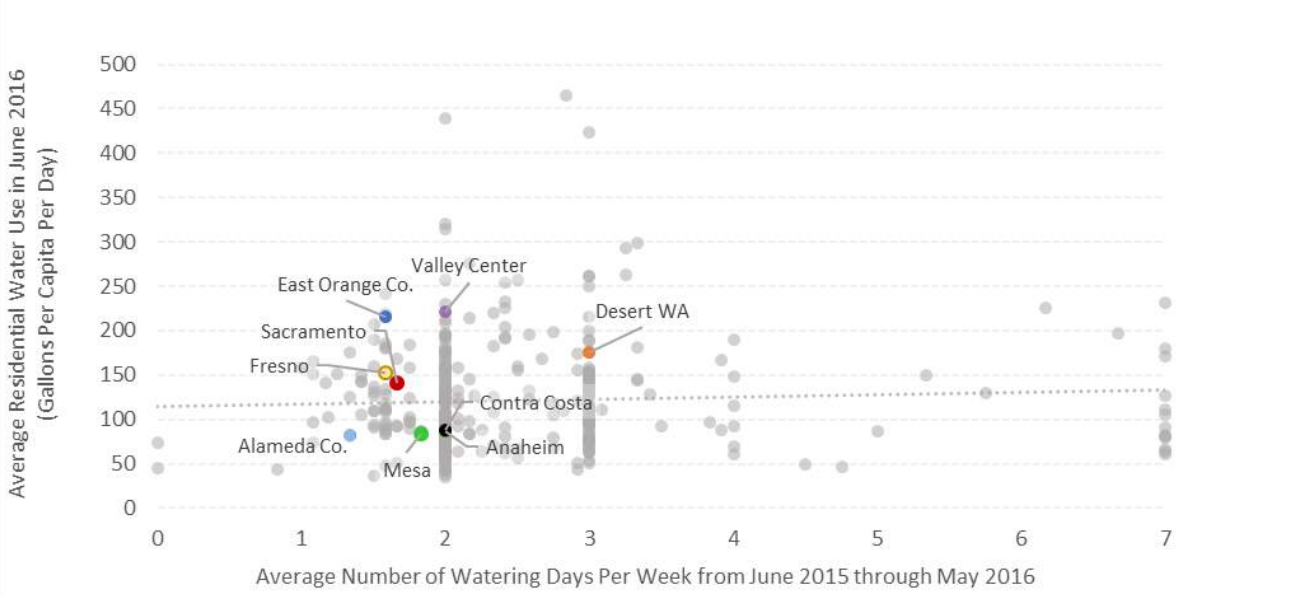


Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's May 2016 Supplier Conservation Compliance (June 21, 2016), California American Water Company's survey of California water rate structures. Savings were calculated by the Water Control Board using water systems' self-reported water production data.

How were non-price conservation measures employed, and what was their impact on usage and reductions?

When asked to identify the main measure that influenced usage during the drought, most of the participating agencies cited their non-pricing practices, such as irrigation restrictions, as the key measure. Figure 11 shows the average number of days of watering allowed per week for each agency, which was tracked statewide during the drought. The chart shows that the participating agencies tended to limit irrigation more than other agencies throughout the state. As with pricing, this analysis shows that no single measure guarantees low water use or greater progress on conservation savings. Figure 11 shows that even some agencies that did not restrict outdoor watering during the conservation period had water use below 100 gpcd, while other agencies with aggressive restrictions on watering had average water use above 200 gpcd. Statewide, there was no correlation between average number of watering days during the mandated conservation period, as reported to the SWRCB, and the average residential water use the resulted at the end of the period in June 2016.

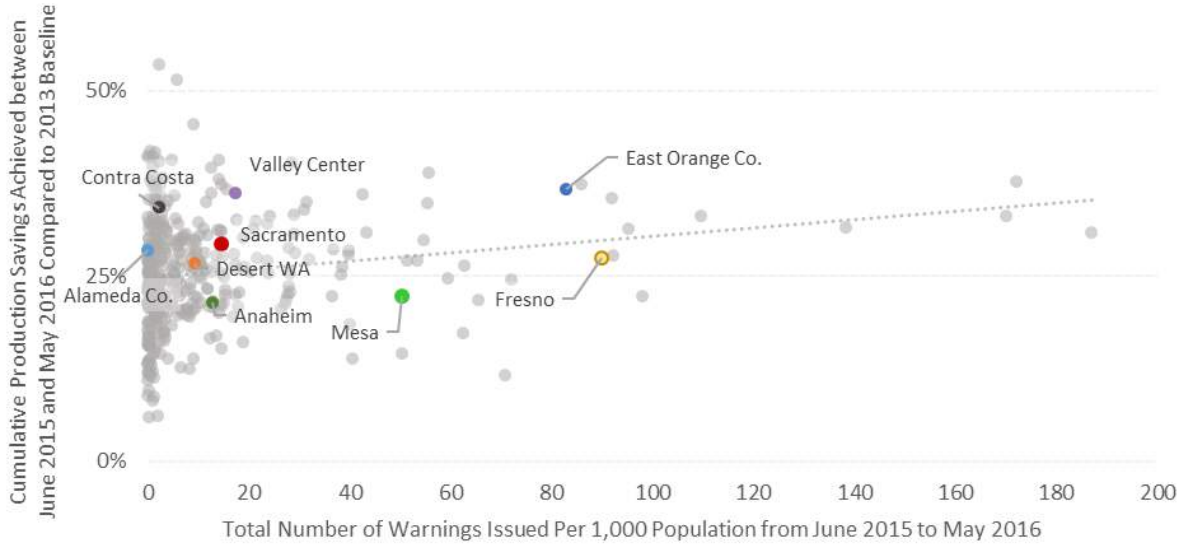
Figure 11. Average Allowable Watering Days per Week During the Mandated Conservation Period (June 2015 – May 2016) and Average R-GPCD in June 2016



Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's June 2014 - June 2017 Urban Water Supplier Report Dataset (August 1, 2017). Residential GPCD was calculated by the Water Control Board using water systems' self-reported water production data. Number of watering days were self-reported monthly by water systems.

A different metric of non-price conservation measures taken by agencies is the number of infraction warnings issued to customers during the conservation period. Figure 12 shows that, statewide, agencies that issued a greater number of infraction warnings, normalized by the service population size, achieved greater cumulative savings during the mandatory conservation period.

Figure 12. Cumulative Production Savings during Mandatory Conservation Period vs Total Number of Warnings Issued during the Period



Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's May 2016 Supplier Conservation Compliance (June 21, 2016) and June 2014 - June 2017 Urban Water Supplier Report Dataset (August 1, 2017). Savings were calculated by the Water Control Board using water systems' self-reported water production data. Number of warnings issues were self-reported monthly by water systems.

What other factors likely influence usage and progress at meeting conservation targets?

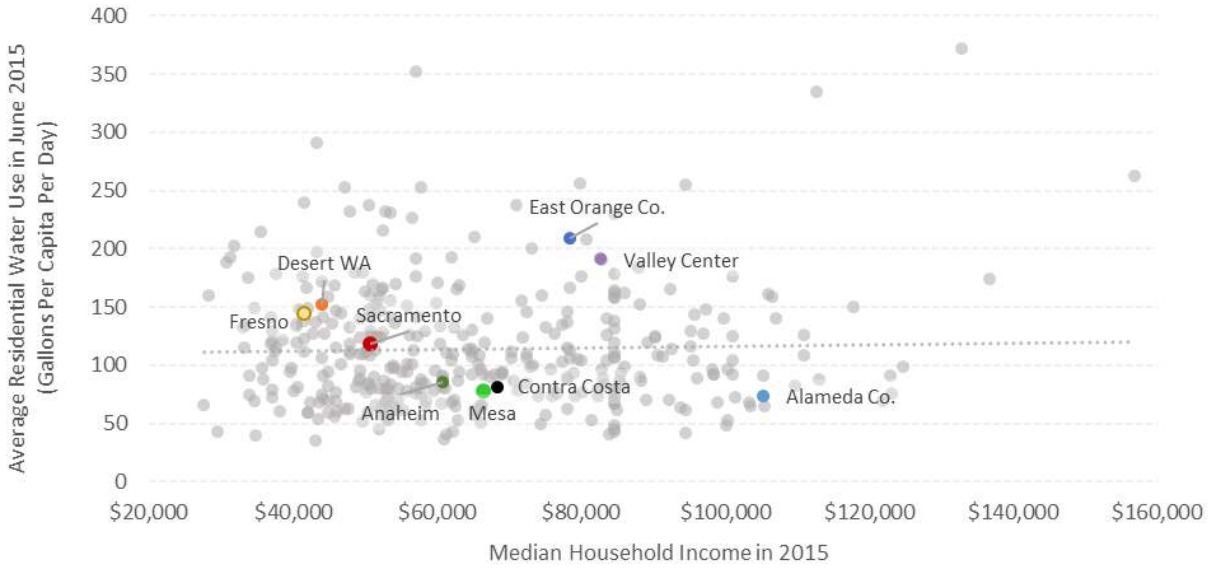
As mentioned earlier, price is one of many factors that influence use. Other factors such as income and household size can independently influence usage as well as interact with other variables to influence usage. For example, communities that are wealthier may have larger yards and be more prone to irrigate more and may also be more immune to pricing signals than lower income communities, and thus theoretically may have higher water use or achieve lower savings during the conservation period. Understanding the full range of factors that influence water use and/or savings during the conservation period requires more complicated statistical analyses, such as multivariate regression. However, basic trends (or lack of "smoking gun" causalities) reveal themselves through some bivariate comparisons.

Figure 13 shows reported residential per capita use across the state relative to the median household income of the served community. There is no significant correlation between the two variables. Communities with lower incomes were no more and no less likely to report having high average residential water use. The diversity of incomes and usage reinforces how pricing signals can be targeted to specific communities. A lower wealth community with high usage might be a better candidate to employ pricing signals than a high wealth community that already has low per capita usage.

Unlike price and irrigation measures, weather is beyond the control of an agency but significantly influences usage. Not surprisingly, of all the simple bivariate analyses carried out, the analysis showing the relationship between temperature and average usage shows one of the clearest trends. Figure 14 shows the average

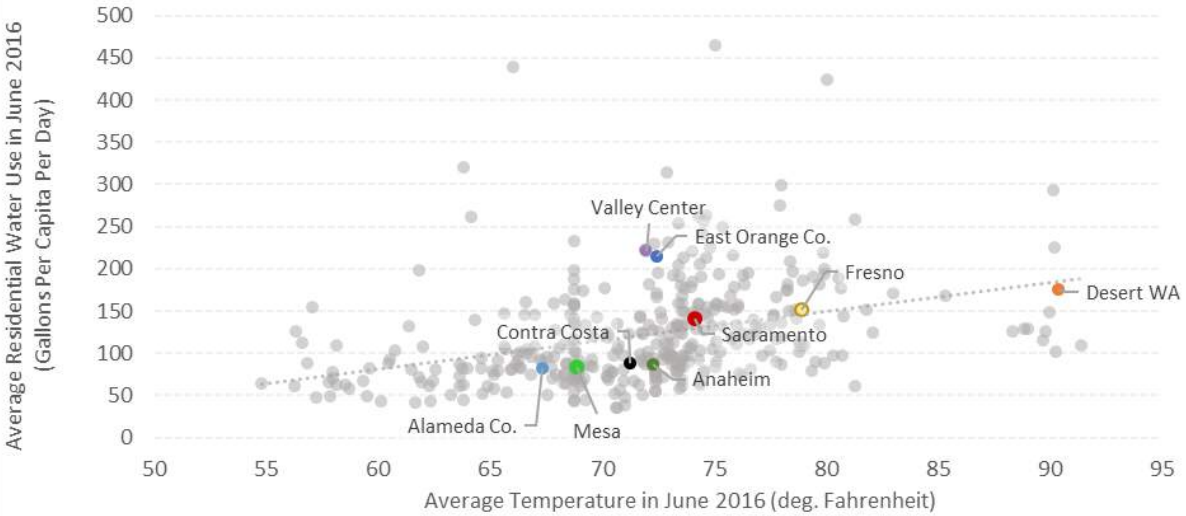
per capita per day use vs. temperature for the month of June 2016. Communities with higher average temperatures generally reported higher usage.

