

Water Supply Reliability Self-Certification

Filed with the State Water Resources Control Board

In May of this year, the State Water Resources Control Board adopted new Drought Regulations allowing retail water agencies to certify as to the actual water supply conditions impacting their individual service areas. Based upon information supplied by its wholesale supplier, the San Diego County Water Authority, the Fallbrook Public Utility District was able to file the **Water Supply Reliability Self-Certification Report**, shown below, confirming that FPUD will have access to enough water to meet all domestic, commercial and agricultural water needs in its service area at least through the end of 2016 and likely beyond. This was the case in 2015 and is still today because of the investments made by water rate payers in FPUD and throughout San Diego in water conservation, water transfers, recycling, and alternative Seawater Desalination supplies.

However, even though there is a full supply today, it is still and will always be important to conserve, use water efficiently and avoid waste of this precious resource to help preserve our water supply reliability for the future.

Finally, FPUD would like to thank all of its customers for your cooperation, patience, and understanding in responding to the water supply restrictions and the very respectful and considerate way you have dealt with District staff during a very difficult and stressful period.

Brian Brady
General Manager

Certification of Self-Certified Conservation Standard

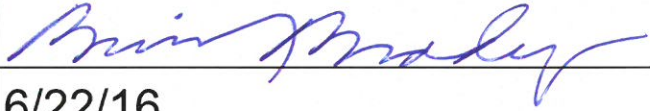
Certification of Self-Certified Conservation Standard Form

I hereby certify that: **Fallbrook Public Utility District**

1. I will oversee, review, and take full responsibility for the completeness and accuracy of all data submitted to the State Water Resources Control Board as part of the reporting required pursuant to California Code of Regulations, title 23, section 864.5, subdivisions (a)(3) and (h);
2. I have the authority to make the aforesaid certifications on behalf of

Fallbrook Public Utility District

I acknowledge that submitting any information required by California Code of Regulations, title 23, section 864.5, including this certification, that I know or should know to be materially false is a violation punishable by civil liability of up to five hundred dollars (\$500) for each day in which the violation occurs. Every day that the error goes uncorrected constitutes a separate violation. Civil liability for the violation is in addition to, and does not supersede or limit, any other remedies, civil or criminal.

Printed Name	Brian Brady
Title <i>(General Manager or equivalent)</i>	General Manager
Signature	
Date	6/22/16
Email Address	bbrady@fpud.com
Phone Number	(760)728-1125

Please print, sign and submit completed form and upload the form to this weblink (see Step 5 of the online form): <http://drinc.ca.gov/dnn/applications/publicwatersystems/waterreliabilitycertification.aspx>

This is an acknowledgement of your Water Supply Reliability Self-certification submission. Should any of this information be incorrect, please re-submit your application **in its entirety** including all worksheets, legal document, certification form, and supporting documents.

Urban Water Supplier	Fallbrook Public Utility District (755)
Management Contact Name	Brian Brady
Title	General Manager
Email	bbrady@fpud.com
Telephone	(760) 728-1125
Technical Contact Name	Jeff Marchand
Title	Engineering Supervisor
Email	jeff@fpud.com
Telephone	(760) 728-1125
2013 Production (in units selected)	12764
2014 Production (in units selected)	12822
Calculated Annual Potable Water Demand in Acre-feet (AF)	12793.000 AF
Demand Notes and Comments	
WY 2017 Total Available Water Supply	12793 AF
WY 2018 Total Available Water Supply	12793 AF
WY 2019 Total Available Water Supply	12793 AF
Supply Notes and Comments	
Individual or Aggregate	Aggregate
Conservation Standard *	0 %
Higher Conservation Standard	No
Step 3.1 Notes and Comments	
Step 3.2 Entity submitting Aggregated Self-certification form, if applicable	San Diego County Water Authority
Contact	Bob Yamanda
Title	Director of Water Resources
Email	rymada@sdewa.org
Telephone	(858) 522-6741

Aggregate Demand	
Aggregate Supply	
Aggregate Conservation Standard *	
Step 3.2 Notes and Comments	
Uploaded Worksheet #1	http://drinc.ca.gov/DNN/Portals/0/SelfCert/b8fe2476-8959-4fe9-92c0-021cdd026a00.xlsx
Uploaded Worksheet #2	
Uploaded Legal Document	
Uploaded Certification	http://drinc.ca.gov/DNN/Portals/0/SelfCert/ce16ceaf-56c6-46a4-9d26-32d1c54ea8ed.pdf
Uploaded Supporting Analysis & Calculations	http://drinc.ca.gov/DNN/Portals/0/SelfCert/e0c6ab1d-db24-4e02-8630-d68993686859.docx

* A negative number indicates a surplus and the Conservation Standard is zero.

