

Worksheet 1 : Total available water supply for individual water supplier

Step 2 of Water Supply Reliability Certification and Data Submission Form

<< 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	

<< 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	Wholesaler Water System Number**
			WY 2017 *	WY 2018 *	WY 2019	Direct Web Link	
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	SFPUC	Yes	769.4	769.4	769.4	http://sfwater.org/modules/s	CA3810001
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		Select Y/N					
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)			769.4	769.4	769.4		

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

* 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)	769.4	769.4	769.4
<i>(Subtotal of available supplies minus subtotal of supplies committed to other uses)</i>			

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

TOTAL available water supply converted to acre feet	2,361	2,361	2,361
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>> If error, verify you have selected units of measure

**City of Millbrae Supporting Analysis and Calculations
Water Supply Reliability Certification**

The SFPUC provided an analysis and calculations for determining total available and potential water supply. See pages 3-6 for the full analysis.

Table 1. SFPUC Water Supply Reliability for Three Additional Years of Drought (Entire Service Area)

Total Potable Water Demand	Unit	Retail	Wholesale	Total
Potable Water Production in CY 2013	TAF	84.2	168.2	252.4
Potable Water Production in CY 2014	TAF	76.4	153.2	229.6
Average CY 2013-2014	TAF			241.0

Total Available Supply (Entire Service Area)	Unit	WY2017	WY2018	WY2019
Total System Storage on Oct. 1	TAF	1,246	1,175	938
<u>Annual Inflows</u>				
Tuolumne River Water Available	TAF	182	34	50
Bay Area Reservoir Inflows	TAF	33	8	27
<u>Annual Evaporation</u>				
Tuolumne System Evaporation	TAF	23	17	12
Bay Area Evaporation	TAF	13	13	13
<u>Annual System Releases</u>				
Tuolumne Basin	TAF	4	4	4
Bay Area Reservoirs	TAF	5	5	5
Available Water Supply	TAF	1,416	1,179	982
Total Potable Water Demand	TAF	241.5	241.5	241.5
Total System Storage Sep 30	TAF	1,175	937	739

Table 2 Millbrae Volume of Water Available Under SWRCB Assumptions

CY 2013 Demand (MG)	CY 2014 Demand (MG)	CY 2013-2014 Average Demand	WY 2017	WY 2018	WY 2019
798.2	740.6	769.4	769.4	769.4	769.4

CY 2013 and CY 2014 were averaged, which equals 769.4 MG for demand and for the projected supply for the City of Millbrae for the years indicated. Therefore, the City of Millbrae has no water shortage for the specified years.

Attachment A

Self-Certification of Supply Reliability for Three Additional Years of Drought

Calculation Notes

Purpose

The State Water Resources Control Board (SWRCB) adopted on May 18, 2016 a new statewide water conservation approach. The SFPUC needs to self-certify sufficient water supply assuming an average of calendar years 2013-2014 annual demand for wholesale and retail service areas and three more dry years like the ones recorded from water year 2013 through 2015. If a shortage exists at the end of the third year, the conservation standard would equal the amount of shortage. The conservation standard would apply from June 2016 through January 2017. The purpose of this document is to explain assumptions, approach used and findings.

Assumptions

- The Hetch Hetchy Regional Water System water supply reliability is assessed following the SWRCB Resolution no. 2016-0029.
- Hydrologic conditions are a repeat of water years 2013, 2014 and 2015 for the next three years. The SWRCB text proposes to use a repeat of precipitation totals. Instead, the analysis uses a repeat of annual flows.
- Total system delivery is the average of calendar years 2013 and 2014, which is 241 thousand acre-feet, TAF (215 million gallon per day, MGD). Data sources are the SWRCB Monthly Data Reporting for retail deliveries and Finance Sales Data for wholesale deliveries.
- Initial reservoir storages on October 1, 2016 are extracted from the Reservoir Operations Projections model using a median snowmelt runoff forecast and updated early May 2016. Total system storage is forecasted at 1,246 TAF. As a reference, total system storage was 1,095 TAF on October 1, 2013.

Approach

- The approach is a simple comparison of water available to SFPUC versus demand on an annual basis for the next three years (Table 1).
- The comparison includes system losses such as 1) evaporation, 2) mandatory and supplemental releases below Hetchy and Bay Area reservoirs.
- Even if reservoir inflows were very low in WY2013-2015, there was sufficient water available to SFPUC to operate the RWS including maximizing the use of Water Bank. In addition, forecasted storage conditions for October 2016 are similar to the ones in 2013. For those two reasons, it is assumed that SFPUC could repeat its operation assuming a repeat of WY2013-2015 and system simulation is not necessary to prove supply reliability.