Figure 13. Average R-GPCD in June 2015 vs Median Household Income in 2015



Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's June 2014 - June 2017 Urban Water Supplier Report Dataset (August 1, 2017), U.S. Census Bureau 5-year American Community Survey 2010-2015. Residential GPCD was calculated by the Water Control Board using water systems' self-reported water production data.

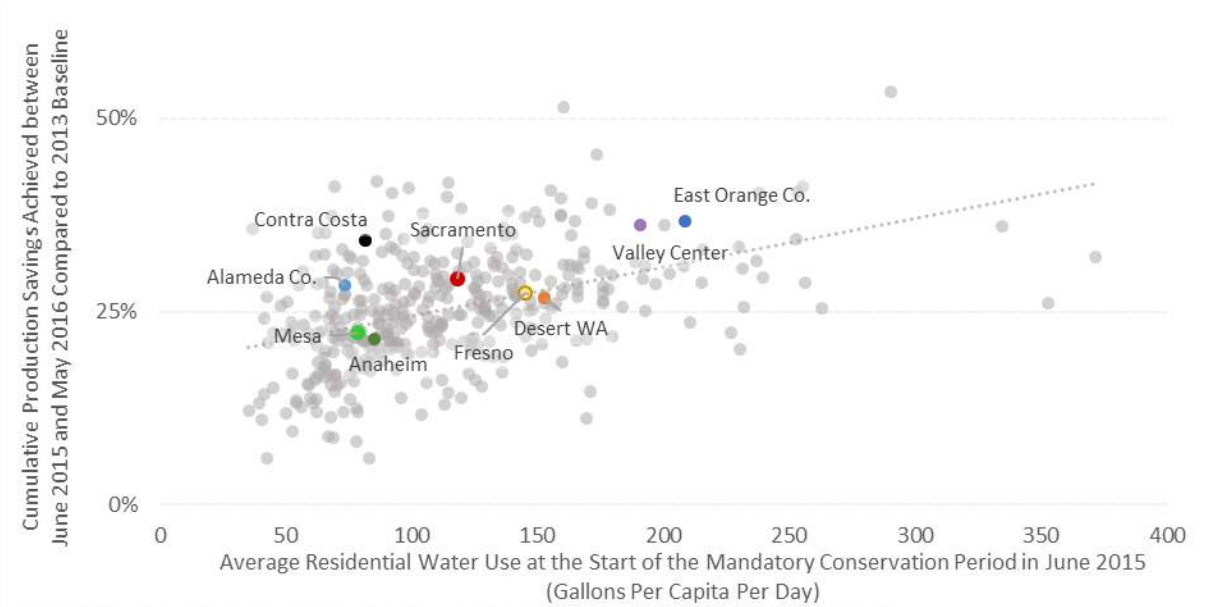
Figure 14. Average R-GPCD vs Average Temperature in June 2016



Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's June 2014 - June 2017 Urban Water Supplier Report Dataset (August 1, 2017), NOAA PRISM. Residential GPCD was calculated by the Water Control Board using water systems' self-reported water production data.

While price has been shown to influence average water use, pricing and changes to prices at a statewide level did not affect the level of cumulative savings achieved by the agencies. One of the reasons for this lack of influence is likely due to the fact that agencies with stronger price signals already had lower average water use, and therefore could not decrease water use and achieve greater cumulative savings as agencies that start off with higher average water use. This is supported by Figure 15, which shows one of the strongest trends in the state. Figure 15 shows that agencies that had lower average per capita usage before the mandatory conservation period began (in June 2015) achieved, on average, lower cumulative production savings by the end of the conservation period than agencies that started off with a less efficient customer demands. It is important to remember, however, that agencies with lower per capita use had lower conservation standards to achieve, reflective of their already-more efficient water demands.

Figure 15. Average R-GPCD Before the Mandatory Conservation Period (June 2015) and the Cumulative Production Savings Achieved During the Conservation Period (June 2015 – May 2016)



Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's May 2016 Supplier Conservation Compliance (June 21, 2016) and June 2014 - June 2017 Urban Water Supplier Report Dataset (August 1, 2017). Savings and residential GPCD were calculated by the Water Control Board using water systems' self-reported water production data.

Conclusions

These analyses show the complex relationships between usage and the factors believed to influence usage. There are other factors that likely contributed to the overall reduction in use that are not included in this study. Notably, there is an absence of included information that reflects the efforts of Governor Brown and State agencies that worked to keep the message of California's drought emergency unambiguous in the minds of residents. The role of the media in promoting water savings efforts may have been uniform across the state, or it may not have been. The effect the roles of government leadership and the media had was likely impactful, but not accounted for in this study.

There is no evidence that a single approach by any water agency was uniformly successful across the state at achieving targeted savings. Most of the participating agencies met their conservation standards by deploying a range of different measures. A few deployed pricing measures but most of the participating agencies focused primarily on non-price conservation measures.

The analyses showed that different aspects of price have an influence on usage but that many agencies were able to meet significant curtailments without relying on price or rate structures. The analyses also showed that rate structure alone – as defined by terms like uniform, declining, or increasing block rates – did not play a major role in how much an agency was able to reduce usage. Furthermore, many agencies with uniform price structures, including some of the participating agencies, were able to send strong pricing signals to their customers that were even stronger than many agencies that employed increasing block rate structures.

The analyses reinforced the sentiment that water agencies should consider their demographic, geographic, and climate-related situations when making determinations about how to encourage conservation through pricing and non-pricing strategies.

See the following table (Table 2) for full results of the bivariate analyses and the correlations found. Corresponding charts are attached in the Appendix (see Figures C through AE).

Table 2. Summary of Bivariate Analyses

Factor	Correlation with cumulative water savings achieved during the 12-month mandatory conservation period	Correlation with average per-capita residential water use (see graphs below for time period)
Factors not directly in the control of the water system		
Revised conservation standard as of May 2016	Positive	Did not test
Average per-capita residential water use at the start of the conservation period	Positive	Positively correlated with per-capita water use at the end of the conservation period
Median Household Income of the community	Positive	Not statistically significant
Average household size of the community	Negative	Not statistically significant
Total precipitation in June 2016	Did not test	Positive
Average temperature in June 2016	Did not test	Positive
Water rates and rate structure designs		
Water bill at 10 ccf	Not statistically significant	Negative
Water bill (rate) increase during the conservation period	Not statistically significant	Not statistically significant
Increase in water bill from average level (6 ccf) to higher level (12 ccf) of water use	Weakly negative	Negative
Volumetric rate structure type	Not statistically significant	Higher was use among flat charge water systems
Steepness of the tiered rate differentials	Not statistically significant	Negative
Increasing the steepness of the tiered rate differentials	Not statistically significant	Not statistically significant
Demand management strategies		
Watering days per week	Not statistically significant	Not statistically significant
Number of warnings issued per 1,000 population	Positive	Did not test
Number of penalties issued per 1,000 population	Positive	Did not test

Appendix

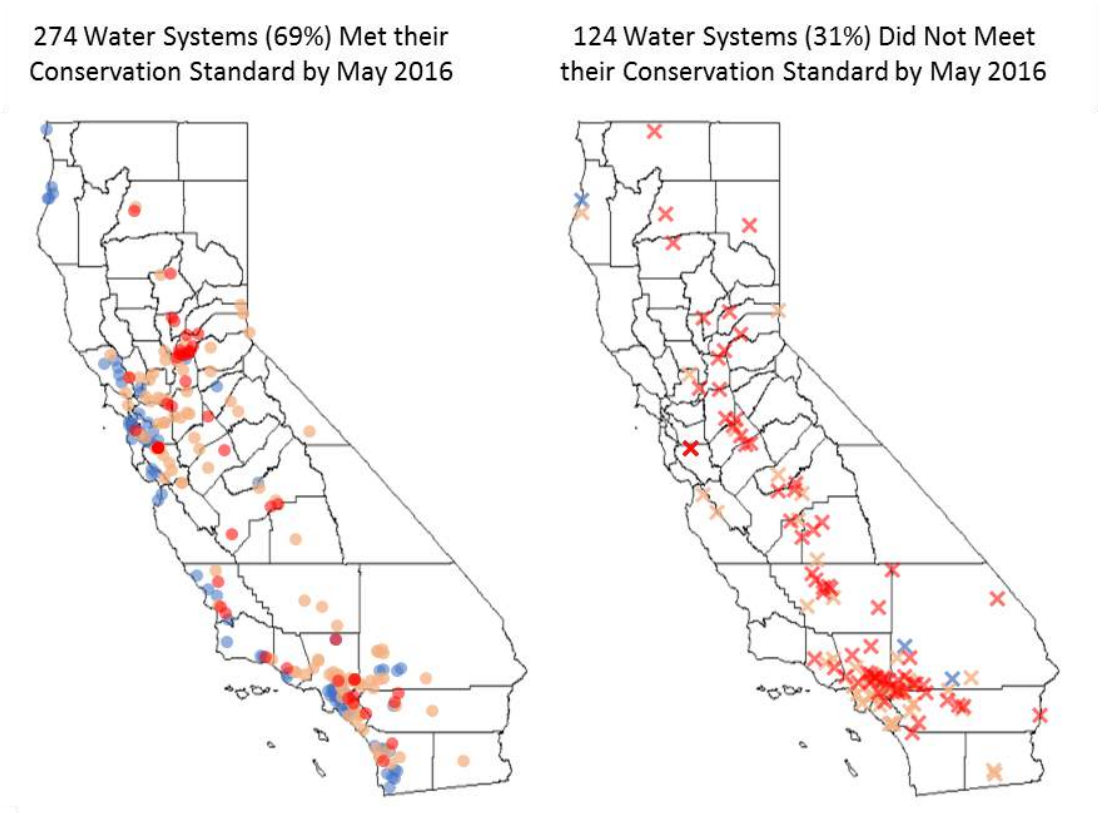
The body of the report presents the highlights of the analysis. A full presentation of different analyses that were done during the research are included in this appendix.

Figure A. Price Calculations for 6 and 12 ccfs (150 and 300 gpd) of Usage, Based on May 2016 Rates

This table provides a look at the method used for calculating the rates of agencies' prices at various consumption levels of water use. Note that this type of method was used for East Orange County Water District starting in 10/2016, and for the City of Sacramento beginning in 07/2016.

May, 2016							
Agency	**Base Charge (monthly)**	**Volume Charge (price per ccf)**	**Additional Volumetric Charges**	**Formula for 6 ccf**	**Bill at 6 ccf**	**Formula for 12 ccf**	**Bill at 12 ccf**
Alameda County Water District	20.77	3.37	Drought Surcharge For 8.5-15 ccf of use, add $1.48/ccf	20.77 + (6*3.37)	40.99	20.77 + (3.37*8) + (4*485)	67.13
City of Anaheim	9.90	0.50	NA	9.90 + (6*0.50)	12.90	9.90 + (12*0.50)	15.90
Contra Costa Water District	18.44	4.18	Drought Surcharge For 8+ ccf of use, total volumetric charge increases +$0.50	18.44 + (6*4.18)	43.52	18.44 + (12*4.68)	74.60
Desert Water Agency	10.75	1.57	NA	10.75 + (6*1.57)	20.17	10.75 + (12*1.57)	29.59
East Orange County Water District	NA	NA	NA	NA	NA	NA	NA
City of Fresno	9.30	1.09	NA	9.30 + (6*1.09)	15.84	9.30 + (12*1.09)	22.38
Mesa Water District	16.75	3.51	NA	16.75 + (6*3.51)	37.81	16.75 + (12*3.51)	58.87
Ramona Municipal Water District	28.61	4.76	NA	28.61 + (6*4.76)	57.17	28.61 + (12*4.76)	85.73
City of Sacramento	NA	NA	NA	NA	NA	NA	NA
Valley Center Municipal Water District	39.06	4.40	NA	39.06 + (6*4.40)	65.46	39.06 + (12*4.40)	91.86

Figure B. Reduction Success throughout the State



40% of the 119 water systems that had a revised conservation standard of 28% - 36% in May 2016 had a cumulative June 2015-May 2016 savings that exceeded their target.