Step 2 of Water Supply Reliability Certification and Data Submission Form

Fallbrook Public Utility District << Enter name of urban water supplier

User Input Instructions

- (1) Please select units of measure from the dropdown menu.
- (2) Enter information on available water supplies and supplies committed to other uses.

LEGEND:

User Input or Selection	
Linked from User Input	

acre feet (AF) << Select units of measure

Available Water Supplies

Sources of Supply	Name of Provider(s) or Description	Source used in prior years?	Water Available in			Wholesaler information Direct Web Link	Wholesaler Water System Number**
			WY 2017 *	WY 2018 *	WY 2019		
WHOLESALER SUPPLIED >> Provide direct web link(s) to information on the volume of water the wholesaler expects to deliver to the retailer water supplier in each year.							
Wholesaler 1	San Diego County Water Authority	Y	12,700.0	12,716.0	12,684.0	www.sdcwa.org	CA3710042
Wholesaler 2		Select Y/N					
Wholesaler 3		Select Y/N					
Wholesaler 4		Select Y/N					
Wholesaler 5		Select Y/N					
SELF-SUPPLIED							
Water Recycling (potable)		Select Y/N					
Surface water: SWP		Select Y/N					
Surface water: CVP		Select Y/N					
Surface water: Colorado River		Select Y/N					
Surface water: other (describe)		Select Y/N					
Surface water: other (describe)		Select Y/N					
Local Groundwater		Y	93.0	77.0	109.0		
Seawater Desalination		Select Y/N					
Transfers		Select Y/N					
Exchanges		Select Y/N					
Other (describe):		Select Y/N					
SUBTOTAL of available supplies (in units selected)			12,793.0	12,793.0	12,793.0		

<< Complete groundwater tab

<< To add more self-supplied sources, insert as many rows

* Any carryover from one year is incorporated in the supply of the following year, as legally allowed.

** Look up Water system number at this link: <https://sdwis.waterboards.ca.gov/PDWW/>

Rows can be inserted to account for other sources of supply (e.g., desalination of brackish water, banked water)

If a source has not been used in prior years, e.g., a new treatment facility will be constructed, supporting documentation must document when the new source will be fully implemented.

Water Supplies Committed to Other Uses (Not Available)

Other Uses	Describe	Quantity in WY 2017	Quantity in WY 2018	Quantity in WY 2019
Agriculture				
Commercial, industrial or institutional				
New residential customers				

Transfers				
Other:				
Other:				
	SUBTOTAL of supplies not available (in units selected)	-	-	-

TOTAL available water supply (in units selected)	12,793.0	12,793.0	12,793.0
---	----------	----------	----------

(Subtotal of available supplies minus subtotal of supplies committed to other uses)

>>> Please enter values calculated below in Step 2 of the online form

TOTAL available water supply converted to acre feet	12,793	12,793	12,793
--	--------	--------	--------

>> If error, verify you have selected units of measure

If using local groundwater sources, answer questions below

Complete only if relying on local groundwater for a portion of supply (not brackish groundwater desalination or banking)

Do you know the volume of water in the aquifer that is in your source(s) of groundwater?

Pick one:

Optional notes and comments:

Fallbrook Public Utility District's "Capra Well" draws from a small fractured-rock aquifer in a localized watershed of Red Mountain below the District's Red Mountain Reservoir. The volume of water drawn from the well is a very small portion of the District's supply portfolio.

How frequently are groundwater elevations monitored?

Pick one:

Optional notes and comments:

At what depth is/was your water table? (in feet) Do not average values for multiple basins, management zones, or wells.

If there are multiple wells, enter the depth for the source where the largest portion of supply comes from; itemize information in the notes or supporting documentation.

In June 2016 feet

In June 2013 feet

Optional notes and comments:

Readings taken 6/15/16, and 6/15/13

How many feet can you withdraw without substantially affecting your ability to pump water? (in feet)

If there are multiple wells, enter the depth for the source where the largest portion of supply comes from as a representative well; provide additional information in the notes or supporting documentation.

feet

Optional notes and comments:

Do you have groundwater that you expect to sell or distribute to another water supplier that is not accounted for in your calculations?

Pick one:

Describe:

>>> Thank you.

Supporting Analysis & Calculations

Introduction

On May 18, 2016, the State Water Resources Control Board (SWRCB) amended its emergency water conservation regulation. The amended regulation now includes a supply-based approach that recognizes the unique water supply conditions of each water supplier. The new supply-based approach considers the necessity for a conservation standard for the period of June 2016 through January 2017, based on each water supplier's specific circumstances and water supplies. The new regulation requires individual urban water suppliers – or a region as a whole, if all of that region's water suppliers agree – to self-certify the sufficiency of available water supplies using a calculation methodology prescribed in the amended emergency water conservation regulation.