Findings

- Available water supply is greater than demand for three additional years of drought. In the third year, available water supply is 982 TAF and the demand only 241 TAF (Table 1).
- **Conservation standard for SFPUC service area mandated by the SWRCB is 0% reduction.**
- Projected supply available to SFPUC and each SFPUC wholesale customer under SWRCB assumptions equals the average of CY 2013 and 2014 demands (Table 2).

Table 1. SFPUC Water Supply Reliability for Three Additional Years of Drought

Total Potable Water Demand	Unit	Retail	Wholesale	Total
Potable Water Production in Calendar Year 2013	TAF	84.2	168.2	252.4
Potable Water Production in Calendar Year 2014	TAF	76.4	153.2	229.6
Average CY2013-2014	TAF			241.0

Total Available Supply	Unit	WY2017	WY2018	WY2019
		Repeat of 2013	Repeat of 2014	Repeat of 2015
Total System Storage on Oct 1	TAF	1,246	1,175	938
<u>Annual Inflows</u>				
Tuolumne River Water Available	TAF	182	34	50
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Bay Area Reservoirs	TAF	5	5	5
Available Water Supply	TAF	1,416	1,179	982
Total Potable Water Demand	TAF	241.5	241.5	241.5
Total System Storage on Sep 30	TAF	1,175	937	739

Table 2. Volume of water available to SFPUC and each SFPUC Wholesale Customer under SWRCB assumptions

	CY 2013 Demand (MG)	CY 2014 Demand (MG)	CY 2013- 2014 Average Demand (MG)	Projected Supply Under SWRCB Methodology (MG)		
				WY 2017	WY 2018	WY 2019
Alameda County WD	3,187.3	3,947.1	3,567.2	3,567.2	3,567.2	3,567.2
Brisbane	151.2	108.6	129.9	129.9	129.9	129.9
Burlingame	1,601.9	1,321.3	1,461.6	1,461.6	1,461.6	1,461.6
Cal Water- Bear Gulch	4,602.5	4,341.0	4,471.8	4,471.8	4,471.8	4,471.8
Cal Water-San Carlos	1,405.0	1,249.4	1,327.2	1,327.2	1,327.2	1,327.2
Cal Water-San Mateo	3,827.5	3,660.5	3,744.0	3,744.0	3,744.0	3,744.0
Cal Water- SSF	2,425.0	2,242.2	2,333.6	2,333.6	2,333.6	2,333.6
Coastside County WD	682.4	644.8	663.6	663.6	663.6	663.6
Cordilleras MWA	2.0	1.8	1.9	1.9	1.9	1.9
Daly City	1,399.8	1,147.3	1,273.6	1,273.6	1,273.6	1,273.6
East Palo Alto	587.9	605.7	596.8	596.8	596.8	596.8
Estero MID	1,517.3	1,411.8	1,464.5	1,464.5	1,464.5	1,464.5
Guadalupe Valley MID	64.4	125.1	94.7	94.7	94.7	94.7
Hayward	5,713.9	5,099.9	5,406.9	5,406.9	5,406.9	5,406.9
Hillsborough	1,265.3	1,039.5	1,152.4	1,152.4	1,152.4	1,152.4
Menlo Park	1,343.9	1,016.9	1,180.4	1,180.4	1,180.4	1,180.4
Mid-Peninsula WD	1,113.7	963.9	1,038.8	1,038.8	1,038.8	1,038.8
Millbrae	798.2	740.6	769.4	769.4	769.4	769.4
Milpitas	2,421.8	2,113.0	2,267.4	2,267.4	2,267.4	2,267.4
Mountain View	3,393.6	2,920.6	3,157.1	3,157.1	3,157.1	3,157.1
North Coast County WD	1,040.5	1,026.7	1,033.6	1,033.6	1,033.6	1,033.6
Palo Alto	4,256.2	3,756.8	4,006.5	4,006.5	4,006.5	4,006.5
Purissima Hills WD	751.5	658.2	704.9	704.9	704.9	704.9
Redwood City	3,423.3	3,060.4	3,241.8	3,241.8	3,241.8	3,241.8
San Bruno	635.6	530.5	583.0	583.0	583.0	583.0
San Jose	1,662.8	1,668.0	1,665.4	1,665.4	1,665.4	1,665.4
Santa Clara	803.8	674.2	739.0	739.0	739.0	739.0
Sunnyvale	3,550.2	2,734.0	3,142.1	3,142.1	3,142.1	3,142.1
Stanford University	821.9	789.8	805.9	805.9	805.9	805.9
Westborough WD	331.2	292.2	311.7	311.7	311.7	311.7
Wholesale Total	54,782	49,892	52,337	52,337	52,337	52,337
SFPUC	27,429	25,235	26,332	26,332	26,332	26,332
Total	82,210	75,127	78,669	78,669	78,669	78,669
Total (in thousands of acre-feet)	252.4	230.6	241.5	241.5	241.5	241.5