71% of the 165 water systems that had a revised conservation standard of 17% - 27% in May 2016 had cumulative June 2015-May 2016 savings that exceeded their target.

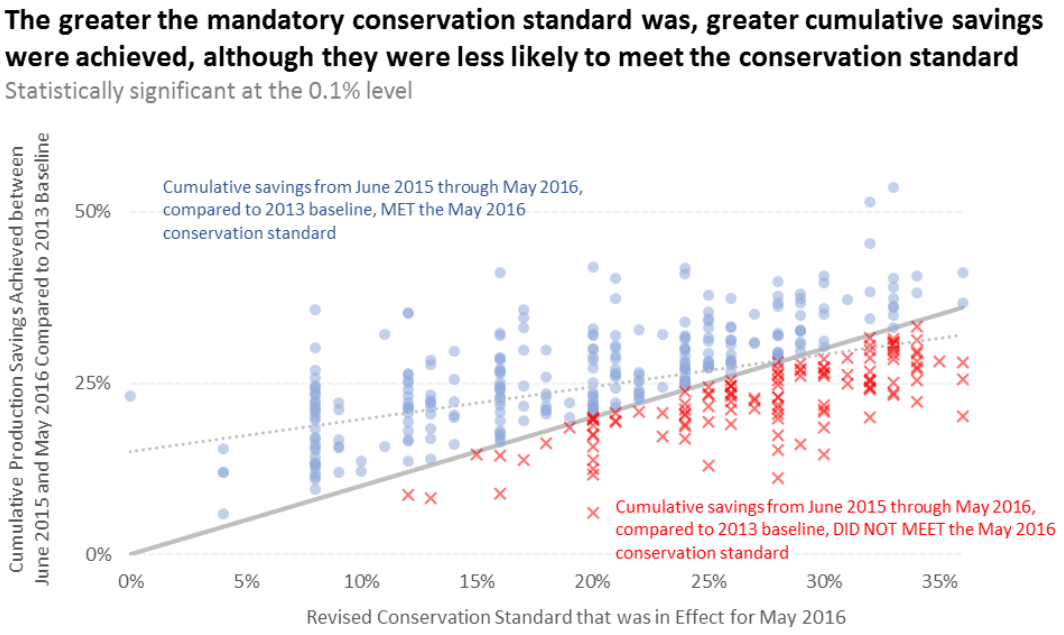
96% of the 114 water systems that had a revised conservation standard of 1% - 16% in May 2016 had cumulative June 2015-May 2016 savings that exceeded their target.

Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's May 2016 Supplier Conservation Compliance (June 21, 2016). Savings were calculated by the Water Control Board using water systems' self-reported water production data.

The State Water Resources Control Board published data on the cumulative water production savings achieved by 398 water systems from June 2015 through May 2016, compared to each system's baseline demand in calendar year 2013. The SWRCB used the monthly water production data that were reported by each water system to calculate the systems' cumulative savings as well as their average per-capita residential water use in each month.

We were able to statistically test correlations between various factors and the cumulative water savings achieved during the mandatory conservation period from June 2015 through May 2016 and average residential water use either at the start or end of the end of the mandatory conservation period. The factors included several aspects of pricing, rate structure designs, non-price demand management strategies, weather patterns, and the socioeconomic conditions of the water agencies and their served communities. We graphed each relationship below, and ran statistical tests on the strength of the correlation between the factors and average water use and achieved cumulative savings.

Figure C. Cumulative Production Savings vs Revised Conservation Standard



Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's May 2016 Supplier Conservation Compliance (June 21, 2016). Savings were calculated by the Water Control Board using water systems' self-reported water production data.

Figure D. Cumulative Production Savings vs June 2015 Average R-GPCD

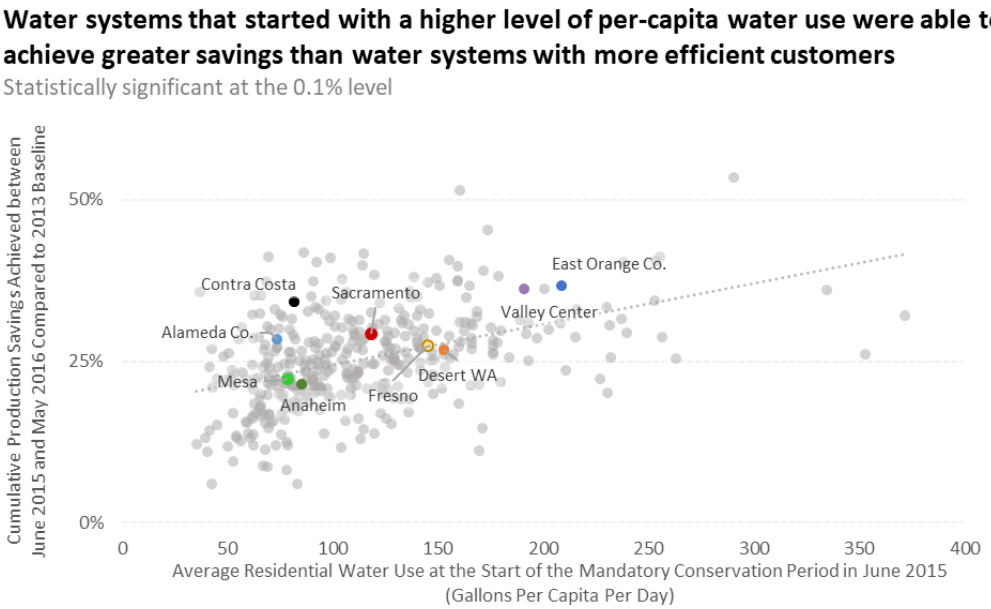


Figure E. Average R-GPCD at the end of Mandatory Conservation Period vs Average R-GPCD at Start of Mandatory Conservation Period

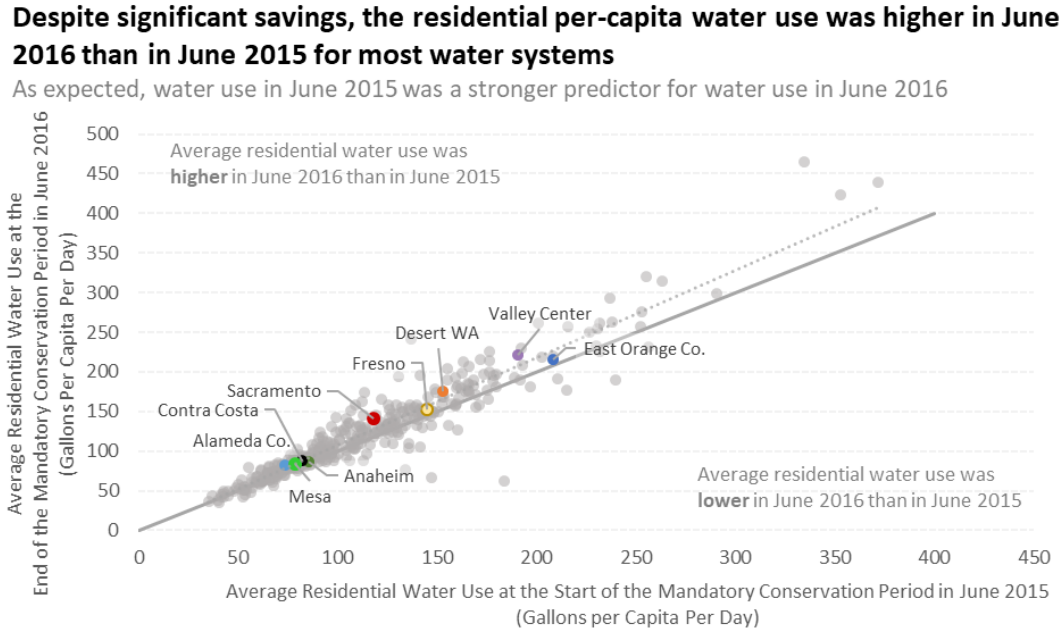
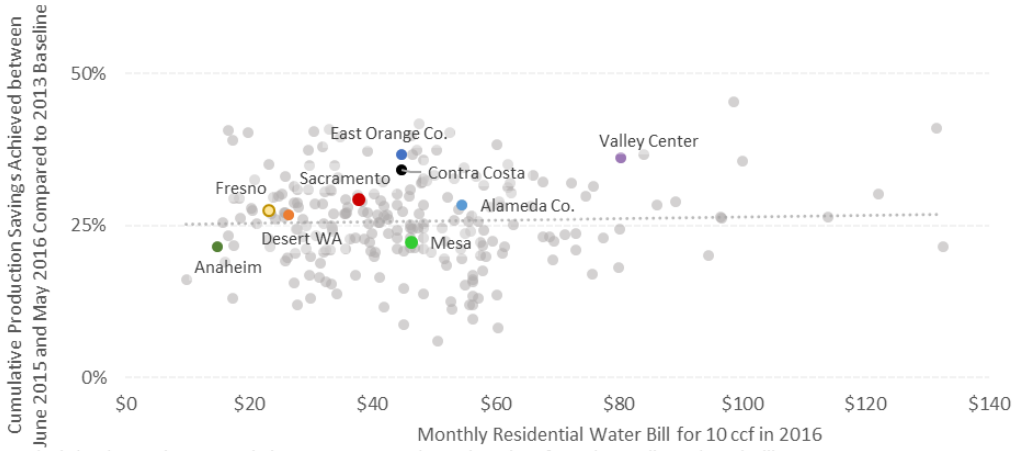


Figure F and G show interesting results. High water prices were correlated with lower residential use, but not high cumulative reduction. One reason for this result is that agencies with high rates already showed low average GPCDs before the mandated conservation period, and those agencies with lower R-GPCDs at the beginning of the period were less likely to see large reductions during the conservation period.

Figure F. Cumulative Production Savings vs Monthly Bill at 10 ccf (250 gpd)

There was no correlation between how much was charged for 10 ccf of water use and the cumulative savings achieved during the conservation period

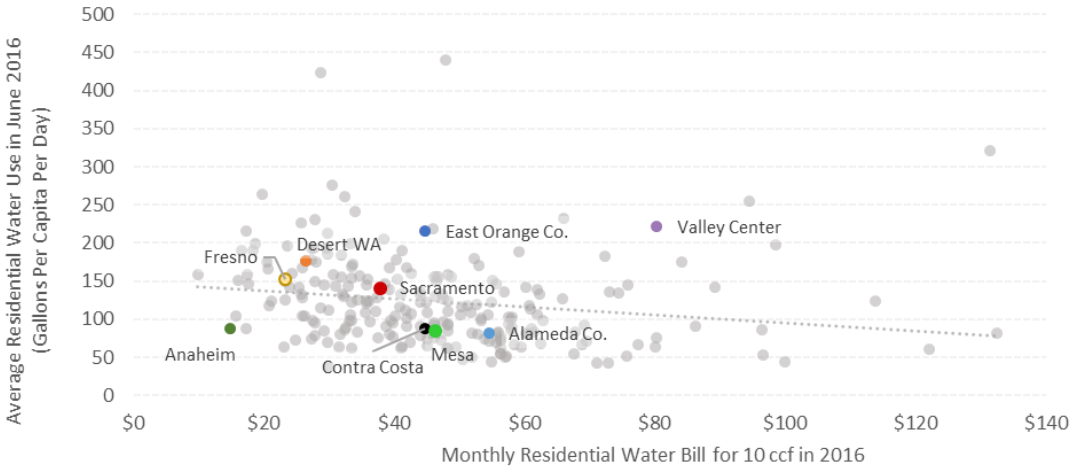


Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's May 2016 Supplier Conservation Compliance (June 21, 2016), California American Water Company's survey of California water rate structures. Savings were calculated by the Water Control Board using water systems' self-reported water production data.