In support of the region as a whole self-certifying supply sufficiency, on June 9, 2016, the Water Authority Board of Directors adopted Resolution No. 2016-07, instructing the Water Authority General Manager, under Article 22.5 of the SWRCB's Emergency Regulation, to submit to the SWRCB an aggregated conservation standard. The member agencies of the Water Authority all consented to the regional self-certification approach.

The SWRCB's supply sufficiency calculation is based on a series of conservative assumptions including projecting, for the purpose of the calculation, available supplies based on three additional years of drought, with the third year, 2019, serving as the evaluation year that determines the conservation standard for the period of June 2016 through January 2017. The calculation specifies the use of hydrology from 2013, 2014, and 2015, to project water supplies for 2017, 2018, and 2019. Very conservative demand projections for the three-year period are based on a water supplier's average potable water use in 2013 and 2014 – a period where water use was significantly higher than current water demand trends. Projected water supplies and demands for 2019 are compared to determine whether a surplus or deficit exists. If the projected water supplies meet or exceed the demand, the water conservation standard is set at zero for the period of June 2016 through January 2017. If demand exceeds available water supplies, the conservation standard is equivalent to the percentage of the water supply deficit.

The SWRCB's supply sufficiency calculation for the Water Authority service area is shown in the formula below:

$$\text{Member Agency Potable Water Use} - \left(\text{Water Authority Available Supplies} + \text{Member Agency Local Supplies} + \text{Water Authority Stored Water} \right) = \text{Supply Adequacy}$$

The calculation is used to show that Water Authority supplies, when combined with member agency local supplies and supplemented by Water Authority stored water supplies, are sufficient to meet demand.

Supporting Analysis and Calculation Requirement

The SWRCB Water Supply Reliability Certification and Data Submission Form requires, as part of Step 5, supporting documentation that validates all analyses and calculations used to project supplies and demands for the supply sufficiency calculation. This section provides documentation and an explanation of the information and methodology used in the submission form and accompanying worksheets, including references to source documents.

Supply

The Water Authority's water sources include the Quantification Settlement Agreement (QSA) supplies made up of Imperial Irrigation District (IID) transfers and the All American Canal (ACC) and Coachella Canal (CC) lining projects; supplies from the Claude "Bud" Lewis Carlsbad Desalination Plant and supplies purchased from the Metropolitan Water District of Southern California (MWD). In addition, when needed, the Water Authority can supplement its supplies with water from its surface and groundwater storage accounts. Furthermore, member agencies have developed their own local water supplies in an effort to be more self-reliant and mitigate the impacts of dry years.

Quantification Settlement Agreement - On April 29, 1998, the Water Authority signed a historic agreement with IID for the long-term transfer of conserved Colorado River water to San Diego County. The Water Authority–IID Water Conservation and Transfer Agreement is the largest agriculture-to-urban water transfer in U.S. history. Colorado River water is conserved by Imperial Valley farmers who voluntarily participate in the program by fallowing and implementing on-farm conservation projects that conserve water, which is then transferred to the Water Authority for use in San Diego County. Additionally, the IID is developing distribution system efficiency improvements to conserve water, which are planned to increase over time as the transfer volume ramps up. Through this transfer agreement, the Water Authority is entitled to Priority 3(a) water, which is a higher priority water right than Metropolitan's Priority 4 apportionment.

Deliveries into San Diego County from the transfer began in 2003. The Water Authority receives transfer water each year according to a water delivery schedule contained in the transfer agreement. In 2015, the Water Authority received 100,000 AF. The quantities are scheduled to ramp up to 200,000 AF by 2021 and then remain fixed for the duration of the transfer agreement. The initial term of the transfer agreement is 45 years, with a provision that either agency may extend the agreement for an additional 30-year term. The conserved water is transferred under IID's Colorado River rights, which are among the most senior in the Lower Colorado River Basin.

IID Transfers in 2017 = 100,000 AF
IID Transfers in 2018 = 130,000 AF
IID Transfers in 2019 = 160,000 AF

In addition to the IID transfer water, the ACC lining project makes 67,700 AF of Colorado River water per year available for allocation to the Water Authority and San Luis Rey Indian water rights settlement parties. The CC lining project makes 26,000 AF of Colorado River water available each year for allocation. The 2003 Allocation Agreement provides for 16,000 AF/YR of conserved canal lining water to be allocated to the San Luis Rey Indian water rights settlement parties. The remaining amount, 77,700 AF/YR, is to be available to the Water Authority, with up to an additional 4,850 AF/YR available to the Water Authority, depending on environmental requirements from the CC lining project. For planning purposes, the Water Authority assumes that 2,500 AF of the 4,850 AF will be available each year for delivery, for a total of 80,200 AF/YR of that supply.

ACC and CC Lining Projects Transfers in 2017 = 80,200 AF
ACC and CC Lining Projects Transfers in 2018 = 80,200 AF
ACC and CC Lining Projects Transfers in 2019 = 80,200 AF

Total available from QSA = IDD Transfers + (ACC + CC Lining)
Quantity available in 2017 = 100,000 + 80,200 = 180,200 AF
Quantity available in 2018 = 130,000 + 80,200 = 210,200 AF
Quantity available in 2019 = 160,000 + 80,200 = 240,200 AF

Source Document Links:

QSA: General Reference - http://www.sdcwa.org/sites/default/files/files/QSA_final.pdf
IID Transfer: Page 4 - http://www.sdcwa.org/sites/default/files/files/QSA_4thAmend.pdf
AAC and CC Lining Project Transfers: Page 19 - http://www.sdcwa.org/sites/default/files/files/QSA_allocation-agreement.pdf

Claude “Bud” Lewis Carlsbad Desalination Plant - Development of seawater desalination in San Diego County assists the region in diversifying its water resources; reduces dependence on imported supplies; and provides a new drought-proof, locally produced water supply. The Lewis Carlsbad Desalination Plant is a fully operational seawater desalination plant owned and operated by Poseidon Water, a private investor-owned company that develops water and wastewater infrastructure. The Lewis Carlsbad Desalination Plant, located adjacent to the Encina Power Station in Carlsbad, began commercial operation on December 23, 2015, and provides a highly reliable local supply of up to 56,000 AF/YR to the region. Of the total Lewis Carlsbad Desalination Plant production, 6,000 AF is accounted for as “member agency local supply.”

Quantity available in 2017-2019 = 50,000 AF/year

Source Document Link: Pages 105-106 of the Water Purchase Agreement
<http://www.sdcwa.org/sites/default/files/files/waterpurchaseagreement.pdf>

Metropolitan Water District of Southern California - The Water Authority's imported water sources include purchases from MWD. The extent to which MWD's member agencies rely upon MWD supplies varies by the amount of local supplies available or each agency's own reliability goals. MWD has the ability to provide the following supplies to the Water Authority in 2017 through 2019:

Quantity available in 2017 = 290,798 AF

Quantity available in 2018 = 257,237 AF

Quantity available in 2019 = 233,242 AF

Source Document Link: <http://www.mwdh2o.com/AboutYourWater/Planning/Planning-Documents/Pages/default.aspx>

Member Agency Local Supplies - Local resources developed and managed by the Water Authority's member agencies are critical to securing a diverse and reliable water supply for the region. Local projects reduce demands for imported water and some local supplies provide member agencies with a drought-resilient supply. Local supplies include surface water, groundwater, recycled water (offset to potable water demands), and desalinated seawater. Local supply volumes for surface water and groundwater were provided by the Water Authority's member agencies based on hydrology in years 2013 through 2015. Carlsbad Municipal Water District and Vallecitos Water District have secured 2,500 AF/YR and 3,500 AF/YR (6,000 AF/YR Total) of local supplies respectively from the Claude "Bud" Lewis Carlsbad Desalination Plant.

Quantity available in 2017 = 37,511 AF

Quantity available in 2018 = 39,499 AF

Quantity available in 2019 = 38,763 AF

Source: Local supply quantities were provided by member agencies. Each member agency will upload documentation of their supply sources onto the State's database.

Water Authority Storage Programs – The Water Authority maintains regional storage for both emergency and carryover purposes. Emergency storage was established to serve member agencies during a prolonged regional supply interruption. Carryover storage includes both reservoir and groundwater storage and was developed in order to: 1) enhance reliability during extended dry year periods; 2) increase operational flexibility during peak demands or extended drought; and 3) better manage water supplies by allowing more deliveries during wet years and increasing supply availability during dry years. The Water Authority has approximately 180,841 AF currently stored, of the total 260,100 AF of capacity, in these programs. For the SWRCB supply sufficiency calculation, evaporation rates are estimated by using actual 2015 evaporation data distributed using monthly peaking factors based on California Irrigation Management Information System (CIMIS) evapotranspiration rates for Zone 6.