Figure G. Average R-GPCD vs Monthly Bill at 10 ccf (250 gpd)

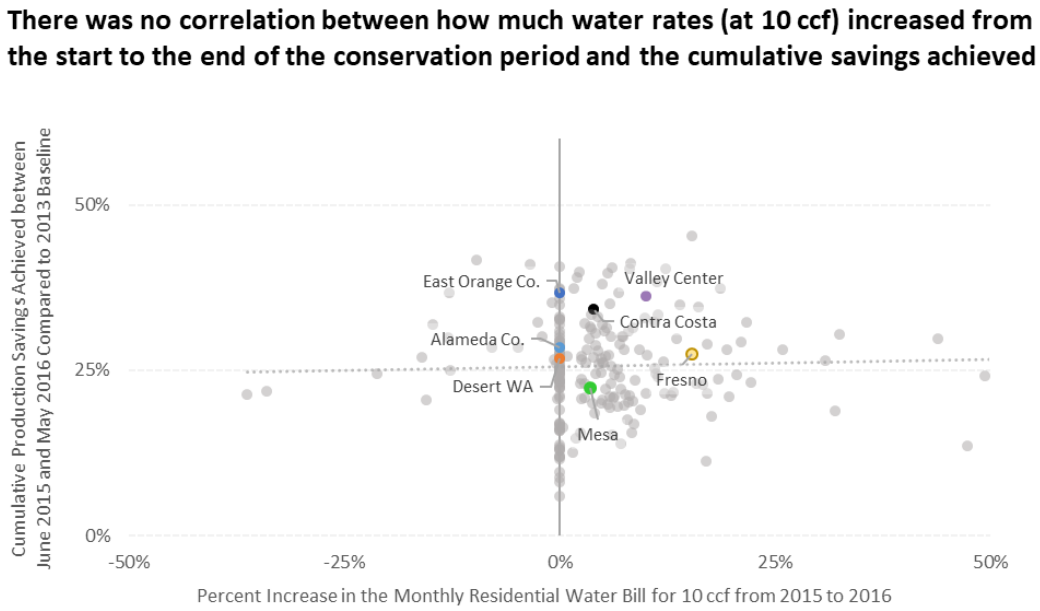
Water systems that charged higher bills for 10 ccf of water use had lower average residential water use in 2016

Statistically significant at the 1% level



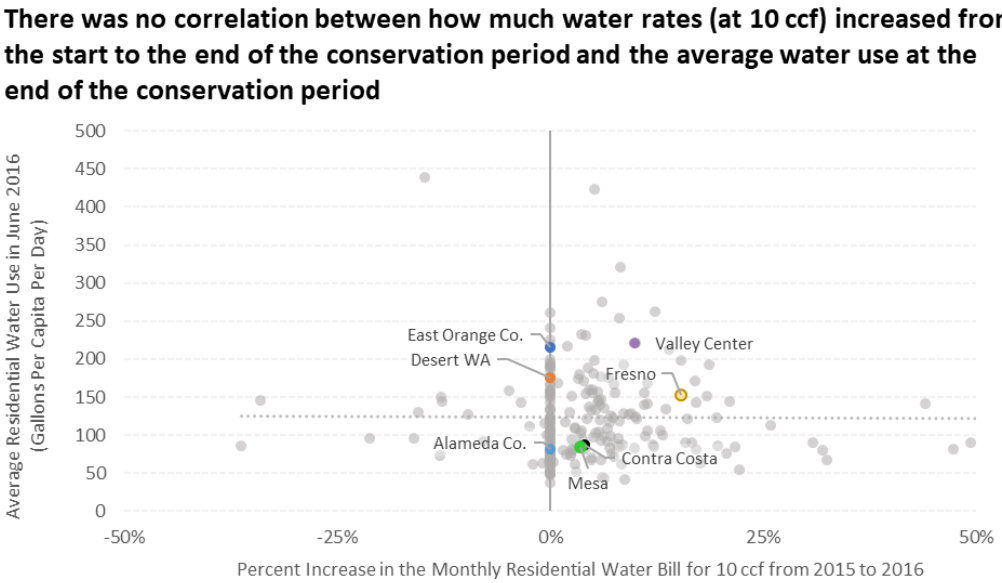
Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's June 2014 - June 2017 Urban Water Supplier Report Dataset (August 1, 2017), California American Water Company's survey of California water rate structures. Residential GPCD was calculated by the Water Control Board using water systems' self-reported water production data.

Figure H. Cumulative Production Savings vs Percent Increase in Water Bill from 2015 to 2016 for 10 ccf (250 gpd)



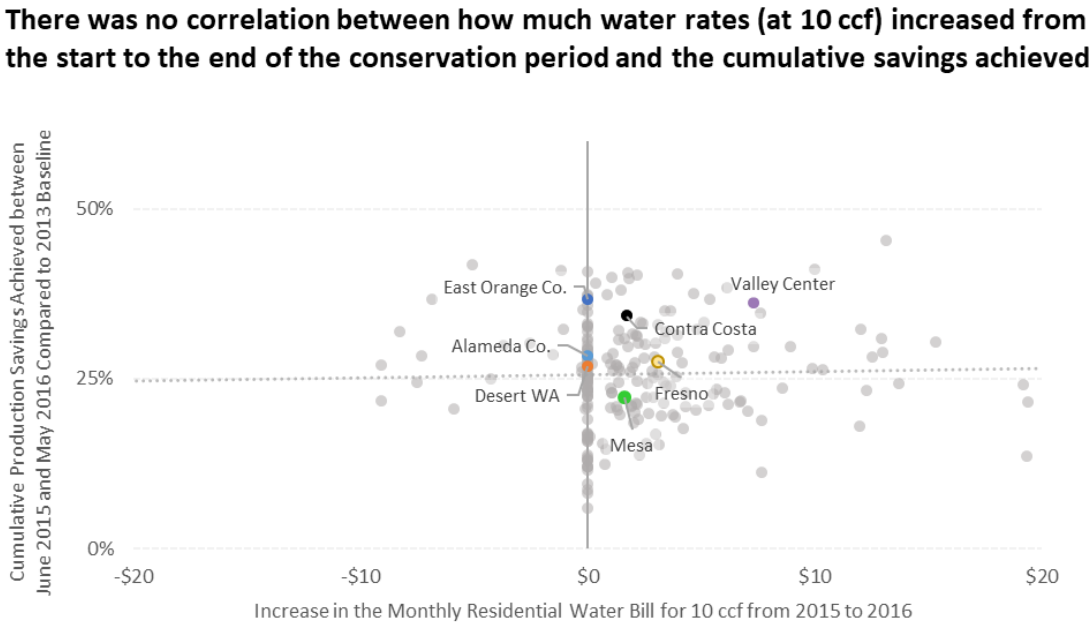
Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's May 2016 Supplier Conservation Compliance (June 21, 2016), California American Water Company's survey of California water rate structures. Savings were calculated by the Water Control Board using water systems' self-reported water production data.

Figure I. Average R-GPCD vs Percent Increase in Water Bill from 2015 to 2016 for 10 ccf (250 gpd)



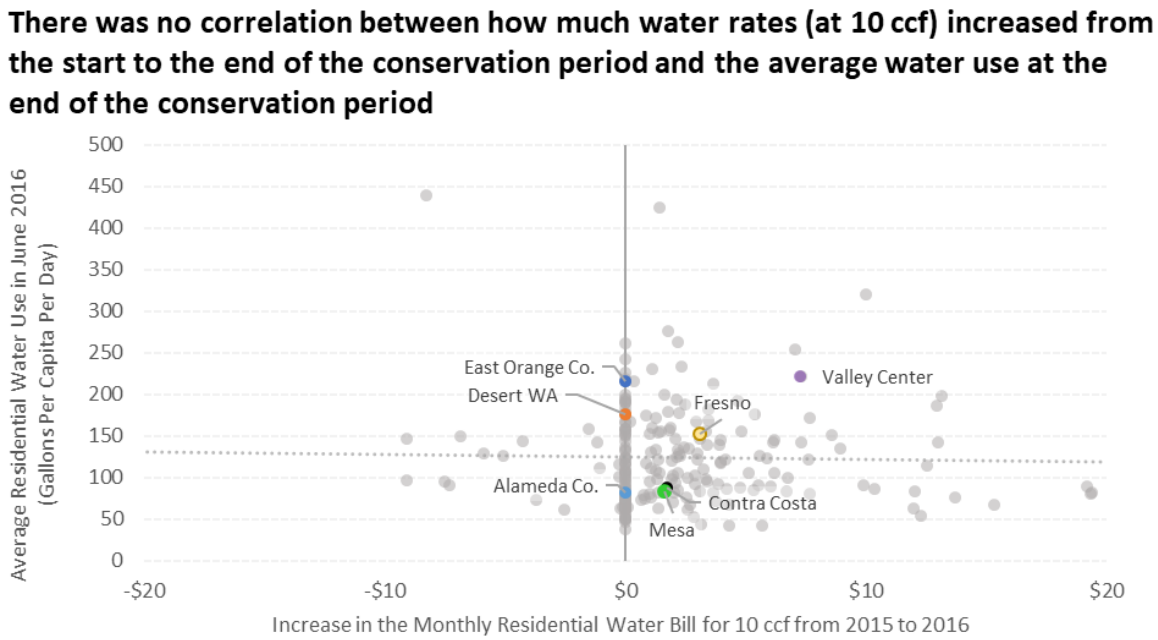
Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's June 2014 - June 2017 Urban Water Supplier Report Dataset (August 1, 2017), California American Water Company's survey of California water rate structures. Residential GPCD was calculated by the Water Control Board using water systems' self-reported water production data.

Figure J. Cumulative Production Savings vs Dollar Increase in Water Bill from 2015 to 2016 for 10 ccf (250 gpd)



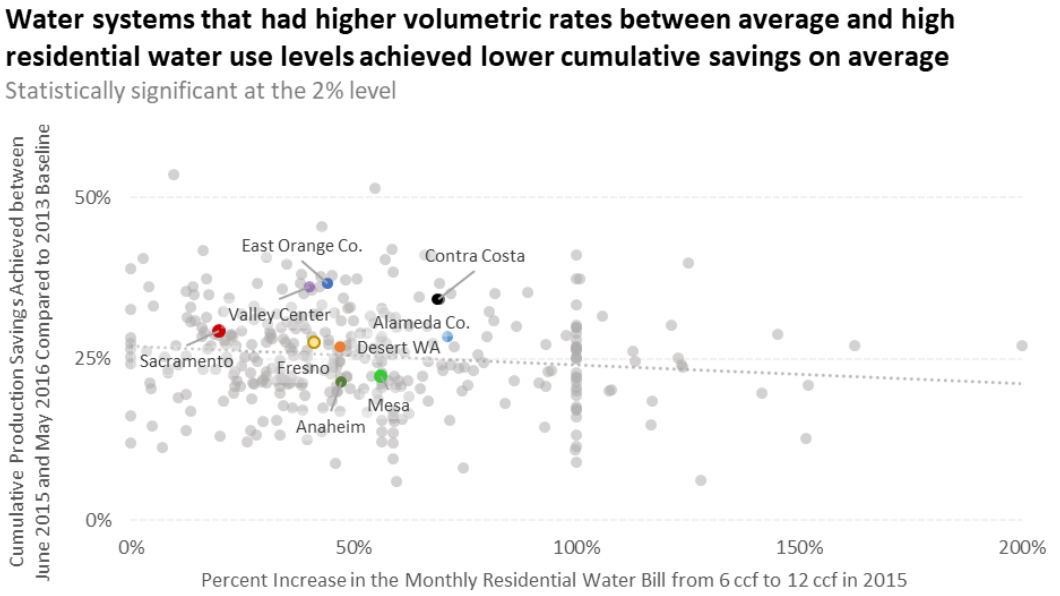
Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's May 2016 Supplier Conservation Compliance (June 21, 2016), California American Water Company's survey of California water rate structures. Savings were calculated by the Water Control Board using water systems' self-reported water production data.