**SWRCB Supply Sufficiency Calculation
Projected Storage Utilization (2017 – 2019)**

	2017	2018	2019
Beginning Storage Pool	180,841 AF	147,059 AF	112,649 AF
Withdraw to Meet Demand	(23,306 AF)	(26,079 AF)	(21,256 AF)
Evaporation	(10,476 AF)	(8,331 AF)	(6,197 AF)
Ending Storage Pool	147,059 AF	112,649 AF	85,196 AF

Source: Emergency and carryover storage programs are addressed in the Water Authority’s 2010 Urban Water Management Plan, Pages 150 and 156, respectively -

<http://www.sdcwa.org/sites/default/files/files/water-management/2010UWMPfinal.pdf>.

Current storage volumes are from the Water Authority’s PRIMA database.

Demand

The aggregate demand is a summation of individual member agency demands. Individual member agency demands are based on the average of actual potable water used for calendar year 2013 and 2014 per Section 864.5(b)(3).

Aggregate Potable Water Use in 2019 = 557,736 AF

Source: <http://www.sdcwa.org/water-use>. Actual 2013 and 2014 demands are from the Water Authority’s PRIMA database.

Calculation Methodology

The methodology used in determining the aggregate surplus or shortfall is based on the table below:

Member Agency	CY 13 & CY 14 Average Potable Water Use	% of Total	Water Authority Supply	Surplus / (Deficit) Before Local Supplies or Water Authority Storage Draw	Member Agency Local Supply	Surplus / (Deficit) Before Use of Stored Water	Water Authority Storage Draw to Cover Remaining Deficit	Final Surplus / Supply Sufficiency
	(A)	(B)	(C) = 523,442 AF x (B)	(D) = (C) - (A)	(E)	(F) = (C) + (E) - (A)	(G)	(H)

Individual member agencies are listed in the first column.

Column A lists each member agency’s average calendar year 2013 and 2014 potable water use.

Column B lists each member agency’s average calendar year 2013 and 2014 potable water use as a percentage of the total average potable water use from Column A.

Column C lists each member agency's proportional share of available Water Authority supplies. Water Authority supplies are distributed to each member agency by multiplying the available Water Authority supplies by the percentage in Column B.

Column D lists each member agency's water surplus or deficit (before local supplies or Water Authority storage draw) by comparing Water Authority supplies to the average potable water use in Column A. A surplus exists if Column C is greater than Column A. A deficit exists if Column A is greater than Column C.

Column E lists each member agency's local supply. A member agency's local supply is only used to calculate that member agency's supply sufficiency. Surplus supplies are not available to other member agencies.

Column F lists each member agency's water surplus or deficit (before any Water Authority storage draw) by comparing Water Authority and member agency local supplies to the average potable water use in Column A. A surplus exists if Column C plus Column E is greater than Column A. A deficit exists if Column A is greater than Column C plus Column E.

Column G lists the amount of Water Authority storage water added to each member agency's supply calculation to ensure supply sufficiency. Member agencies that have a surplus in Column F do not receive any Water Authority storage water in Column G.

Column H lists each member agency's level of supply sufficiency. The summation of Column H is the aggregate surplus for the region.

Conclusion

The numbers for all three years (2017-2019) show that the Water Authority and its member agencies have adequate supply to meet projected demands under the conditions outlined in Section 864.5, Self-Certification of Supply Reliability for Three Additional Years of Drought.

The supply, demand, and methodology information provided in the sections above will be applied to SWRCB Worksheet 2: Calculation for Aggregate Self-Certification Standard; a requirement of the Water Supply Reliability Certification and Data Submission Form.

SWRCB - Updated Emergency Regulation
Regional Supply Sufficiency
(Calendar Year 2017)
All figures in acre-feet
-Revised June 20, 2016-

Water Authority Supplies

QSA	180,200
Desalination	50,000
MWD	290,798
Total	520,998

Member Agency	CY 13 & CY 14 Average Potable Water Use ²	% of Total	Surplus / (Deficit) Before Local Supplies or Water Authority Storage		Member Agency Local Supply ³	Surplus / (Deficit) Before Water Authority Storage		Water Authority Storage Draw to Cover Remaining Deficit ⁴	Final Surplus / Supply Sufficiency ⁵
			Water Authority Supply (C) = 520,998 AF x (B)	Draw (D) = (C) - (A)		Authority Storage Draw (F) = (C) + (E) - (A)	Draw (G)		
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	
Carlsbad M.W.D.	17,832	3.197%	16,657	(1,175)	2,500	1,325	0	1,325	
Del Mar, City of ¹	1,058	0.190%	989	(70)	-	(70)	70	0	
Escondido, City of	23,983	4.300%	22,403	(1,580)	2,039	460	0	460	
Fallbrook P.U.D.	12,793	2.294%	11,951	(843)	93	(749)	749	0	
Helix W.D.	34,103	6.115%	31,857	(2,246)	348	(1,898)	1,898	0	
Lakeside W.D.	4,173	0.748%	3,898	(275)	750	475	0	475	
Oceanside, City of	28,727	5.151%	26,834	(1,892)	3,300	1,408	0	1,408	
Olivenhain M.W.D.	21,393	3.836%	19,984	(1,409)	-	(1,409)	1,409	0	
Otay W.D.	32,570	5.840%	30,425	(2,145)	-	(2,145)	2,145	0	
Padre Dam M.W.D.	11,622	2.084%	10,856	(766)	-	(766)	766	0	
Pendleton M.C.B. ¹	7,663	1.374%	7,158	(505)	7,398	6,893	0	6,893	
Poway, City of	12,197	2.187%	11,394	(803)	26	(778)	778	0	
Rainbow M.W.D.	21,996	3.944%	20,547	(1,449)	-	(1,449)	1,449	0	
Ramona M.W.D.	6,002	1.076%	5,607	(395)	-	(395)	395	0	
Rincon Del Diablo M.W.D.	6,665	1.195%	6,226	(439)	-	(439)	439	0	
San Diego, City of ^{6,7}	197,820	35.468%	184,790	(13,030)	1,700	(11,330)	11,330	0	
San Dieguito W.D.	6,641	1.191%	6,203	(437)	760	323	0	323	
Santa Fe I.D.	11,820	2.119%	11,041	(779)	1,007	229	0	229	
Sweetwater Authority ⁷	20,879	3.744%	19,504	(1,375)	7,400	6,025	0	6,025	
Vallecitos W.D.	17,240	3.091%	16,104	(1,136)	3,500	2,364	0	2,364	
Valley Center M.W.D.	28,498	5.110%	26,621	(1,877)	-	(1,877)	1,877	0	
Vista I.D.	19,456	3.488%	18,175	(1,282)	1,715	433	0	433	
Yuima M.W.D. ¹	12,607	2.260%	11,776	(830)	4,974	4,144	0	4,144	
Totals	557,736	100.000%	520,998	(36,738)	37,511		23,306	24,079	

¹ Small suppliers are not required to submit an agency self-certification, but are included in the table as part of the regional supply sufficiency determination.

² Includes water provided for commercial agricultural use for the following member agencies: Escondido, Fallbrook PUD, Oceanside, Olivenhain MWD, Otay WD, Poway, Rainbow MWD, San Diego, San Dieguito WD, Santa Fe ID, Vallecitos WD and Valley Center MWD. Under the Emergency Regulation this water is excluded from a member agency's potable water production total.

³ Based on updated member agency supply projections. Includes desalination for Carlsbad MWD and Vallecitos WD for 2017, 2018 and 2019.

⁴ Total Water Authority beginning-of-year storage is projected to be 180,841 AF.

⁵ Zero denotes supply sufficiency; positive value denotes surplus.

⁶ Excludes Cal-Am Water Company's deliveries and local use.

⁷ Local supplies updated to reflect corrected brackish groundwater production estimates.

SWRCB - Updated Emergency Regulation
Regional Supply Sufficiency
(Calendar Year 2018)
All figures in acre-feet
-Revised June 20, 2016-