Figure K. Average June 2016 R-GPCD vs Dollar Increase in Water Bill from 2015 to 2016 for 10 ccf (250 gpd)



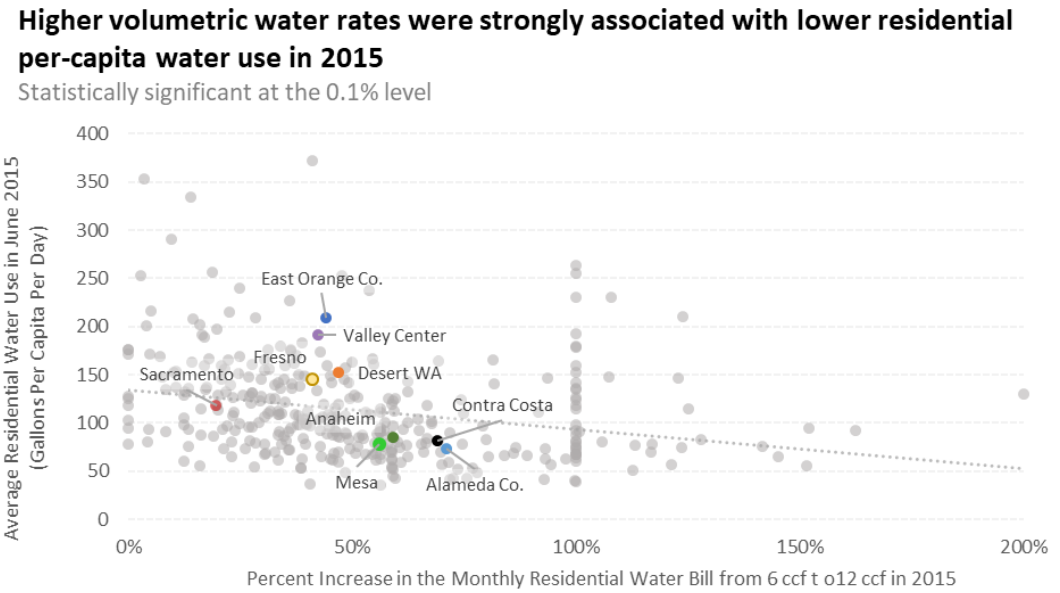
Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's June 2014 - June 2017 Urban Water Supplier Report Dataset (August 1, 2017), California American Water Company's survey of California water rate structures. Residential GPCD was calculated by the Water Control Board using water systems' self-reported water production data.

Figure L. Cumulative Production Savings vs Percent Increase in Water Bill from 6 to 12 ccf of Usage (150 to 300 gpd)



Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's May 2016 Supplier Conservation Compliance (June 21, 2016), CA Water Control Board's EAR water rates survey. Savings were calculated by the Water Control Board using water systems' self-reported water production data, and rates were self-reported by the water systems.

Figure M. Average June 2015 R-GPCD vs Percent Increase in Monthly Residential Water Bill from 6 to 12 ccf in 2015 (150 to 300 gpd)



Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's June 2014 - June 2017 Urban Water Supplier Report Dataset (August 1, 2017), CA Water Control Board's EAR water rates survey. Residential GPCD was calculated by the Water Control Board using water systems' self-reported water production data, and rates were self-reported by the water systems.

Figure N. Cumulative Production Savings vs Dollar Increase in Monthly Residential Water Bill from 6 to 12 ccf in 2015 (150 to 300 gpd)

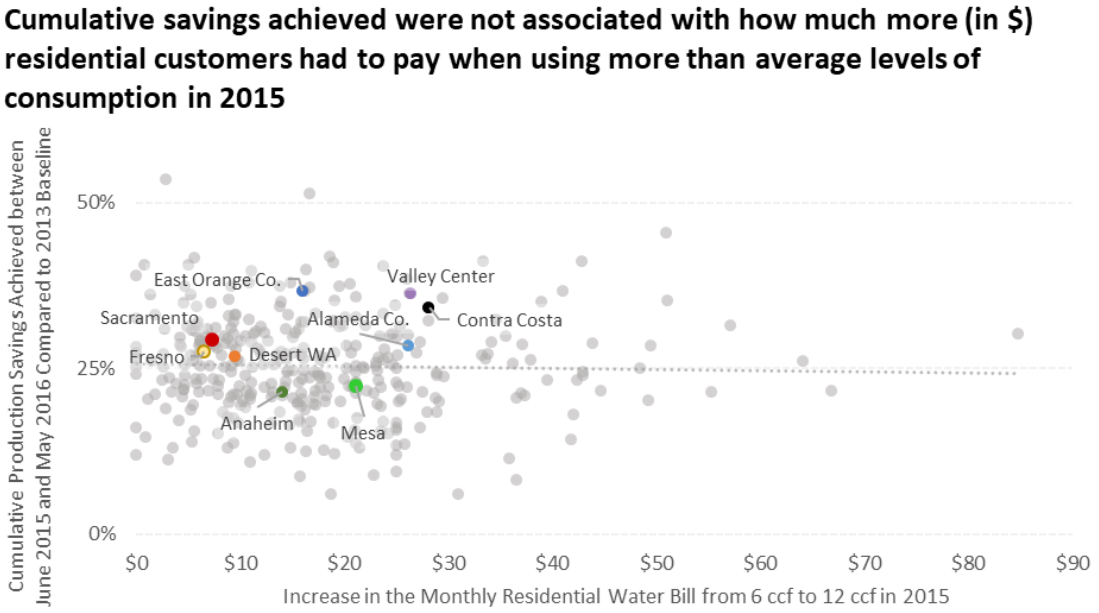


Figure O. R-GPCD June 2015 vs Dollar Increase in Monthly Water Bill from 6 to 12 ccf 2015 (150 to 300 gpd)

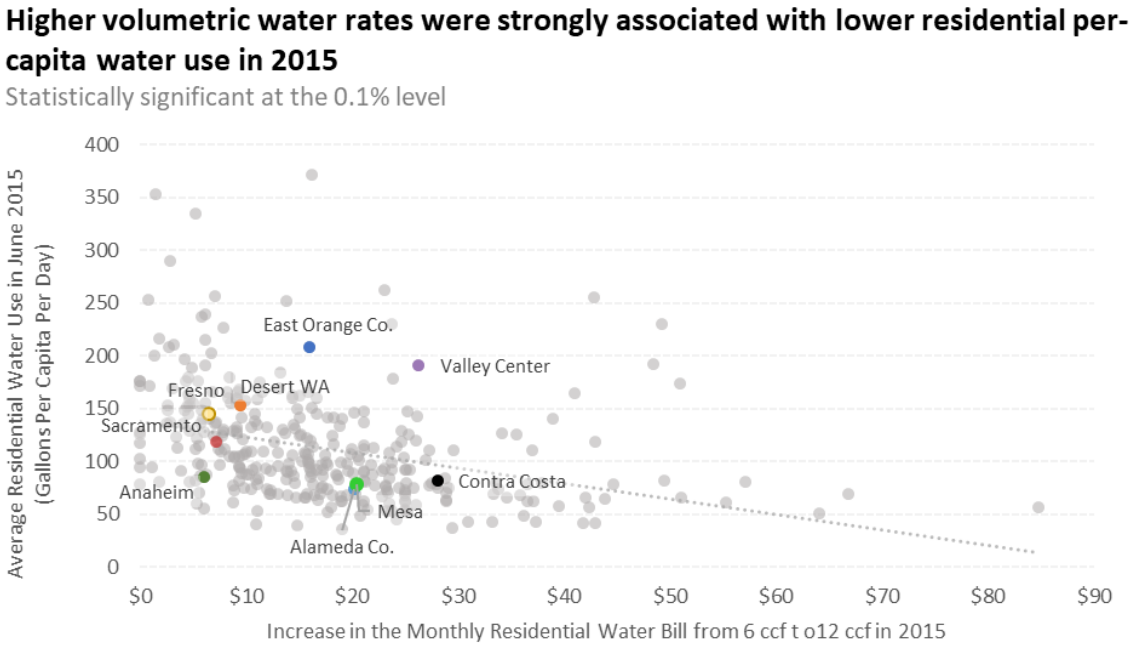
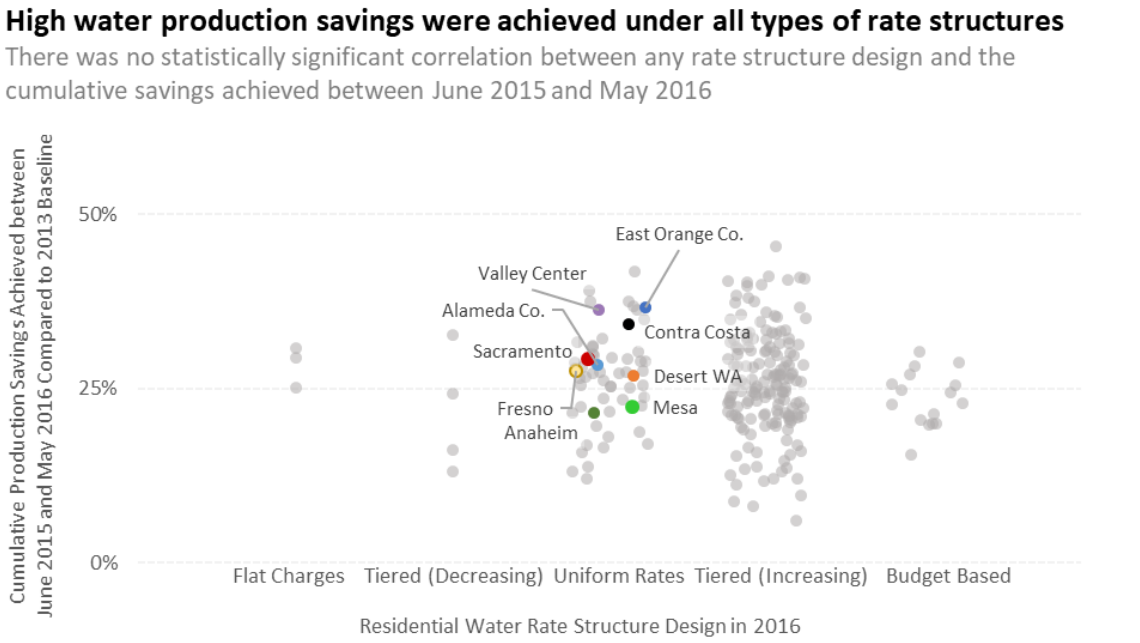
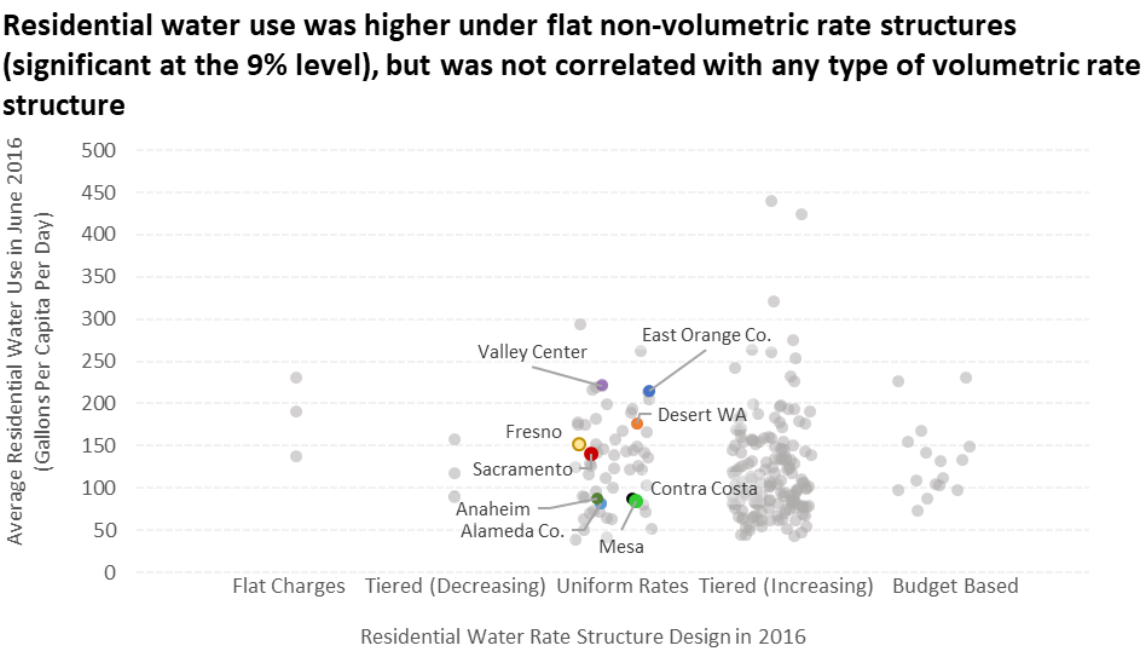


Figure P. Cumulative Production Savings compared to Water Rate Structure Design in 2016



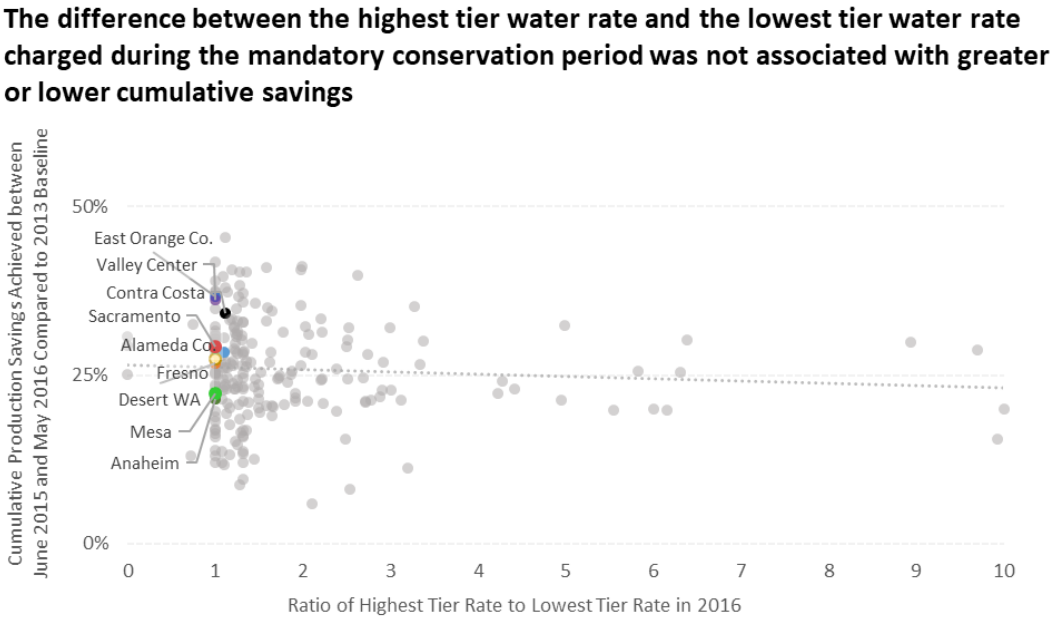
Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's May 2016 Supplier Conservation Compliance (June 21, 2016), California American Water Company's survey of California water rate structures. Savings were calculated by the Water Control Board using water systems' self-reported water production data.

Figure Q. Average 2016 R-GPCD vs Water Rate Structure Design in 2016



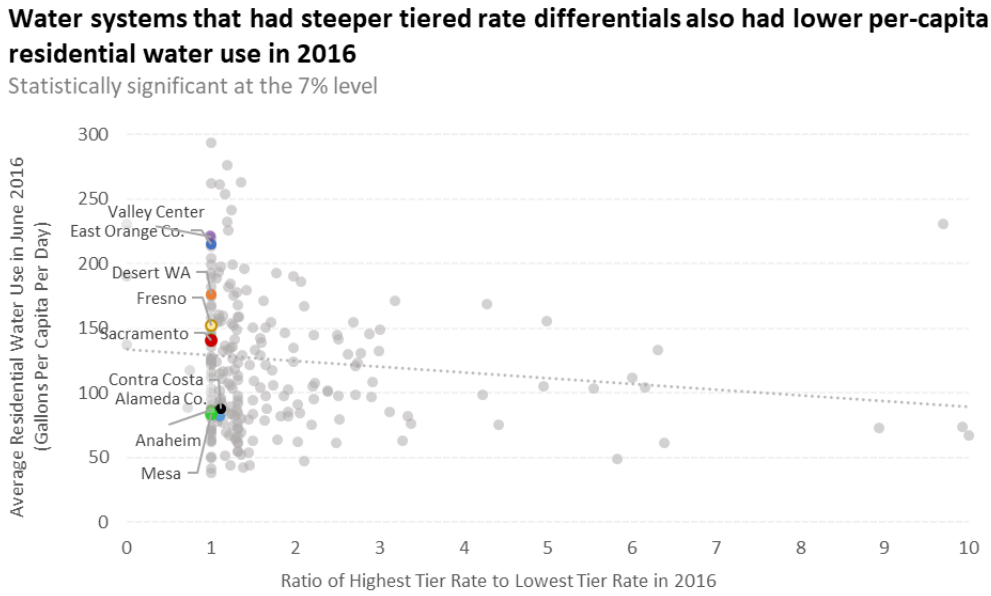
Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's June 2014 - June 2017 Urban Water Supplier Report Dataset (August 1, 2017), California American Water Company's survey of California water rate structures. Residential GPCD was calculated by the Water Control Board using water systems' self-reported water production data.

Figure R. Cumulative Production Savings vs Ratio of Highest Tier Rate to Lowest Tier Rate in 2016



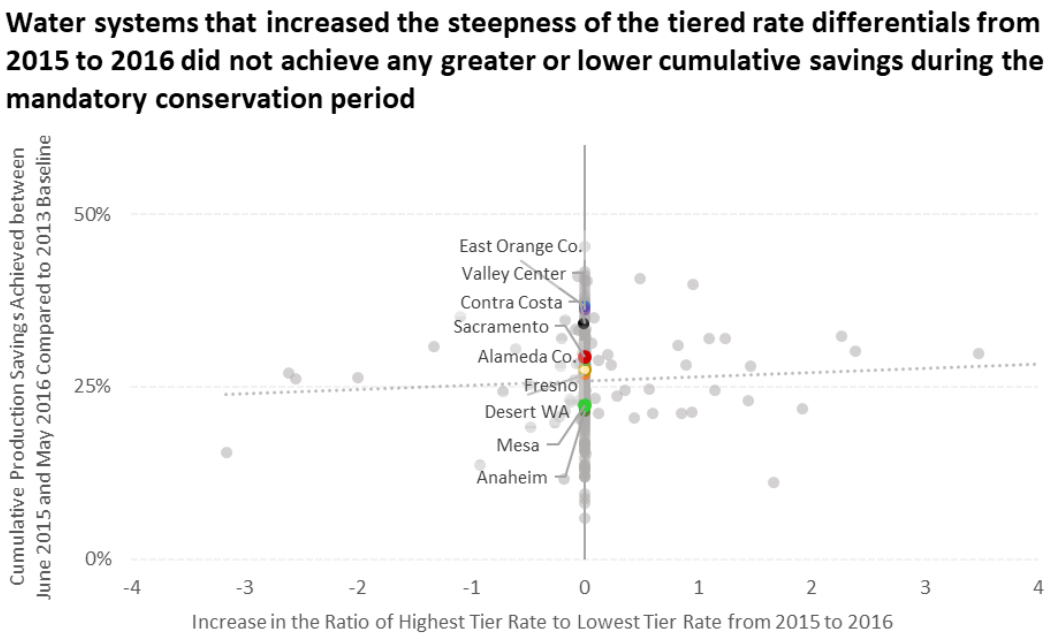
Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's May 2016 Supplier Conservation Compliance (June 21, 2016), California American Water Company's survey of California water rate structures. Savings were calculated by the Water Control Board using water systems' self-reported water production data. The ratio for uniform rate structures is 1.

Figure S. Average R-GPCD in June 2016 vs Ratio of Highest Tier Rate to Lowest Tier Rate in 2016



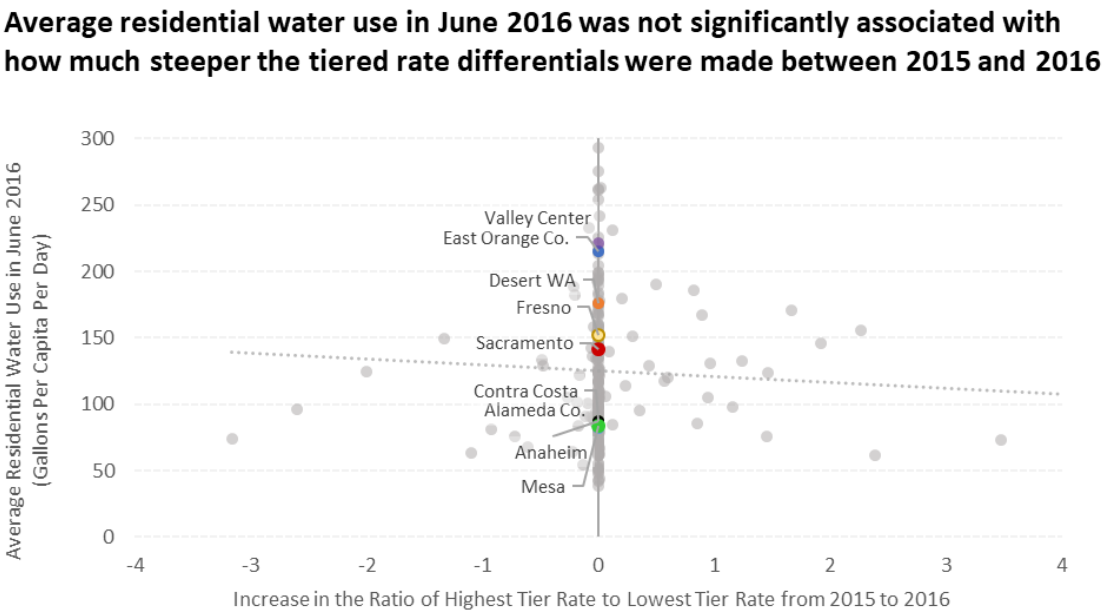
Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's June 2014 - June 2017 Urban Water Supplier Report Dataset (August 1, 2017), California American Water Company's survey of California water rate structures. Residential GPCD was calculated by the Water Control Board using water systems' self-reported water production data. The ratio for uniform rate structures is 1.