Water Authority Supplies

QSA	210,200
Desalination	50,000
MWD	257,237
Total	517,437

Member Agency	CY 13 & CY 14 Average Potable Water Use ²	% of Total	Surplus / (Deficit) Before Local Supplies or Water Authority Storage Draw		Member Agency Local Supply ³	Surplus / (Deficit) Before Water Authority Storage Draw		Water Authority Storage Draw to Cover Remaining Deficit ⁴	Final Surplus / Supply Sufficiency ⁵
			Water Authority Supply	(D) = (C) - (A)		Authority Storage Draw	(F) = (C) + (E) - (A)		
	(A)	(B)	(C) = 517,437 AF x (B)		(E)				
Carlsbad M.W.D.	17,832	3.197%	16,543	(1,288)	2,500	1,212	0	1,212	
Del Mar, City of ¹	1,058	0.190%	982	(77)	-	(77)	77	0	
Escondido, City of	23,983	4.300%	22,250	(1,733)	527	(1,206)	1,206	0	
Fallbrook P.U.D.	12,793	2.294%	11,869	(924)	77	(847)	847	0	
Helix W.D.	34,103	6.115%	31,639	(2,464)	348	(2,116)	2,116	0	
Lakeside W.D.	4,173	0.748%	3,871	(302)	750	449	0	449	
Oceanside, City of	28,727	5.151%	26,651	(2,076)	3,300	1,224	0	1,224	
Olivenhain M.W.D.	21,393	3.836%	19,847	(1,546)	-	(1,546)	1,546	0	
Otay W.D.	32,570	5.840%	30,217	(2,353)	-	(2,353)	2,353	0	
Padre Dam M.W.D.	11,622	2.084%	10,782	(840)	-	(840)	840	0	
Pendleton M.C.B. ¹	7,663	1.374%	7,109	(554)	7,296	6,743	0	6,743	
Poway, City of	12,197	2.187%	11,316	(881)	44	(837)	837	0	
Rainbow M.W.D.	21,996	3.944%	20,407	(1,589)	-	(1,589)	1,589	0	
Ramona M.W.D.	6,002	1.076%	5,568	(434)	-	(434)	434	0	
Rincon Del Diablo M.W.D.	6,665	1.195%	6,183	(482)	-	(482)	482	0	
San Diego, City of ^{6,7}	197,820	35.468%	183,527	(14,294)	2,600	(11,694)	11,694	0	
San Dieguito W.D.	6,641	1.191%	6,161	(480)	760	280	0	280	
Santa Fe I.D.	11,820	2.119%	10,966	(854)	1,007	153	0	153	
Sweetwater Authority ⁷	20,879	3.744%	19,370	(1,509)	8,300	6,791	0	6,791	
Vallecitos W.D.	17,240	3.091%	15,994	(1,246)	3,500	2,254	0	2,254	
Valley Center M.W.D.	28,498	5.110%	26,439	(2,059)	-	(2,059)	2,059	0	
Vista I.D.	19,456	3.488%	18,050	(1,406)	1,715	309	0	309	
Yuima M.W.D. ¹	12,607	2.260%	11,696	(911)	4,974	4,063	0	4,063	
Totals	557,736	100.000%	517,437	(40,299)	37,699		26,079	23,479	

¹ Small suppliers are not required to submit an agency self-certification, but are included in the table as part of the regional supply sufficiency determination.

² Includes water provided for commercial agricultural use for the following member agencies: Escondido, Fallbrook PUD, Oceanside, Olivenhain MWD, Otay WD, Poway, Rainbow MWD, San Diego, San Dieguito WD, Santa Fe ID, Vallecitos WD and Valley Center MWD. Under the Emergency Regulation this water is excluded from a member agency's potable water production total.

³ Based on updated member agency supply projections. Includes desalination for Carlsbad MWD and Vallecitos WD for 2017, 2018 and 2019.

⁴ Total Water Authority beginning-of-year storage is projected to be 147,059 AF.

⁵ Zero denotes supply sufficiency; positive value denotes surplus.

⁶ Excludes Cal-Am Water Company's deliveries and local use.

⁷ Local supplies updated to reflect corrected brackish groundwater production estimates.

SWRCB - Updated Emergency Regulation
Regional Supply Sufficiency
(Calendar Year 2019)
All figures in acre-feet
-Revised June 20, 2016-