Figure T. Cumulative Production Savings vs Increase in Tier Ratio from 2015 to 2016



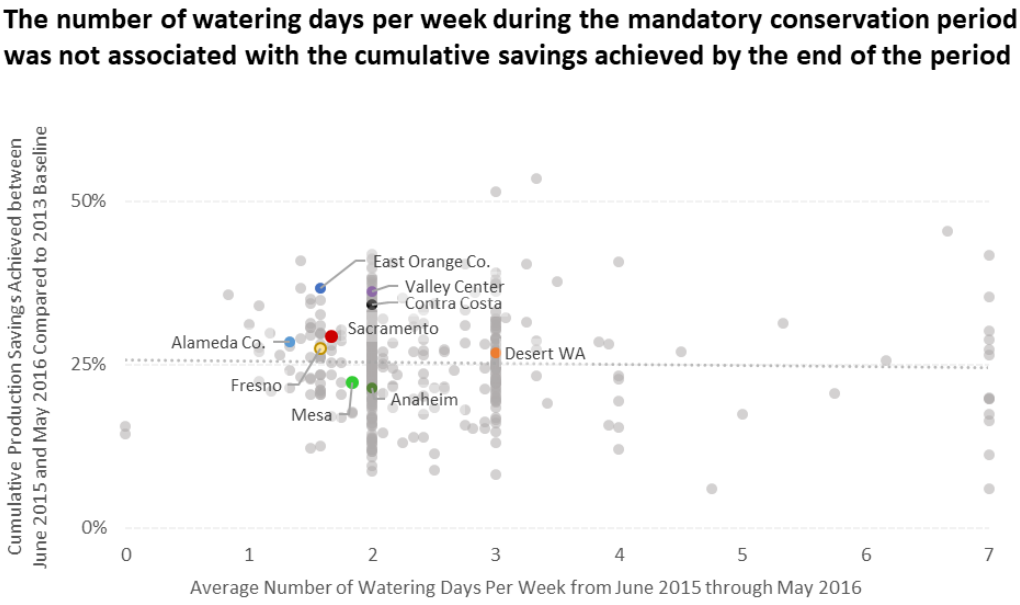
Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's May 2016 Supplier Conservation Compliance (June 21, 2016), California American Water Company's survey of California water rate structures. Savings were calculated by the Water Control Board using water systems' self-reported water production data. No change in the ratio is shown as 0.

Figure U. Average June 2016 R-GPCD vs Increase in Tier Ratio from 2015 to 2016



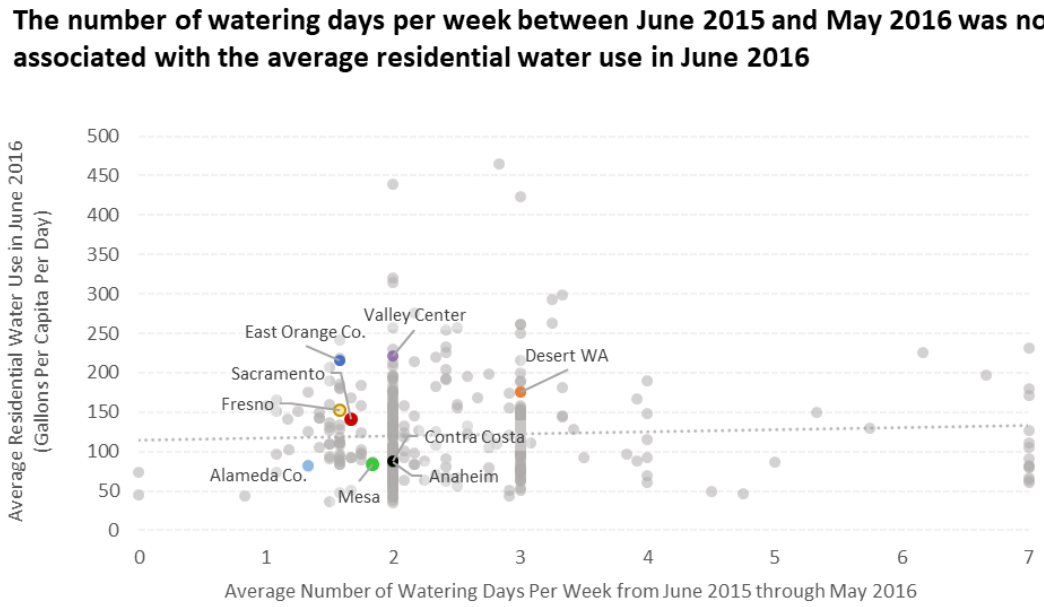
Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's June 2014 - June 2017 Urban Water Supplier Report Dataset (August 1, 2017), California American Water Company's survey of California water rate structures. Residential GPCD was calculated by the Water Control Board using water systems' self-reported water production data. No change in the ratio is shown as 0.

Figure V. Cumulative Production Savings vs. Average Number of Days Watering per Week Permitted During State Mandated Conservation Period



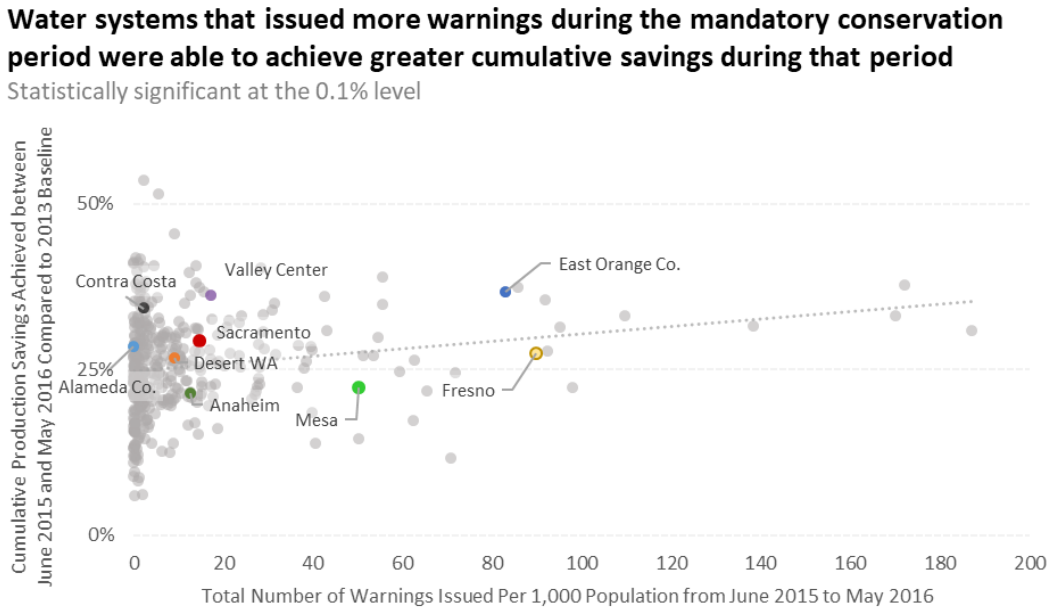
Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's May 2016 Supplier Conservation Compliance (June 21, 2016) and June 2014 - June 2017 Urban Water Supplier Report Dataset (August 1, 2017). Savings were calculated by the Water Control Board using water systems' self-reported water production data. Number of watering days were self-reported monthly by water systems.

Figure W. Average R-GPCD June 2016 vs Average Number of Days Watering per Week Permitted During State Mandated Conservation Period



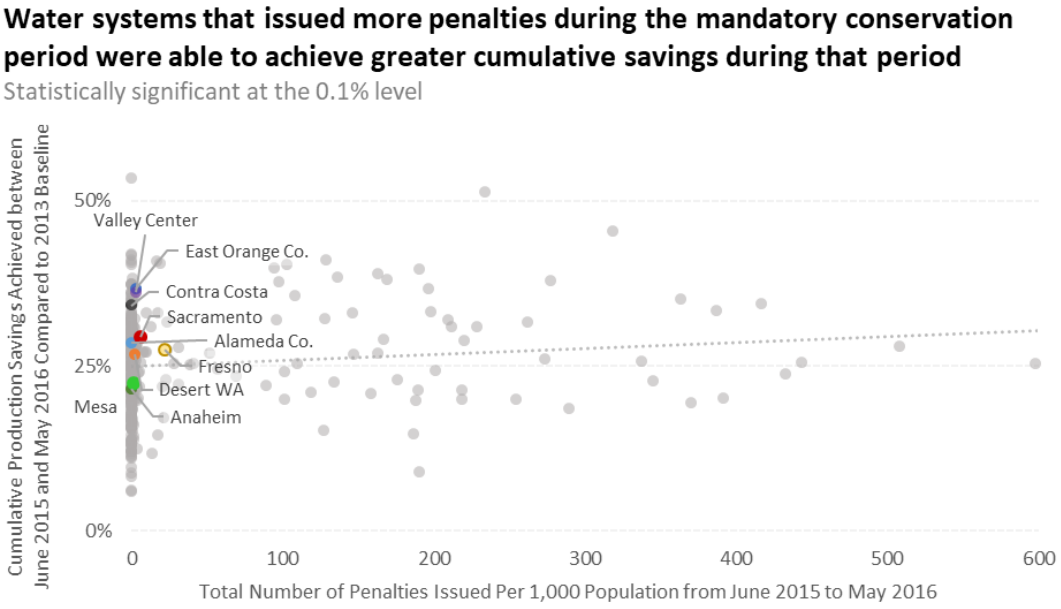
Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's June 2014 - June 2017 Urban Water Supplier Report Dataset (August 1, 2017).
Residential GPCD was calculated by the Water Control Board using water systems' self-reported water production data.
Number of watering days were self-reported monthly by water systems.

Figure X. Cumulative Production Savings vs Total Warnings Issued During State Mandated Conservation Period, per 1,000 Population



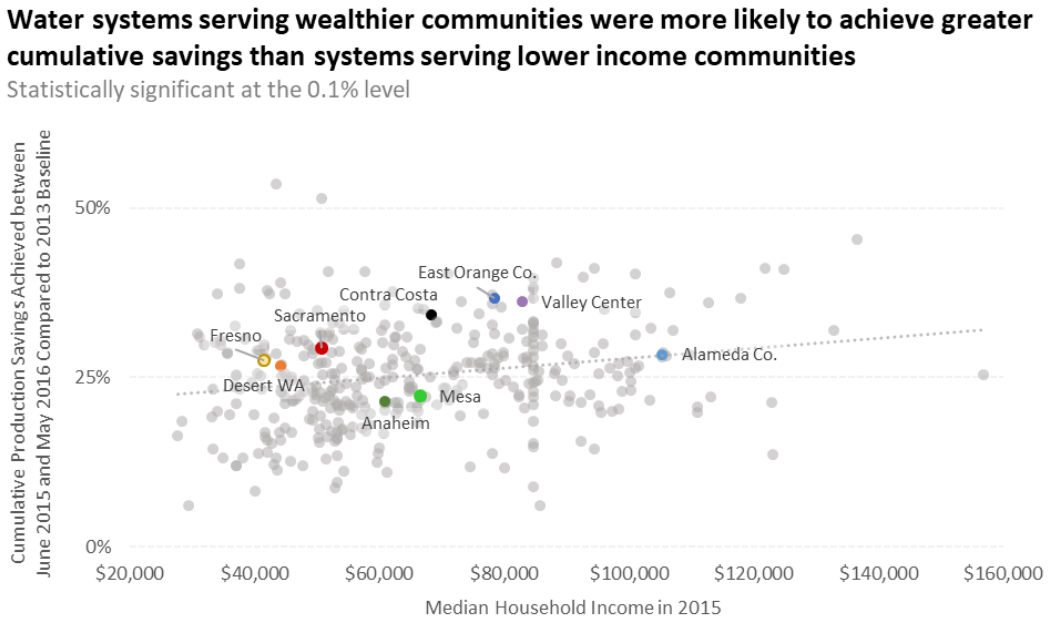
Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's May 2016 Supplier Conservation Compliance (June 21, 2016) and June 2014 - June 2017 Urban Water Supplier Report Dataset (August 1, 2017). Savings were calculated by the Water Control Board using water systems' self-reported water production data. Number of warnings issues were self-reported monthly by water systems.