Water Authority Supplies

QSA	240,200
Desalination	50,000
MWD	233,242
Total	523,442

Member Agency	CY 13 & CY 14 Average Potable Water Use ²	% of Total	Surplus / (Deficit) Before Local Supplies or Water Authority Storage Draw		Member Agency Local Supply ³	Surplus / (Deficit) Before Water Authority Storage Draw		Water Authority Storage Draw to Cover Remaining Deficit ⁴	Final Surplus / Supply Sufficiency ⁵
			Water Authority Supply	Draw		Authority Storage	Draw		
	(A)	(B)	(C) = 523,442 AF x (B)	(D) = (C) - (A)	(E)	(F) = (C) + (E) - (A)	(G)	(H)	
Carlsbad M.W.D.	17,832	3.197%	16,735	(1,096)	2,500	1,404	0	1,404	
Del Mar, City of ¹	1,058	0.190%	993	(65)	-	(65)	65	0	
Escondido, City of	23,983	4.300%	22,508	(1,475)	855	(620)	620	0	
Fallbrook P.U.D.	12,793	2.294%	12,007	(787)	109	(678)	678	0	
Helix W.D.	34,103	6.115%	32,006	(2,097)	348	(1,749)	1,749	0	
Lakeside W.D.	4,173	0.748%	3,916	(257)	750	493	0	493	
Oceanside, City of	28,727	5.151%	26,960	(1,766)	3,300	1,534	0	1,534	
Olivenhain M.W.D.	21,393	3.836%	20,077	(1,315)	-	(1,315)	1,315	0	
Otay W.D.	32,570	5.840%	30,568	(2,003)	-	(2,003)	2,003	0	
Padre Dam M.W.D.	11,622	2.084%	10,907	(715)	-	(715)	715	0	
Pendleton M.C.B. ¹	7,663	1.374%	7,191	(471)	6,159	5,688	0	5,688	
Poway, City of	12,197	2.187%	11,447	(750)	85	(665)	665	0	
Rainbow M.W.D.	21,996	3.944%	20,644	(1,353)	-	(1,353)	1,353	0	
Ramona M.W.D.	6,002	1.076%	5,633	(369)	-	(369)	369	0	
Rincon Del Diablo M.W.D.	6,665	1.195%	6,255	(410)	-	(410)	410	0	
San Diego, City of ^{6,7}	197,820	35.468%	185,656	(12,164)	2,600	(9,564)	9,564	0	
San Dieguito W.D.	6,641	1.191%	6,233	(408)	760	352	0	352	
Santa Fe I.D.	11,820	2.119%	11,093	(727)	1,007	281	0	281	
Sweetwater Authority ⁷	20,879	3.744%	19,595	(1,284)	8,300	7,016	0	7,016	
Vallecitos W.D.	17,240	3.091%	16,180	(1,060)	3,500	2,440	0	2,440	
Valley Center M.W.D.	28,498	5.110%	26,746	(1,752)	-	(1,752)	1,752	0	
Vista I.D.	19,456	3.488%	18,260	(1,196)	1,715	519	0	519	
Yuima M.W.D. ¹	12,607	2.260%	11,832	(775)	4,974	4,199	0	4,199	
Totals	557,736	100.000%	523,442	(34,294)	36,963	21,256	21,256	23,925	

¹ Small suppliers are not required to submit an agency self-certification, but are included in the table as part of the regional supply sufficiency determination.

² Includes water provided for commercial agricultural use for the following member agencies: Escondido, Fallbrook PUD, Oceanside, Olivenhain MWD, Otay WD, Poway, Rainbow MWD, San Diego, San Dieguito WD, Santa Fe ID, Vallecitos WD and Valley Center MWD. Under the Emergency Regulation this water is excluded from a member agency's potable water production total.

³ Based on updated member agency supply projections. Includes desalination for Carlsbad MWD and Vallecitos WD for 2017, 2018 and 2019.

⁴ Total Water Authority beginning-of-year storage is projected to be 112,649 AF.

⁵ Zero denotes supply sufficiency; positive value denotes surplus.

⁶ Excludes Cal-Am Water Company's deliveries and local use.

⁷ Local supplies updated to reflect corrected brackish groundwater production estimates.

Supporting Analysis & Calculations FOR CAPRA WELL

The source of groundwater for the Capra Well is a small fractured-rock aquifer in a localized watershed of Red Mountain below the District's Red Mountain Reservoir. A groundwater management plan is not required and one has not been adopted for this groundwater source. The groundwater basin is not adjudicated and the requirements do not apply to FPUD that the District must indicate the amount of water it has a right to pump from the well.

The stress test calculation specifies the use of hydrology from the years 2013, 2014, and 2015, to project water supplies for 2017, 2018, and 2019. The annual production from the Capra well for 2013 was 93.5AF, 2014 was 77.1AF, and 2015 was 109.0AF were used.

The well pump delivers a little more than 60 gallons per minute continually when in operation and the only limiting factor in production has been when the pump is turned for maintenance or for operational reasons. The well pump was off for 2 months in 2013 and 5 months in 2014. The water table has fluctuated from a depth of 35 to 55 feet at an average of 45.5 feet.

Below is some historic data for the Capra Well:

Capra Well Water Table 2013-2016

Date	Depth to Water Level (feet)
Jun-13	52.3
Jun-14	38.7
Jun-15	39.0
Jun-16	46.7

Capra Well Annual Production

Year	Acre Feet	Notes
1994	152.4	
1995	169.9	
1996	175.8	
1997	127.1	
1998	73.8	
1999	147.1	
2000	173.5	
2001	171.3	
2002	157.2	
2003	135.1	
2004	133.6	
2005	137.9	
2006	176.4	

2007	139.7	
2008	133.4	Pump Offline 1 month
2009	0.0	Pump Offline 12 months
2010	0.0	Pump Offline 12 months
2011	72.7	Pump Offline 6 months
2012	140.2	
2013	93.5	Pump Offline 2 months
2014	77.1	Pump Offline 5 months
2015	109.0	

Conclusion:

That annual production projections for the Capra well of 93.5AF for 2017, 77.1AF for 2018, and 109.0AF for 2019 are reasonable.