Figure Y. Cumulative Production Savings vs Total Penalties Issued During State Mandated Conservation Period, per 1,000 Population



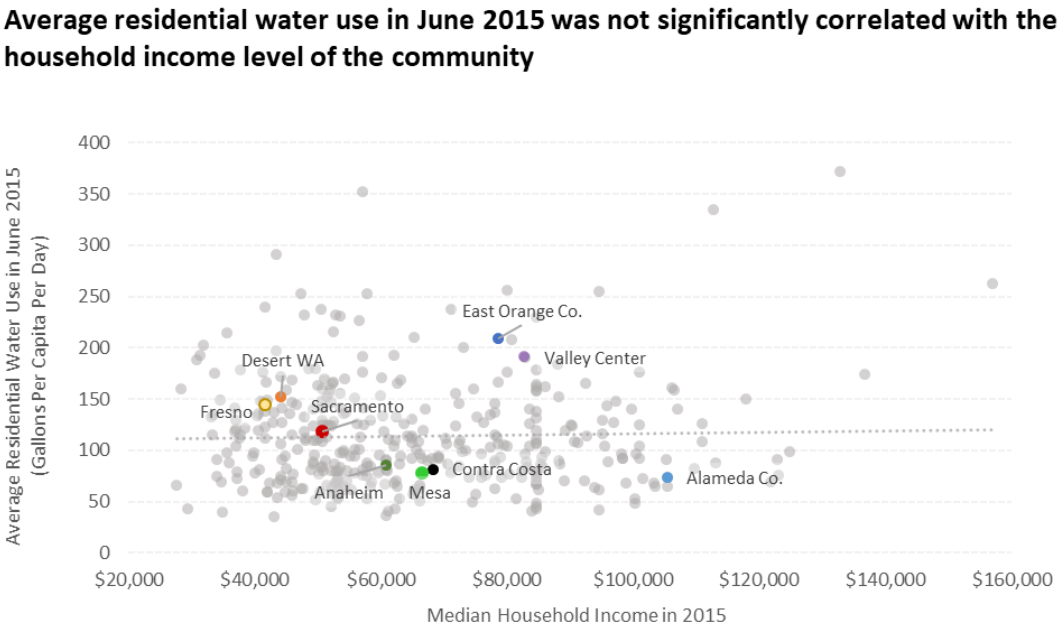
Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's May 2016 Supplier Conservation Compliance (June 21, 2016) and June 2014 - June 2017 Urban Water Supplier Report Dataset (August 1, 2017). Savings were calculated by the Water Control Board using water systems' self-reported water production data. Number of penalties issues were self-reported monthly by water systems.

Figure Z. Cumulative Production Savings vs Median Household Income in 2015



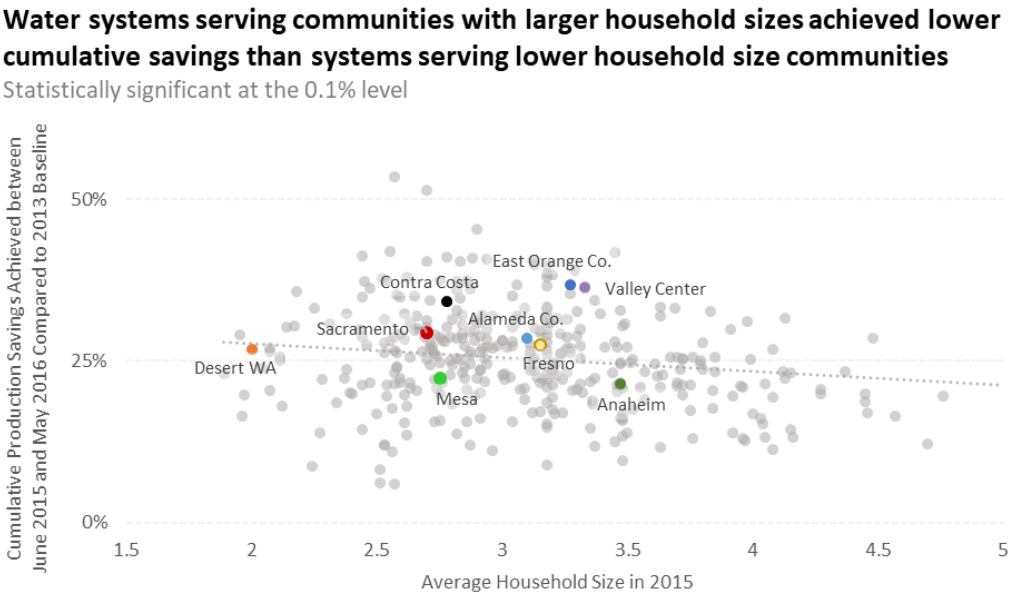
Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's May 2016 Supplier Conservation Compliance (June 21, 2016), U.S. Census Bureau 5-year American Community Survey 2010-2015. Savings were calculated by the Water Control Board using water systems' self-reported water production data.

Figure AA. Average June 2015 R-GPCD vs Median Household Income in 2015



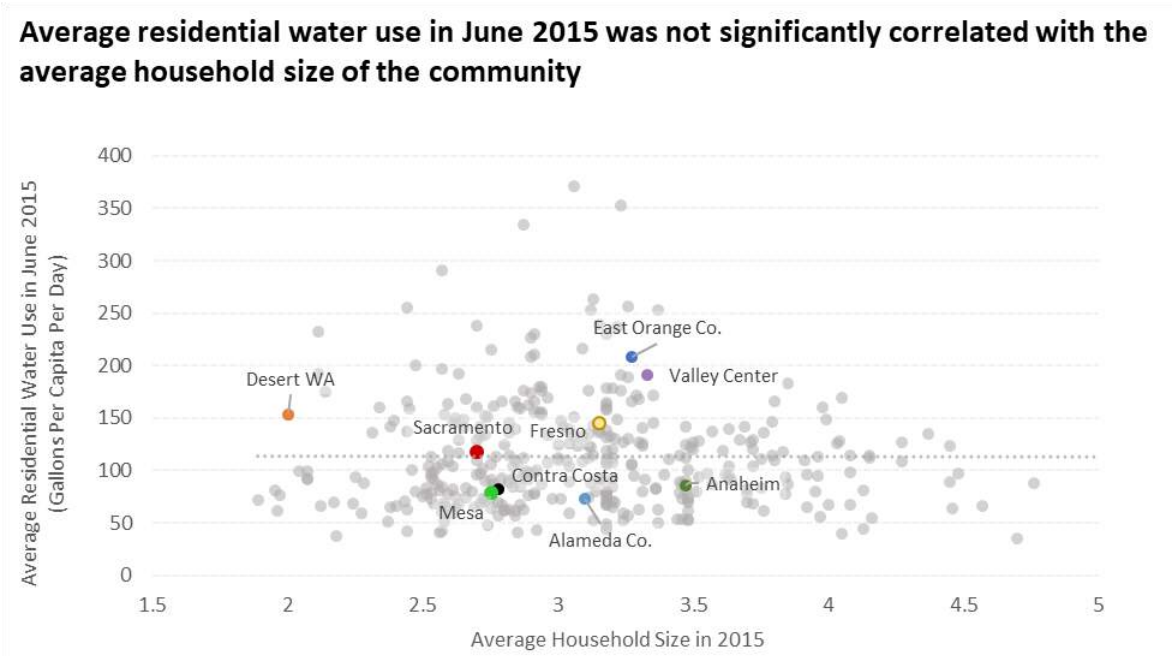
Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's June 2014 - June 2017 Urban Water Supplier Report Dataset (August 1, 2017), U.S. Census Bureau 5-year American Community Survey 2010-2015. Residential GPCD was calculated by the Water Control Board using water systems' self-reported water production data.

Figure AB. Cumulative Production Savings vs Average Household Size in 2015



Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's May 2016 Supplier Conservation Compliance (June 21, 2016), U.S. Census Bureau 5-year American Community Survey 2010-2015. Savings were calculated by the Water Control Board using water systems' self-reported water production data.

Figure AC. Average June 2015 R-GPCD vs Average Household Size in 2015



Analysis by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Sources: CA Water Control Board's June 2014 - June 2017 Urban Water Supplier Report Dataset (August 1, 2017), U.S. Census Bureau 5-year American Community Survey 2010-2015. Residential GPCD was calculated by the Water Control Board using water systems' self-reported water production data.

Figure AD. Average June 2016 R- GPCD vs Total Precipitation in June 2016

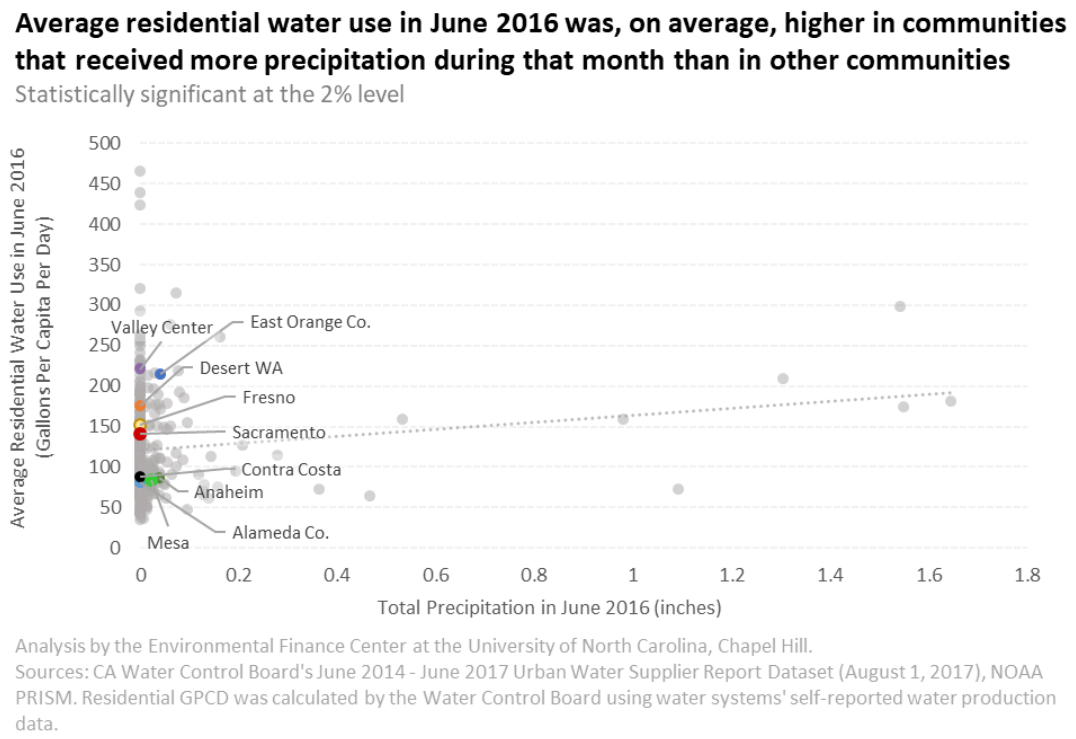


Figure AE. Average June 2016 R-GPCD vs Average Temperature in June 2016